



4th ICERP 2017

PROCEEDINGS OF THE 4TH INTERNATIONAL CONFERENCE ON EDUCATIONAL RESEARCH AND PRACTICE

*Empowering Education Through
Translational Research and Practices*

26 - 27 July 2017
The Everly, Putrajaya Malaysia

EDITORS

Abu Bakar Razali
Ahmad Fauzi Mohd Ayub
Shahrul Raziz Shahril

Organiser:

Faculty of Educational Studies, Universiti Putra Malaysia

 conference.upm.edu.my/ICERP

4th ICERP 2017 THE 4TH INTERNATIONAL CONFERENCE ON
EDUCATIONAL RESEARCH AND PRACTICE

ISBN 978-967-960-420-7



9 789679 604207

*THE 4TH INTERNATIONAL CONFERENCE ON EDUCATIONAL RESEARCH AND PRACTICE (ICERP) 2017
Empowering Education Through Translational Research and Practices*

THE 4TH INTERNATIONAL CONFERENCE
ON EDUCATIONAL RESEARCH AND
PRACTICE (ICERP) 2017

ICERP 2017

*EMPOWERING EDUCATION THROUGH
TRANSLATIONAL RESEARCH AND
PRACTICES*

26TH & 27TH JULY 2017

FACULTY OF EDUCATIONAL STUDIES,
UNIVERSITI PUTRA MALAYSIA (UPM)

@2017 The authors

All rights reserved. No part of this book may be reproduced, stored in retrieval system, transmitted, in any forms or any means, without the prior permission of the Faculty of Educational Studies, Universiti Putra Malaysia.

Publisher
Faculty of Educational Studies
Universiti Putra Malaysia
Serdang, Selangor
MALAYSIA

Printed in Malaysia



DISCLAIMER:

The editors of the proceedings of the 4th International Conference on Educational Research and Practice (ICERP) 2017 hereby state that the papers that are published in this conference proceedings were accepted upon formatting. The editors are NOT responsible for the content of these papers or any research misconducts that might have been conducted (i.e., plagiarism, manipulation of data, fabrication of data, republication, etc.) as well as the language in these papers.

THE 4TH INTERNATIONAL CONFERENCE ON EDUCATIONAL RESEARCH AND PRACTICE (ICERP) 2017
Empowering Education Through Translational Research and Practices

THE 4TH INTERNATIONAL CONFERENCE
ON EDUCATIONAL RESEARCH AND
PRACTICE (ICERP) 2017

ICERP 2017

*EMPOWERING EDUCATION THROUGH
TRANSLATIONAL RESEARCH AND
PRACTICES*

26TH & 27TH JULY 2017

FACULTY OF EDUCATIONAL STUDIES,
UNIVERSITI PUTRA MALAYSIA (UPM)

THE 4TH INTERNATIONAL CONFERENCE ON EDUCATIONAL RESEARCH AND PRACTICE (ICERP) 2017
Empowering Education Through Translational Research and Practices

THE 4TH INTERNATIONAL CONFERENCE ON EDUCATIONAL RESEARCH AND PRACTICE (ICERP) 2017

*EMPOWERING EDUCATION THROUGH
TRANSLATIONAL RESEARCH AND
PRACTICES*

26TH & 27TH JULY 2017
FACULTY OF EDUCATIONAL STUDIES
UNIVERSITI PUTRA MALAYSIA

EDITORS

ABU BAKAR RAZALI
AHMAD FAUZI MOHD AYUB
SHAHRUL RAZIZ SHAHARIL

TABLE OF CONTENT

NO.	AUTHOR & TITLE OF PAPER	PAGE
1	A BASIC STEPPER MOTOR CONTROLLER DESIGN USING FPGA AND VHDL FOR AN OPEN LOOP SYSTEM (A FUNDAMENTAL EXPOSURE TO THE DIGITAL SYSTEM DESIGN FOR THE CONTROLLER) <i>Ruzali Rustam & Mariam Ibrahim Al Khoory</i>	1
2	IMPROVING MATHEMATICS ACHIEVEMENT AND ATTITUDE OF THE GRADE 10 STUDENTS USING DYNAMIC GEOMETRY SOFTWARE (DGS) AND COMPUTER ALGEBRA SYSTEMS (CAS) <i>Starr Clyde L. Sebial</i>	10
3	THE INNOVATION OF SMALL SCHOOL ALLIANCE – AN ECOLOGICAL CHAIN OF EDUCATION IN TAIWAN <i>Yenyin Wang, Yung-Hsuan Chen, Yu-Chun Cheng & Chia-Heng Chen</i>	27
4	PEDAGOGICAL APPROACH AS A TRAINING AIDS FOR E-COMMERCE ENTREPRENEURS <i>Noornasirah Nasri & Yulita Hanum P Iskandar</i>	38
5	A STUDY ON CREATIVITY AND INNOVATION IN COURSE DESIGN AND TEACHING METHODS TOWARDS STUDENTS ACADEMIC PERFORMANCE AT PRIVATE HIGHER EDUCATION INSTITUTION, MALAYSIA <i>Selvi Narayanan</i>	43
6	THE IMPACT OF FLOOD IN HOSPITAL AND MITIGATION MEASURES: LITERATURE REVIEW <i>Noor Ain Yusoff, Haryati Shafii & Roshartini Omar</i>	51
7	PRIVATE SCHOOL TEACHERS' PERCEPTION OF ORGANIZATIONAL COMMITMENT IN KLANG VALLEY, MALAYSIA <i>Ng Pek Cheng & Suhaida Abdul Kadir</i>	58
8	COLLECTIVE LEADERSHIP AMONG MALAYSIAN SECONDARY SCHOOL TEACHERS <i>Shiveh Sivalingam, Suhaida Abdul Kadir & Soaib Asimiran</i>	61
9	RELATIONSHIP BETWEEN PRINCIPAL INSTRUCTIONAL LEADERSHIP AND TEACHER READINESS FOR CHANGE IN IMPLEMENTING SCHOOL BASED ASSESSMENT IN SELANGOR STATE MALAYSIA <i>Nor Azni Abdul Aziz, Soaib Asimiran, Foo Say Fook & Aminuddin Hassan</i>	68

10	CONCORDANCING AND WRITING: REVIEW OF RELATED LITERATURE <i>Sedigheh Shakib Kotamjani, Habsah Hussin, Hesam Tahsildar Tehrani & Sina Neissi</i>	74
11	DOES JOB SATISFACTION MATTER?: EXAMING THE WORKPLACE DEVIANCE BEHAVIOUR <i>Mazni Alias, Intan Soraya Rosdi & Nasreen Khan</i>	82
12	CREATION OF RELATIONAL VALUE DIMENSIONS TO BUILD RELATIONSHIP QUALITY <i>Nasreen Khan, Shereen Khan, Mazni Alias & Tan Booi Chen</i>	94
13	FOSTERING ENTREPRENEURSHIP OUTCOMES: AN EVALUATION OF FASHION ENTREPRENEURSHIP PROGRAM <i>Rahimah Jamaluddin, Mass Hareeza Ali@Hamid, Suhaida Abd. Kadir, Arasinah Kamis & Suriani Mohamed</i>	104
14	IMPLEMENTATION OF A YOUTH-ADULT PARTNERSHIP IN MALAYSIAN UNIVERSITY-COMMUNITY COLLABORATIVE: MANAGING MULTIPLE HIERARCHIES FOR YOUTH DEVELOPMENT <i>Eugene Fransua Arokiasamy & Steven Eric Krauss</i>	115
15	POSITIVE YOUTH DEVELOPMENT: THE ROLE OF THE YOUTH-ADULT PARTNERSHIP AND HARDINESS <i>Katayoun M. Nouri & Steven Eric Krauss</i>	123
16	TECHNICAL EDUCATION AND NATIONAL DEVELOPMENT: A WAKEUP <i>Sarafa Adebayo Raji</i>	129
17	PHONOLOGICAL LOOP AND VISUOSPATIAL SKETCHPAD OF WORKING MEMORY: COMPARISON BETWEEN WESTERN AND CHINESE MUSICAL INSTRUMENT BACKGROUND <i>Hue Chi Yin & Nor Aniza Ahmad</i>	138
18	COLLECTIVE LEADERSHIP AND CULTURE IN PRIMARY SCHOOLS: A COMPARISON BETWEEN THE THREE TYPES OF SCHOOLS <i>Thiruchelvan Koundyannan, Suhaida Abdul Kadir, Ramli Basri & Ahmad Fauzi Mohd Ayub</i>	150
19	THE EFFECT OF VERBAL PROBLEM-SOLVING INSTRUCTION ON STUDENTS' STRUCTURING, ACQUISITION AND RETENTION OF KNOWLEDGE <i>Aliah Ahmed Shah, Samsilah Roslan, Zeinab Ghiami, Mohd Majid Konting & Rosini Abu</i>	154
20	CHARACTER TRAITS AND INVOLVEMENT IN IMMORAL ACTS AMONG MALAY ADULT PRISONERS <i>Jamaliah Laidin, Samsilah Roslan, Abdul Rahman Arof, Rahil Mahyiddin, Fatemeh Sabouripour & Zeinab Ghiami</i>	163

21	A COST ANALYSIS STUDY FOR LIFELONG LEARNING PROGRAM ORGANIZED BY COMMUNITY COLLEGE <i>Noorul 'Ain Md Shariff, Suhaida Abdul Kadir, Khairuddin Idris & Ramli Basri</i>	171
22	CONCEPTUALIZING THE ENHANCEMENT OF EMPLOYABILITY AMONG UNDERGRADUATES IN WORK-BASED LEARNING SETTINGS <i>Ilyana Anas & Siti Raba'ah Hamzah</i>	176
23	URBAN AGRICULTURE: TRANSFORMING OF INNOVATION AMONG FARMERS IN MALAYSIA <i>Milah Zainal & Siti Raba'ah Hamzah</i>	187
24	ERGONOMICS IN SCHOOL COMPUTER LAB: MALAYSIAN TEACHERS' PERSPECTIVES <i>Suhaizal Hashim & Nurul Hidayah Liew Abdullah</i>	195
25	THE APPLICATION OF MULTIPLE INTELLIGENCE THEORY DURING THE INCULCATION OF HIGHER-ORDER THINKING SKILLS IN HISTORY SUBJECT <i>Sivapakkiam a/p Ramasamy, Fadzilah Abd. Rahman, Umi Kalthom Abdul Manaf & Rozita Radhiah Said</i>	201
26	CHALLENGES OF PRIMARY SCHOOL TEACHERS IN THE IMPLEMENTATION OF STANDARD-BASED ASSESSMENT SYSTEM IN MALAYSIA <i>Rubiah Dalail, Chan Yuen Fook & Gurnam Kaur Sidhu</i>	207
27	ENHANCING VOLUNTEERISM IN COMMUNITY HEALTHCARE: MEDIATING EFFECT OF SOCIAL NETWORK <i>Siti Noormi Alias, Maimunah Ismail, Turiman Suandi & Zoharah Omar</i>	220
28	TECHNICAL STUDENTS' ATTITUDE TOWARDS MATHEMATICS <i>Mislina Atan & Fauziah Kasmin</i>	237
29	VOLUNTEERISM IS A VEHICLE FOR SUSTAINABLE DEVELOPMENT <i>Nur Husnina, Azizan Asmuni & Ismi Arif Ismail</i>	246
30	IRANIAN INTERNATIONAL STUDENTS' TEXT STRUCTURE AWARENESS <i>Fatemeh Amiri</i>	252
31	WHY EMPLOYEES STAY? DOES GENDER PLAYS A ROLE? <i>Yong See Chen, Roziah Mohd Rasdi, Maimunah Ismail & Azizan Asmuni</i>	259
32	UNDERSTANDING CHALLENGES OF PARENTAL INVOLVEMENT FROM THE PERSPECTIVE OF THE PARENTS OF VISUALLY IMPAIRED LEARNERS IN PAKISTAN <i>Shazia Malik, Umi Kalthom Abdul Manaf, Nor Aniza Ahmad & Maimunah Ismail</i>	269

33	UNRAVELLING THE LINKAGE BETWEEN CAREER STRATEGIES, CAREER SUCCESS AND JOB PERFORMANCE AMONG ACADEMICIANS <i>Johanim Johari, Tan Fee Yean & Edora Ismail</i>	281
34	THE RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC FACTORS, PARENTAL ATTACHMENT AND THE LEVEL OF HEALTH LITERACY AWARENESS AND PRACTICE AMONG MALAYSIAN ADOLESCENTS <i>Siti Raba'ah Hamzah, Turiman Suandi & Maimunah Ismail</i>	294
35	ADDRESSING COMPETENCY GAPS FOR VOCATIONAL INSTRUCTOR THROUGH COMPETENCY MODEL AND INSTRUMENT FOR COMPETENCY MEASUREMENT <i>Muhammad Aiman Arifin & Roziah Mohd Rasdi</i>	303
36	THE MISMATCH BETWEEN EFL/ESL TEACHERS' BELIEFS AND TEACHING PRACTICE: WHAT IS MISSING IN THE LITERATURE? <i>Hesam Tahsildar Tehrani, Abu Bakar Mohamed Razali, Sedigheh Shakib Kotamjani & Sina Neissi</i>	313
37	RELATIONSHIP BETWEEN TEACHERS' MOTIVATION AND THE QUALITY OF TEACHING IN PRIMARY SCHOOLS IN MAKKAH, SAUDI ARABIA <i>Rosnani Jusoh & Nada Abdul Raheem M Mlibari</i>	320
38	SCHOOL ADMINISTRATORS' LEADERSHIP IN CURRICULUM IMPLEMENTATION OF TAHFIZ MODEL ULUL ALBAB (TMUA): A CASE STUDY <i>Nurul Jawahir Md Ali & Suhaida Abdul Kadir</i>	335
39	JOB SATISFACTION AND RETENTION FACTORS: STRIFE AND SURVIVAL OF CTE EDUCATORS <i>Muhd Khaizer Omar, Mary Jo Self, & Ki Lynn Matlock Cole</i>	340
40	RELATIONSHIP BETWEEN LOGICAL REASONING AND ACADEMIC ACHIEVEMENT AMONG SECONDARY SCHOOL STUDENTS <i>Aminuddin Hassan, Nor Aniza Ahmad & Nur Fadzlillah Amira Mohd Noor</i>	353
41	STUDENTS' ICT ENGAGEMENT MEDIATES THE RELATIONSHIP BETWEEN FAMILY INVOLVEMENTS AND STUDENTS' USE OF ICT FOR LEARNING MATHEMATICS AMONG IRANIAN SECONDARY SCHOOL STUDENTS <i>Tahereh Kaboodvand, Ahmad Fauzi Mohd Ayub, Aida Suraya Md. Yunus & Rosnaini Mahmud</i>	364
42	GROWTH MOTOR DEVELOPMENT LEVELS OF YOUNG CHILDREN IN CRICKET, VOLLEYBALL AND ATHLETICS <i>Borhannudin Abdullah, Nor Amalina Shafie, Aminuddin Yusof, Siti Nur Sarah Salehhodin & Shamsulariffin Shamsudin</i>	375

43	MEDIATION EFFECT OF PERCEIVED LEARNING IN THE RELATIONSHIP BETWEEN INSTITUTIONAL FACTORS AND THE LEVEL OF COURSE SATISFACTION IN DISTANCE LEARNING <i>Azadeh Amoozegar, Shaffe Mohd Daud, Rosnaini Mahmud & Habibah Ab. Jalil</i>	380
44	HUMANISTIC CURRICULUM IMPLEMENTATION EVALUATION OF MRSM ULUL ALBAB PROGRAMME <i>Umi Kalthom Abdul Manaf & Fadzilah Abdul Rahman</i>	392
45	DEVELOPING CONNECTION IN POSITIVE YOUTH DEVELOPMENT: LEADERSHIP LEARNING THROUGH MENTORING PROCESS AMONG YOUTH LEADERS IN MALAYSIA <i>Mohd Mursyid Arshad, Ismi Arif Ismail, Turiman Suandi & Zoharah Omar</i>	399
46	EXPATRIATES' PERCEPTION ON FACTORS AFFECTING KNOWLEDGE TRANSFER BETWEEN ASIAN EXPATRIATES AND LOCAL EMPLOYEES <i>Nurul Afiqah Zulkifly, Maimunah Ismail, Siti Raba'ah Hamzah, Eriko Yamato & Nur Nasuha Gan Muhammad Azlan Gan</i>	404
47	WORK-LIFE BALANCE AND WORKPLACE ADAPTATION: THE EFFECT OF ORGANIZATIONAL SUPPORT OF MALAYSIAN SELF-INITIATED REPATRIATES <i>Mageswari Kunasegaran & Maimunah Ismail</i>	418
48	A CORRELATIONAL STUDY OF MULTICULTURAL COMPETENCY AND SELF-EFFICACY IN DEALING WITH LEGAL AND ETHICAL ISSUES <i>Neerushah Subarimaniam, Noor Syamilah Zakaria & Wan Marzuki Wan Jaafar</i>	430
49	RESILIENCE AS DETERMINANTS OF TEACHING EFFICACY AMONG SPECIAL EDUCATION PRE-SERVICE TEACHERS <i>Amalina Ulya Abdul Jalil & Nor Aniza Ahmad</i>	436
50	THE RELATIONSHIP BETWEEN INDOOR ENVIRONMENTAL QUALITY AND SATISFACTION AMONG POLYTECHNIC STUDENTS <i>Ainul Jasmeen Ainul Zuhairi & Mohd Hazwan Mohd Puad</i>	445
51	RELATIONSHIP BETWEEN DIFFICULTIES IN EMOTION REGULATION, SUBJECTIVE WELL BEING AND WORKING ALLIANCE BETWEEN COUNSELLORS AND CLIENT AMONG SUBSTANCE ABUSERU <i>Grace Chan Chee Yan & Asmah Ismail</i>	456
52	ASSESSING INTEREST IN STEM CAREER SURVEY AMONG MALAYSIAN FORM FOUR SCIENCE STREAM STUDENT <i>Fazilah Razali, Othman Talib, Umi Kalthom Abdul Manaf & Siti Aishah Hassan</i>	464

53	THE EFFECT OF HOME-BASED INTERVENTION PROGRAM ON BLOOD PROFILES AMONG UNDERGRADUATE FEMALE STUDENTS IN IRAQ <i>Kim Geok Soh, Jian Abdullah Noori, Kim Lam Soh, Salimah Japar & Aminuddin Yusof</i>	479
54	TEACHERS' ROLE IN PREPARING AN ULUL ALBAB GENERATION <i>Nor Adzimah Subirin, Fathiyah Mohd Fakhruddin, Nor Hayati Alwi, Umi Kalthom Abdul Manaf & Siti Suria Salim</i>	485
55	UNDERSTANDING THE CONCEPT OF CAREER DEVELOPMENT AMONG YOUNG CANCER SURVIVORS IN MALAYSIA <i>Siti Nur Syuhada Musa & Siti Raba'ah Hamzah</i>	493
56	CONCEPTUALISING LEARNINGS IN THE COACHING PROCESS: AN EFFECTIVE APPROACH LEADERSHIP DEVELOPMENT <i>Nasreen Khanum Nawab Zadah Khan, Mohd Mursyid Arshad, Ismi Arif Ismail & Zoharah Omar</i>	503
57	EMOTIONAL INTELLIGENCE ON HEALTH BEHAVIOURS AMONG MALAYSIAN UNIVERSITY STUDENTS IN A MALAYSIAN PUBLIC UNIVERSITY: THE MEDIATING ROLE OF SELF EFFICACY <i>Roxana Dev Omar Dev, Tengku Fadilah Tengku Kamalden., Soh Kim Geok, Maria Chong Abdullah, Ahmad Fauzi Mohd Ayub & Ismi Arif Ismail</i>	507

THE 4TH INTERNATIONAL
CONFERENCE ON EDUCATIONAL
RESEARCH AND PRACTICE
(ICERP) 2017

PROCEEDINGS

A BASIC STEPPER MOTOR CONTROLLER DESIGN USING FPGA AND VHDL FOR AN OPEN LOOP SYSTEM (A FUNDAMENTAL EXPOSURE TO THE DIGITAL SYSTEM DESIGN)

Ruzali Rustam & Mariam Ibrahim Al Khoory
Department Electronic Engineering Technology, Higher Colleges of Technology, ADWC
Abu Dhabi, United Arab Emirates
rrustam@htc.ac.ae, H00225252@htc.ac.ae

ABSTRACT

In the digital system design and control systems courses, the FPGA and VHDL are utilized to design a basic stepper motor controller for an open loop system. A design flow consisted theory and application, specification design, architecture design, implementation, testing and performance analysis is presented in order to provide a fundamental exposure to the basic stepper motor controller design by using the FPGA and VHDL as well as to develop knowledge and skill in the digital system design for either undergraduate or graduate students. The controller is designed to control three basic function of the stepper motor: full-step/half-step, directions, and speed. Finally, the function is evaluated and showing that the controller worked properly as outlined on its specification design.

Keywords: Digital system design; FPGA; VHDL, basic stepper motor; controller design; open loop system; design flow; full-step; half-step; direction; speed

Introduction

Nowadays, the field programmable gate array (FPGA) is widely used to implement algorithms or digital circuits. The FPGA has advantages in term of short design time, cost effective, small size, and high reliability compared to using standard digital ICs. Besides that, it is capable of being erased and reprogrammed with a new hardware design which makes it well suited for academics and prototyping. In higher education for computer and electrical/electronic engineering, the FPGA along with hardware description language (HDL) can be a part of courses such as advanced digital electronics, digital system design, digital signal processing, video and image processing, control systems and embedded systems.

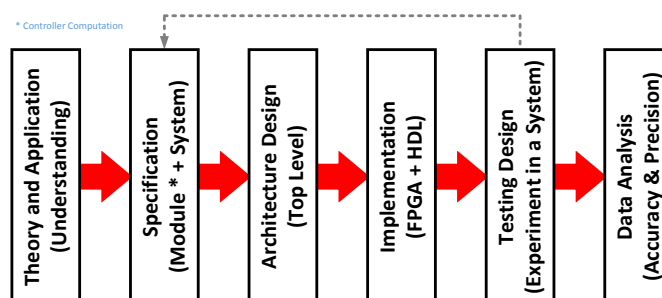


Fig. 1. A design flow of the controller using FPGA & VHDL

Here, we utilize the FPGA along with the HDL for the digital system design and control systems, specifically a basic motor stepper controller design using Xilinx's FPGA and VHDL. The stepper motor controller is designed to control three basic function such as full-step/half-step, directions and speed within an open loop system. The main goal of this work is to provide a fundamental exposure to a design flow of the basic stepper motor controller which consists

of theory and application, specification design, architecture design, implementation, testing design and performance analysis as described in Fig. 1. Furthermore, it is used to develop knowledge and skill either undergraduate or graduate students in the digital system design by using the FPGA and VHDL.

The rest of this paper is organized by following the design flow of the basic stepper motor controller above. Section II is about theory and application of the motor stepper that consist of (a) specification, (b) number of step per revolution, (c) speed in RPM, (d) directions and patterns, and (e) power driver. Section III presents design of specification and architecture of the motor stepper controller. Section IV will describe implementation and testing design, followed by (a) top level design, (b) simulation, (c) implementation, and (d) testing & measurement. Result and discussion for (a) functionality and (b) precision & accuracy are offered in section V. Finally, section VI concludes this work and suggests future works.

Motor Stepper

Stepper motor is a DC motor that moves in discrete by dividing a full rotation into a number of equal steps. It consists of number of coils that ordered in different phases and when each phases get energized, the motor will rotate one step at a time. The motion of speed or angle can be controlled by the pulse duration, duty cycle and period. In the open loop system control, the stepper motor has ability to be controlled accurately 0 compared to other DC motors.

Motor Stepper Specification

In this work, a bipolar stepper motor which is a mercury motor 0 with series ST-PM35-15-11C is used. A summary of the stepper motor specification is listed on 0The stepper motor has 12 VDC rated voltage, 4 poles, 7.5° stride or step angle, 2-2 single pole drive mode, 650 pulse per second (PPS) or step per second in maximum start frequency and 1600 PPS in maximum idle out-traction frequency. Fig. 2 shows lead wires of the stepper motor which consist of black (A), brown (\bar{A}), orange (B) and yellow (\bar{B}).

Table 1: Stepper Motor Specification

Pins	Remarks
Rated Voltage	12 VDC
Number of Pole	4
Stride Angle	7.5°
Drive Mode	2-2 Single Pole
Max Start Freq.	>> 650 PPS
Max Idle Out-traction Freq.	>>1600 PPS

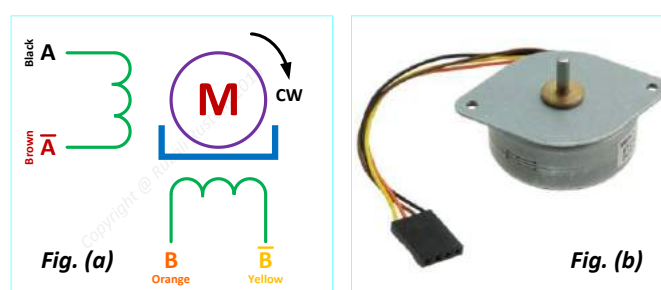


Fig. 2. Pole wires of the stepper motor

Number of Step Per Revolution

By using the step angle 7.5° listed on 0, numbers of the step per revolution of full-step (FS) and half-step (HS) are obtained by (1, 2). The FS requires 48 steps per revolution (1) and the HS requires 96 steps per revolution (2) where step angle 3.75° is half of step angle 7.5°.

$$FS \Rightarrow \left(\frac{360^{\circ}}{7.5^{\circ}}\right) = 48 \text{ steps} \quad (1)$$

$$HS \Rightarrow \left(\frac{360^{\circ}}{3.75^{\circ}}\right) = 96 \text{ steps} \quad (2)$$

Speed in RPM

Equation (3) is used to find speed of the stepper motor in revolution per minute (RPM). Unit of the frequency is in Hertz (Hz) or PPS. Number of the step per revolution depends on type of the FS or HS as outlined in (1, 2).

$$RPM = \left(\frac{\text{Frequency}}{\text{Step per Revolution}}\right) \times 60 \quad (3)$$

Directions and Patterns for FS & HS

Pole excitation orders shown in Fig. 2 are used to determine directions and patterns of the FS-HS motor stepper. A summary of the directions and patterns is listed on 0The FS and HS consists of 4 and 8 pole excitation orders respectively. The 4 FS orders with clock wise (CW) are AB-B \bar{A} - $\bar{A}\bar{B}$ - $\bar{B}\bar{A}$ and counter clock wise (CCW) $\bar{B}\bar{A}$ - $\bar{A}\bar{B}$ -B \bar{A} -AB. The 8 HS orders with CW are AB-B \bar{B} - \bar{A} - $\bar{A}\bar{B}$ - \bar{B} - $\bar{B}\bar{A}$ -A and CCW are A- $\bar{B}\bar{A}$ - \bar{B} - $\bar{A}\bar{B}$ - \bar{A} - $\bar{B}\bar{A}$ -B-AB.

Table 2: Directions & Patterns

Full Step				Directions	Half Step			
A	B	\bar{A}	\bar{B}		A	B	\bar{A}	\bar{B}
1	1	0	0	CW ↓	1	1	0	0
0	1	1	0		0	1	0	0
0	0	1	1		0	1	1	0
1	0	0	1		0	0	1	0
				CCW ↑	0	0	1	1
					0	0	0	1
					1	0	0	1
					1	0	0	0

Power Driver

Current provided by a controller is always not enough to drive a stepper motor. Because of that, a power driver must be attached between the stepper motor and controller. Practical way to drive a bipolar stepper motor power is by using IC L298 Dual H-Bridge Motor Driver as presented on 0. In this work, the same way is adopted to driving power for the stepper motor.

Specification & Architecture

Controller Specification

A specification of the basic stepper motor controller is derived from theory & application outlined on section 0. The controller specification is dedicated for an open loop system which there is no feedback information about controlled variables 0. In this work, the basic stepper motor controller controls three variables which are directions, steps and speed as listed on 0By controlling the directions orders & step patterns described on 0, the CW/CCW directions and FS/HS steps can be determined respectively. By controlling the clock frequency, the speed of the stepped motor can be increased or decreased as shown in (3). An assessment for correctness of the directions and steps is determined by direct observation and the speed by measurement of its accuracy and precision. Further, this assessment will be detailed on section 0.

Table 3: Controller Specification

Variables	Control types	Correctness
Direction order	CW & CCW directions	Correct directions
Step Pattern	FS & HS steps	Number of step per revolution
Frequency ^a	Increase/decrease speed	Accuracy and precision

^a. with 32 clock frequencies

Architecture

A proposed architecture of the basic stepper motor controller is shown in 0. The controller consists of three main modules: clock divider, counter up/down and patterns (pole excitation orders). The clock divider produces different clocks required by the counter and pattern modules to determine the stepper motor speed. The 3-bit counter sequentially produces number from 0 to 7 (for up) or 7 to 0 (for down). The up/down number is required to select the pole excitation orders as listed on 0. Finally, the pattern module of the pole excitation orders determines the FS/HS control along with the directions and speed from the clock divider and counter.

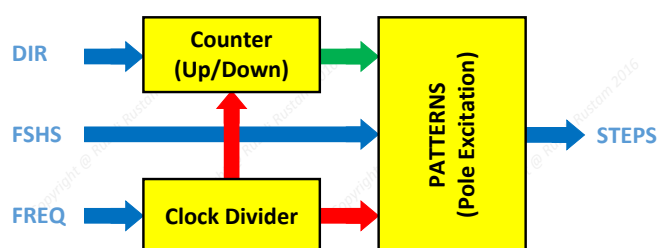


Fig. 3. Architecture of the basic stepper motor controller

Implementation & Testing

Top Level Design

The RTL view of the basic stepper motor controller is shown in Fig. 4. By using design hierarchy “bottom-to-up“ with Xilinx FPGA Spartan-3E xc3s500 0 and VHDL, the three modules of the architecture above (0) have been modeled and simulated separately. The `countupdown_mod`, `fullhalfstep_mod` and `clkdivscallertop_mod` have represented function of the 3-bit counter, pattern and clock divider modules respectively. After functional simulations, the three modules above have been integrated together. Besides the controlled variables (DIR, FSHS & FREQ), three pins which are reset (RST), on/off (TURN) and external clock (CLK) have been added into the top level design.

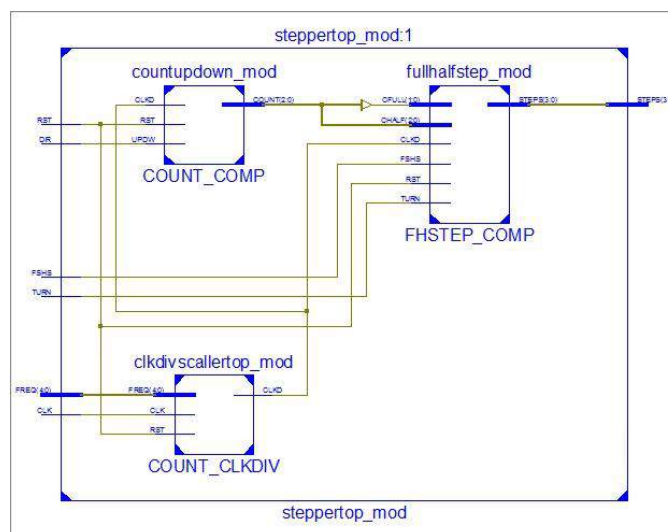


Fig. 4. A RTL View of the Basic Stepper Motor Controller

Simulations

The clock divider module with two clock frequencies (0.5 & 1.0 KHz) and reset has been simulated. In Fig. 5, the simulation result for the time window of the frequency 1 KHz has been presented from 0.5 to 1.5 ms with 1 ms for one clock period. Subsequently, the time window of the frequency 0.5 KHz has been shown from 4 to 6 ms with 2 ms for one clock period. Finally, the

asynchronous reset has been applied around 8.4 ms and immediately clock going to 0. From this simulation, the clock divider with source clock 50 MHz has worked properly. At the final stage design, the 32 clock frequencies in Hertz (1, 2, 4, 8, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, and 1450) have been implemented by arranging FREQ[4:0] input from “00000” to “11111” in binary or 0 - 31 in decimal respectively.

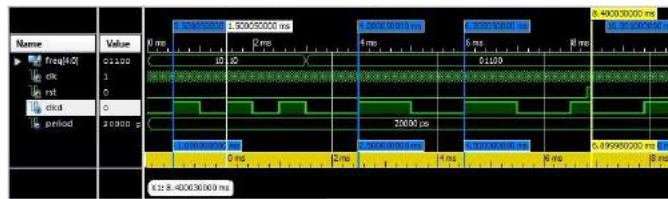


Fig. 5. Simulation result of the clock divider module

The counter module has been verified with count-up and count-down modes by arranging the updw pin. In the simulation result in Fig. 6, the count-up mode has happened within a time window 0 to 150 ns. Subsequently, the count-down mode has happened within a time window 150 to 350 ns. Within the time window 300 ns, the reset has also been applied. Based on this simulation, the counter module has operated properly.

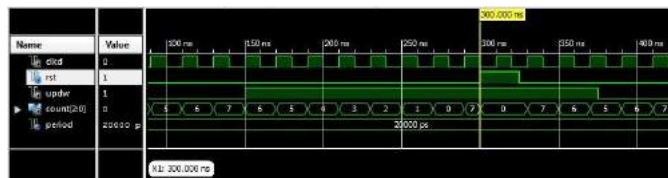
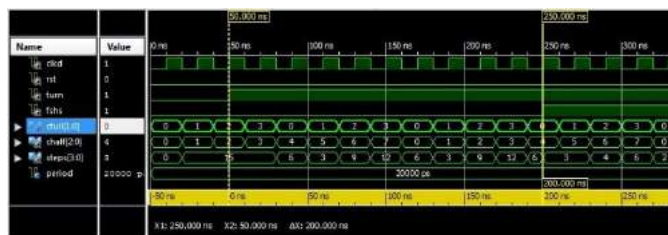
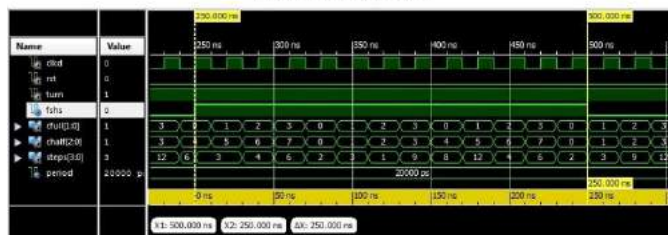


Fig. 6. Simulation result of the counter module



(a) Full step operation



(b) Half step operation

Fig. 7. Simulation results of the patterns module

Fig. 7 has shown the simulation results for the patterns module with FS and HS modes. In Fig. 7a, the controller has been turned off within the time window 0 to 50 ns. As a result, there has been no pattern produced on the output (steps[3:0]). The controller has been turned on at 50 ns and at the same time the FS mode has occurred. Within the time windows 50 to 250 ns, the 4 FS patterns 0110-0011-1001-1100 (in decimal 6-9-3-12) has been produced according to the clock divider (clkd) and count-up (cfull) inputs. Subsequently in Fig. 7b, the HS mode has been set within the time window 250 to 500 ns. As a result, the 8 HS patterns are produced: 0100-0110-0010-0011-0001-1001-1000-1100 (in decimal 4-6-2-3-1-9-8-12).

Implementation

The top level module of the basic stepper motor controller has been implemented on National Instrument Digital Electronics (NI-DE) FPGA board 0. Fig. 8 shows the user constrain file (UCF) that has been written according to pins of the top level module before implementation (translate, Map, and Place & Route). Finally, a bit file has been generated to program the top level module into FPGA.

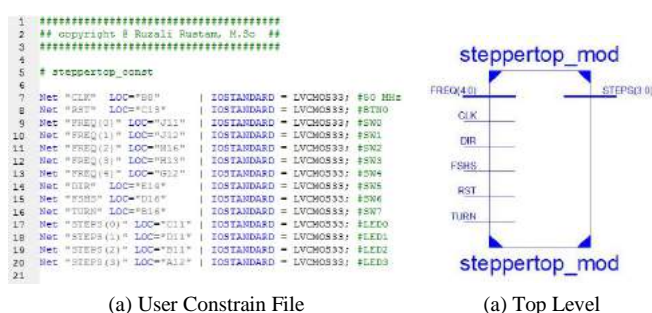


Fig. 8. Implementation on NI DE FPGA Board

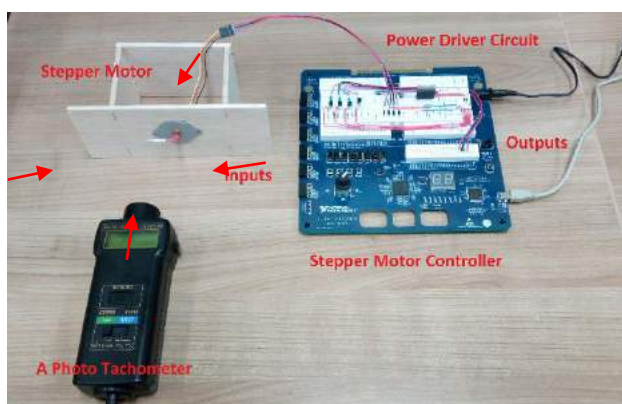


Fig. 9. Testing & Measurement for experiment

Testing & Measurement (Experiment)

After the bit file was programmed into FPGA, the design of the basic stepper motor controller has been tested and measured on the open loop system. In this work, the open loop system to test and measure the design is shown in Fig. 9. There has been three devices used in this system: the NI-DE FPGA board 0, the stepper motor 0, and a photo tachometer 0. The NI-DE FPGA board has consisted of I/O peripherals (7 switches, 4 push buttons, 8 LEDs and etc.), Xilinx FPGA Spartan-3 xc3s500, and bread board. The FPGA has been programmed to make the basic stepper motor controller connected to the I/O peripherals, as constrained in the UCF Fig. 8a. The power driver outlined in section 0 has been constructed on the bread board and then connected to the controller and stepper motor. The photo tachometer has been used to measure speed of the stepper motor.

Result & Discussion

Functionality

We have applied direct observation and measurement methods to evaluate functionality of the controller in the open loop system. The observation for the basic function of the controller – directions, number of steps for FS/HS, speed, reset and turn on/off – has been performed directly by setting the

speed of the stepper motor to 1, 2, 4 and 8 Hz or PPS. The results of the direct observation has been recorded in 0From this observation, the function of the controller has complied the specification given in section 0. The stepper motor has rotated to CW when DIR (SW5) was set to 0 and vice versa it has changed to CCW when DIR (SW5) was set to 1. When FSHS (SW6) switched to 0 and 1, the stepper motor has produced 48 and 96 step per revolution respectively. Speed of the stepper motor has increased and decreased when clock frequency (FREQ/SW0-SW4) increasing and decreasing.

Table 4: Testing Functionality

Inputs	Testing	Control	Observation
SW0-4	FREQ = 0-31	Speed	Working
SW5	DIR = 0	CW	Working
SW5	DIR = 1	CCW	Working
SW6	FSHS = 0	48 Steps	Correct for FS
SW6	FSHS = 1	96 Steps	Correct for HS
SW7	TURN = 0/1	OFF/ON	Working
BTN0	RST = 0/1	Normal/ Reset	Working

Precision & Accuracy

For the measurement, the main goal is to assess accuracy and precision of the basic stepper motor controller computed on FPGA. This measurement has been performed by shooting the photo tachometer to a lead of the stepper motor to measure its speed as shown in Fig. 9. For sampling data, frequency ranges 100 – 1450 Hz produced by the controller have been applied in the system as mentioned in section 0. However, the FS speed has only worked within frequency ranges 100 – 600 Hz and the HS speed has worked within frequency ranges 100 – 1200 Hz as shown in Fig. 10. The maximum frequency applied for both the FS & HS speed slightly was different to the stepper motor specification 0 listed in 0

FREQ	FS	HS
100	WORKING	WORKING
150	WORKING	WORKING
200	WORKING	WORKING
250	WORKING	WORKING
300	WORKING	WORKING
350	WORKING	WORKING
400	WORKING	WORKING
450	WORKING	WORKING
500	WORKING	WORKING
550	WORKING	WORKING
600	WORKING	WORKING
650		
700		
750		
800		
850		
900		
950		
1000		
1050		
1100		
1150		
1200		
1250		
1300		
1350		
1400		
1450		

Fig. 10. Sampling data with different frequencies

With the frequency ranges in Fig. 10, the speed measurement for both the FS and HS has been sampled. There were 11 data for the FS speed and 23 data for the HS speed. To assess its precision, each of the FS & HS speed measurements has been repeated four times. A summary of these speed measurement in RPM has s shown in Fig. 11. Percentage of the relative error (RE) has been calculated by using (4) and the expected speed for each frequencies (RPM) by using (3).

$$RE = \left(\frac{\text{Measured Speed} - \text{Expected Speed}}{\text{Expected Speed}} \right) \times 100 \quad (4)$$

Expected Speed		Measurement-1		Measurement-2		Measurement-3		Measurement-4		Average	Samples
RPS	RPM	RPM	RE %	RPM	RE %	RPM	RE %	RPM	RE %		
100	125.00	124.90	0.08	125.00	0.00	124.90	0.08	125.00	0.00	0.04	1
150	187.50	187.40	0.05	187.50	-	187.50	-	187.40	0.05	0.03	2
200	250.00	250.10	0.04	250.00	0.00	250.00	0.00	249.90	0.04	0.02	3
250	312.50	312.40	0.03	312.40	0.03	312.30	0.06	312.40	0.03	0.04	4
300	375.00	374.80	0.05	375.00	-	375.00	-	375.10	0.03	0.02	5
350	437.50	437.70	0.05	437.30	0.05	437.80	0.07	437.30	0.05	0.05	6
400	500.00	500.00	0.00	500.10	0.02	500.00	0.00	500.00	0.00	0.01	7
450	562.50	562.60	0.02	563.30	0.14	562.30	0.05	562.60	0.02	0.06	8
500	625.00	625.60	0.10	624.80	0.09	624.60	0.06	624.47	0.08	0.07	9
550	687.50	687.90	0.06	687.60	0.01	687.90	0.06	687.20	0.04	0.04	10
600	750.00	750.10	0.01	749.90	0.01	750.70	0.09	751.00	0.13	0.06	11
650	812.50	-	-	-	-	-	-	-	-	-	-

(a) The FS Speed Measurement

Expected Speed		Measurement-1		Measurement-2		Measurement-3		Measurement-4		Average	Samples
RPS	RPM	RPM	RE %	RPM	RE %	RPM	RE %	RPM	RE %		
100	62.50	62.50	0.00	62.50	0.00	62.60	0.16	62.50	0.00	0.04	1
150	93.75	93.70	0.05	93.70	0.05	93.80	0.05	93.80	0.05	0.05	2
200	125.00	125.00	0.00	124.90	0.08	125.00	0.00	125.00	0.00	0.02	3
250	156.25	156.20	0.03	156.11	0.09	156.10	0.10	156.39	0.03	0.06	4
300	187.50	187.50	-	187.40	0.05	187.50	-	187.50	-	0.01	5
350	218.75	218.90	0.07	218.70	0.02	218.90	0.07	218.60	0.07	0.06	6
400	250.00	249.90	0.04	250.00	0.00	250.00	0.00	250.00	0.00	0.01	7
450	281.25	281.30	0.02	281.20	0.02	281.30	0.02	281.20	0.02	0.02	8
500	312.50	312.30	0.06	312.30	0.06	312.30	0.06	312.40	0.03	0.06	9
550	343.75	343.70	0.01	343.70	0.01	344.00	0.07	343.50	0.07	0.04	10
600	375.00	375.00	-	375.00	-	375.90	-	375.10	0.03	0.01	11
650	406.25	406.30	0.01	406.30	0.01	406.30	0.01	406.20	0.01	0.01	12
700	437.50	437.30	-	437.60	0.02	437.70	0.05	437.90	0.09	0.04	13
750	468.75	468.90	0.03	468.80	0.01	468.40	0.07	468.50	0.05	0.04	14
800	500.00	500.00	0.00	500.00	0.00	500.10	0.02	500.10	0.02	0.01	15
850	531.25	531.10	0.03	531.50	0.05	531.50	0.05	531.30	0.01	0.03	16
900	562.50	562.10	0.07	562.70	0.04	562.60	0.09	562.00	0.09	0.07	17
950	593.75	593.30	0.08	593.60	0.03	593.80	0.01	593.30	0.08	0.05	18
1000	625.00	625.40	0.06	624.90	0.02	625.50	0.08	624.70	0.05	0.05	19
1050	656.25	656.60	0.05	656.40	0.02	656.40	0.02	655.90	0.05	0.04	20
1100	687.50	687.30	0.03	687.40	0.01	687.90	0.06	687.50	-	0.03	21
1150	718.75	718.40	0.02	719.10	0.05	718.50	0.03	718.20	0.08	0.05	22
1200	750.00	750.00	-	750.00	-	750.40	-	750.20	0.03	0.01	23
1250	781.25	-	-	-	-	-	-	-	-	-	24

(b) The HS Speed Measurement

Fig. 11. The stepper motor speed measurement



(a) 11 frequency samplings with 4 (b) 23 frequency samplings with 4
 Fig. 12. Accuracy & precision

In this work, assessment of accuracy and precision has generally been determined by average of the RE of the measurement data. The accuracy has been presented by how close the RE measurement to zero. The precision has been presented by repeatability or consistency of the RE measurement. The diagram in Fig. 12 has illustrated combinations of the accuracy and precision taken from the average of the RE measurement in Fig. 11. Based on this diagram, the basic stepper motor controller computed on FPGA has good accuracy and precision for the open loop system.

Conclusion & Future Works

The architecture of the basic stepper motor controller has successfully been designed and implemented by using Xilinx's FPGA and VHDL. The methods of the testing and measurement in the open loop system has proved that the controller has complied the specification given; in term of full-step/half-step, directions and speed. Overall, the fundamental exposure to a design flow of the basic stepper motor controller which consists of theory and application, specification design, architecture design, implementation, testing design and performance analysis has been achieved.

For future work, switches (SW0-SW4) of the frequency can be replaced by using rotary knob or keypad with seven segment display. The rotary knob or keypad makes it easy to sampling more different frequencies. In addition, micro-step function of the stepper motor can be added along with its encoder. Furthermore, this work can be used to develop knowledge and skill in the digital system design for either undergraduate or graduate students.

References

- Stepper Motor Basics, "http://solarbotics.net," [Online]. Available:
<http://solarbotics.net/library/pdf/lib/pdf/motorbas.pdf>
- Type of Bipolar Stepper Motor ST-PM35-15-11C, [Online]. Available:
<http://cdn.sparkfun.com/datasheets/Robotics/ST-PM35-15-11C.pdf>
- Using the L298 Motor Bridge IC, "http://www.robotoid.com," [Online]. Available:
<http://www.robotoid.com/appnotes/circuits/l298hbridge>
- NI Digital Electronics FPGA Board – User Manual, "http://www.ni.com," [Online]. Available:
<http://www.ni.com/pdf/manuals/372809b.pdf>
- A photo and a contact Tachometer Model K4010 [Online]. Available:
<http://www.testequipmentdepot.com/reed/pdf/k4010.pdf>

IMPROVING MATHEMATICS ACHIEVEMENT AND ATTITUDE OF THE GRADE 10 STUDENTS USING DYNAMIC GEOMETRY SOFTWARE (DGS) AND COMPUTER ALGEBRA SYSTEMS (CAS)

Starr Clyde L. Sebial
Teacher III, Zambo. Sur National High School
clyde21g@gmail.com

ABSTRACT

It has become a fact that fluency and competency in utilizing the advancement of technology, specifically the computer and the internet is one way that could help in facilitating learning in mathematics. This study investigated the effects of Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) in teaching Mathematics. This was conducted in Zamboanga del Sur National High School (ZSNHS) during the third grading period of the school year 2015-2016. The study compared the achievement and attitude towards Mathematics between those students taught with DGS and CAS and those students who were taught without DGS and CAS. A quasi-experimental pretest-posttest control group design was used with two groups which was matched according to their mathematical level. An achievement test was developed and administered to assess the students' achievement in Mathematics. Aiken's attitude scale was also used to assess the students' attitude towards Mathematics. The data were treated with One-Way Analysis of Covariance (ANCOVA) and t-test at 0.05 level of significance. The study revealed a significant difference between the mathematics achievement between students taught with DGS and CAS and those who were taught without it. The integration of DGS and CAS in Mathematics lessons leads to better academic achievement result compared with that of the conventional method of teaching. Moreover, there was no significant difference on the attitude level of the students between the two groups.

Keywords: quasi-experimental, computer-assisted instruction, achievement, attitude

Introduction

The main aim of teaching mathematics in schools is to develop scientific attitude towards Mathematics. The reasoning in mathematics possesses a number of characteristics, namely; characteristics of accuracy, verification of results, certainty of results, similarity to reasoning in life and originality (Ramani, et.al, 2012). All these characteristics automatically become a part and parcel of a child when the student learns mathematics. This is why Plato considers knowledge of mathematics to be prerequisite of citizenship.

In traditional classroom-based mathematics class, much of the learning comes from reading the selected particular textbook, listening to teacher's lectures and taking notes regularly. In effect, students become more lenient on visual features on the board, such as the fact that angles look the same even if they cannot be shown to be so by reasoning logically from theorems and definitions. This plain and laid-back characteristic gives out a boring impression to the students while the fast and interactive trend of the computer technology locks in students' interest which makes it a brilliant teaching tool that could be used in teaching mathematics.

Nowadays, it has become a fact that fluency and competency in utilizing the advancement of technology, specifically, the computer and the internet is one way that could help in facilitating learning. It is undeniable that the technology provides an effective motivation to students. Several studies have shown that students who used computer-based learning practice find mathematics more enjoyable. They like the flexible features provided by the computer practice, spend long hours at a computer to complete a task, and enjoy testing out new ideas on the computer. They are no longer passive recipients of information; they are actively involved in knowledge construction. Thus the computer's computational functionality is being used to support those processes rather than to use it as a vehicle in presenting information only. This concept is supported by Keong, Horani and Daniel (2005) who stressed that the

use of ICT in teaching mathematics could make the learning process more effective, and could enhance the students' capabilities in understanding basic mathematics concepts.

Jonassen (2000) asserted that Constructivist educators strive to create environments where learners are required to examine thinking and learning processes; collect, record, and analyze data; formulate and test hypotheses; reflect on previous understandings; and construct their own meaning. The constructivist sense of "active" learning is not listening and then reflecting the correct view of reality, but rather participating in and interacting with the surrounding environment in order to create a personal view of the world. Constructivists engage the learners so that the knowledge they construct is not inert, but rather usable in new and different situations. Some interesting types of these environments are the computer simulation and modeling using Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS). This is supported by the "Learning by Doing" of John Dewey which affirmed that students should take part in their own learning because they perform better if they interact and experience the environment.

Computers and the internet provide new methods of delivering instruction so students will have choices of when, where, and how they learn math. Undeniably, traditional teaching techniques and practices in mathematics have to keep up with the computer technology so as to conveniently sustain students' interest and efficiently facilitate students learning. Traditional teaching and practices in Mathematics is still dominant in Zamboanga del Sur National High School. Although a lot of trainings and seminars on ICT teaching approaches have been conducted already in preparation for the K-12 programs, only a few number of teachers had been practicing and utilizing the Computer-Assisted Instructions like using Computer Algebra Systems (CAS) and Dynamic Geometry Software (DGS).

For the Grade 10 math class, students find it difficult why the measure of the inscribed angle in a circle is always one-half the measure of the intercepted arc. They also have difficulties in identifying the relationships of the segments formed by secants and tangents inside and outside the circle. They also find it hard to solve problems involving circumferences and areas pertaining to circles and sector of circles, which are actually part of the least-learned competencies in the NAT. High school students find these hard to understand and master these concepts. This poses a challenge to the teachers on how to effectively teach the subject. For the past years, the Mean Percentage Score (MPS) and National Achievement Test (NAT) results of the Zambo. Sur National High School clearly shows that the students of the school stand below average in Mathematics. Supposedly, schools are expected to obtain at least 75% ratings and school obtained 49.76% MPS only of the school year 2014-2015.

The nature of the classroom lesson development could be one of the reasons of the change of students' behavior towards mathematics. Generally, our basic education formation in school was done mostly through lecture mode rather than the use of activities that could encourage the students' participation and involvement. The researcher believes that a change of this trend is needed to answer the issue. If the students have a positive attitude towards learning mathematics, it is probably easier for them to understand mathematical concepts which could help them boost their confidence as they work on mathematical operations.

At the end of the study, the researcher anticipated that the integration of the computer-assisted setting in the learning situation can contribute a big change to both the teacher's view of teaching the subject and that the students' interest to the computer will be utilized and optimized in the classroom situation. Hence this study was conducted to investigate the effects of using Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) on the achievement and attitude of students in mathematics.

Research Questions

A number of researchers think that computer-assisted instruction has great potential for improving developmental education. Others insist, however, that students need personal interaction with their teacher and classmates. Do computer-assisted instructions enhance the learning of Grade 10 mathematics or is traditional instruction more effective for these students?

This study investigated the effects of using Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) on the achievement and attitude of Grade 10 Robin students at Zamboanga del Sur National High School.

Specifically, this study sought answers to the following problems:

1. How do the achievements in Mathematics compare between those students who will be taught with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) and those students who will be taught without Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS)?
2. How do the attitudes of students towards Mathematics compare between those students who will be taught with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) and those students who will be taught without Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS)?

Scope and Limitation

This study was delimited to investigate the effects of using Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) on the mathematics achievement and attitude of students toward Mathematics. This was conducted in Zamboanga del Sur National High School (ZSNHS), Sta. Maria District, Pagadian City. The study considered the intact section of Grade 10 Robin during the third grading period of S.Y. 2015 – 2016. The whole class was divided into two groups which comprised the experimental and control group.

The geometry concepts of circles were the focus of the study, particularly for the third grading period of the K-12 Grade 10 Math. The topics were the definition of circles, the parts of circles involving arcs, chords and angles, tangents and secants of circles, the different equations of circle, transforming its equations and problems involving circles. The lessons in experimental group were integrated with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) while control group was handled traditionally using conventional methods of instructions. Both the experimental and control group followed the lesson contents of the Grade 10 Math Learning Guide.

One of the research instruments used in the study was the pretest-posttest achievement test prepared by the researcher. The 30-item researcher made test was validated by the panel of experts and its reliability was tested and tried out by one of the grade 10 sections of the Basic Education Curriculum (BEC) of Zamboanga del Sur National High School. The second instrument was the adopted Aiken attitude scale.

There was no analysis on the socio-economic variables of the students who participated in the study. The reasons behind the students' attitudes towards mathematics were not also examined. The analyses were focused on the comparison of the test scores and the attitudes between the experimental group and the control group.

Significance of the Study

The result of this study would provide information and insights about the integration of modeling and simulations in the classroom using a Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS), as a significant development in education process. Thus, the study would have meaningful and significant value to the students, parents, school administrators, teachers and DepEd officials.

The students who are ultimate beneficiaries of this study could enhance their content knowledge in mathematics while simultaneously developing their information technology skills through meaningful and purposive activities. In this way, students would be able to conceptualize the abstract ideas of Mathematics lessons using this environment. Hence, students' academic achievement would be enhanced.

The teachers would be encouraged to maximize the use of computer-based instructions to improve mathematics performance of the students. Through the process of integration of the DGS and CAS, the teachers could get fast feedback on what the students learn and what lessons need an immediate enrichment discussion. This integration could develop the skills of the teachers to utilize effectively the available information technology equipment in school. Teachers' ability on resourcefulness could be enhanced also for the DGS and CAS have infinite downloadable instructions from the web domain. Various forums of educators in the website can be accessed also for the discussion of the learning development for the effectiveness of the integration of the software.

The Math Education Program would benefit this alternative teaching strategy to improve the mathematics performance of students. This mediation could be an answer to the needs of advancement of the mathematics education system for the students simultaneously developing the computer literacy skills which is the primary need of the learners to compete for this computer age world.

The school administrators would also benefit from this study as they would be provided with vital information on what particular strategies are to be utilized as means of maximizing participation from students. The findings would further give them necessary data on what particular seminar and trainings they would allocate more budgets to develop and advance teachers' competence in utilizing the information technology equipment which in turn would address the countless needs of the students.

The DepEd officials would also benefit since this study may serve as valuable guide that would give them essential information to determine the future direction of the schools particularly on designing and planning seminars and trainings to hone the teachers' competence in utilizing the different strategies especially in using the computer as an instructional aid.

Review of Related Literature

In the pre-technology education context, the teacher is the sender or the source, the educational material is the information or message, and the student is the receiver of the information. In terms of the delivery medium, the educator can deliver the message via the "chalk-and-talk" method and overhead projector (OHP) transparencies. This directed instruction model has its foundations embedded in the behavioral learning perspective (Skinner, 1938) and it is a popular technique, which has been used for decades as an educational strategy in all institutions of learning (Damodharan 2007).

Lectures are probably the best teaching method in many circumstances and for many students, especially for communicating conceptual knowledge, and where there is a significant knowledge gap between lecturer and audience (Charlton 2006). This is widely used in the country throughout the formative years to graduate courses. As observed in the field of teaching, the advantages of the lecture approach are that it provides a way to communicate a large amount of information to many listeners, maximizes teacher control and is non-threatening to students.

The disadvantages are that lecturing minimizes feedback from students, assumes an unrealistic level of student understanding and comprehension, and often disengages students from the learning process causing information to be quickly forgotten. Basically, the teacher controls the instructional process, the content is delivered to the entire class and the teacher tends to emphasize factual knowledge. In other words, the teacher delivers the lecture content and the students listen to the lecture. Thus, the learning mode tends to be passive and the learners play little part in their learning process.

Today, educators realize that computer literacy is an important part of a student's education. Integrating technology into a course curriculum when appropriate is proving to be valuable for enhancing and extending the learning experience for faculty and students. Wilson (2009) posited that the advancement of the technology along with the change of type of learner requires fluency and competency with computers and the internet. This has been the bottom line why several studies were conducted not just to investigate the effects of technology but all the other Computer-Assisted Instructions (CAI), Computer-Based Learning (CBL) and Virtual Learning Environment (VLE) to the academic achievement and of attitudes of the students.

In the constructivist's learning process, students seem to have difficulties because they construct ideas from the interaction with the physical world which are not consistent with scientifically accepted ideas (Baser and Durmus, 2010). They often hold misconceptions be they historical, mathematical, grammatical, or scientific. In mathematics, computer simulations (one of the CAI tools) have been investigated as means to help students confront and correct these misconceptions, which often involve essential learning concepts (Strangman, Hall 2009). The constructivists Dewey, Piaget, Vygotsky and Bruner projected that learners could learn actively and construct new knowledge based on their prior knowledge.

Mehanovic (2008) posited that generative learning systems and knowledge construction environments are designed to form partnerships with learners/users, to distribute the cognitive load and responsibility to the part of the learning systems that performs the best. These systems include the Computer Algebra Systems (CAS) and Dynamic Geometry Software (DGS) which assist the learning process in the different areas in mathematics with computer simulations. Computer modeling and simulations are playing an important role in science and mathematics education. Simulations support conceptual development by allowing students to explore relationships among variables in the models of a system. Simulations can facilitate knowledge integration and a deeper understanding of complex topics, such as genetics, environmental science, and physics (Quellmalz, 2008).

Bill (2003) gave examples on how computer based simulation satisfy Gagne's (1956) 9 levels of learning model. The students gain attention through the use of sound, animation, text and graphics in the simulation. Learners are maximizing the capabilities of these technologies as tools for analyzing the world, accessing information, interpreting and organizing their personal knowledge and representing what they know to others. In this kind of environment, learners derive not only formal understandings from their experience, but deeper insights into the details of the concepts under study. Opportunities are provided for students to vary conditions or parameters, increase or decrease complexity, and manipulate normally abstract concepts in tangible ways.

Moreover, Lunce (2006) claimed that educational simulations have a number of advantages over other instructional methodologies and media. Students often find active participation in simulations to be more interesting, intrinsically motivating and closer to real world experiences than other learning modalities. Simulations have been shown to provide transfer of learning with the result that what is learned facilitates improved performance in real-world settings. Simulations can be very flexible in that both student and instructor can have a high degree of control over simulation variables. It allows students to experience phenomena which could be dangerous, expensive or even impossible to observe in the real world.

Ritland (2005) and Frank (2003) emphasized that concepts must not be given directly to students making them as passive in the learning process. These studies gave the researcher the insight that the concepts must be obtained by the learners in a generative process, that learning is much gained if the students are given with environment such as computer simulations which provides the facilitating structure and tools that enable students to make maximum use of their own intelligence and knowledge.

Lunce (2006) affirmed that there are a number of disadvantages in the use of computer simulations. He further stated that without appropriate coaching, scaffolding, feedback and debriefing, the learner gains little from the discovery learning that simulations facilitate. These suggest that teachers play a significant role in giving such learning process to students and thus required to formulate a well-planned activities using the environment to give the students a good time-framed learning process.

Coraje (2009) investigated the effects of information and communication technology (ICT) integration in addition to RBEC lesson guide as teaching approach in selected topics of Advanced Algebra to student's achievement. It was conducted at Davao City National High School, S.Y. 2008-2009, using 68 fourth year heterogeneously grouped students in quasi-experimental design. A 30-item achievement test in exponential and logarithmic functions was used for pretest and posttest. He used mean, standard deviation and ANCOVA. The quasi-experiment showed an improved students' achievement in selected topics in Advanced Algebra when taught with ICT. However, no significant interaction effect exists between mathematical ability and the two teaching approaches.

The study of Dogan (2011) about using DGS and its effect on eight grade students' achievements for the subjects of triangles was conducted. The study was done in the fall semester of 2009-2010 academic year of University of Selcuk, Konya, Turkey. Two eighth grade classes from a primary school were selected as experiment and control groups. The course contained DGS activities and practices about the stated objectives. The planned and DGS constructed activities which demand effective use of DGS for this grade shared with the students during the learning and teaching process.

Simultaneously, the control group continued their formal teaching and learning procedure. After the two weeks, a post test was applied to the both groups simultaneously. The posttest contained questions about the stated objectives for the eighth grade. Furthermore, one month after the application a recall test was applied to both groups as well. Possible comparisons between the tests and the groups were performed. The results show that dynamic software (DGS) has positive effects on students' learning and achievement. It has also been observed that it improves students' motivation with positive impact.

The CAI also inspired Miranda (2012) who designed and developed a computer-based IM, Multi Mouse Mischief lessons on animals, coral reefs and plants for Science V. The study was conducted in North City Central School of Cagayan de Oro city, S.Y. 2011-2012 and used mean and standard deviation as tools. The validated IM can be used by Grade V teachers and students for active peer learning integrating the computer-based lessons.

To achieve these goals, educators must think how they should improve curriculum and instruction. Teachers and administrators must know how to use the hardware and software to introduce a new kind of learning process. As teachers gain easier access and receive training in the use of the latest technology and as technology resources expand through electronic networking, instruction will be enhanced. Consequently, the students become more active, confident, motivated and would achieve at higher levels.

The review of literature gave the researcher ideas on how Computer-Assisted Instructions (CAI) becomes a good learning assistant tool in teaching Mathematics to enhance and increase active students' engagement in the classroom. This was in respond to the need of the teachers to equip a highly demand skills for the new type of learners. Generally, the reviewed literature and studies emphasized that Mathematics has features which foster learning.

Methodology

Design and Sampling

This study used quasi-experimental pretest-posttest group design to investigate the effects of teaching using Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) on the achievement and attitude of students in mathematics. This design involved the one (1) out of four (4) Grade 10 Mathematics teaching loads of the researcher in Zambo. Sur National High School, school year 2015- 2016, which was randomly assigned into two intact groups: the experimental group and control group. However, for data analysis, the students were divided and matched based from their mathematical ability level. The first grading Mathematics grades of the students were the basis for matching. The experimental group was taught Mathematics with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) as the teaching approach; while the control group was taught Mathematics in Traditional Teaching methods. The two groups were given the same set of lessons.

Data Collection

A researcher-made achievement test was administered as pretest and posttest to both groups in order to measure their achievement in particular lessons. An adopted attitude scale from Aiken was also given to measure the attitude level of the students in both groups towards Mathematics.

The conduct of the study started by giving both the experimental and the control group the pretest. The answers of the students were checked and recorded to serve as the covariate of the study. After the administration of the pretest, the same set of lessons were given to both groups which covered the entire module of Circles of Grade 10 Mathematics Learning Module. The Experimental group was taught with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) and the control group was done traditionally. After all topics were covered, the posttest was given to both groups to assess how much the students had learned from the teaching with Computer-Assisted Instruction and from the traditional method. The two groups also answered the mathematics attitude scale to measure their attitude towards mathematics. Unstructured interviews were also conducted to respondents to supplement the necessary insights and ideas developed by the students during the study.

Plan for Data Analysis

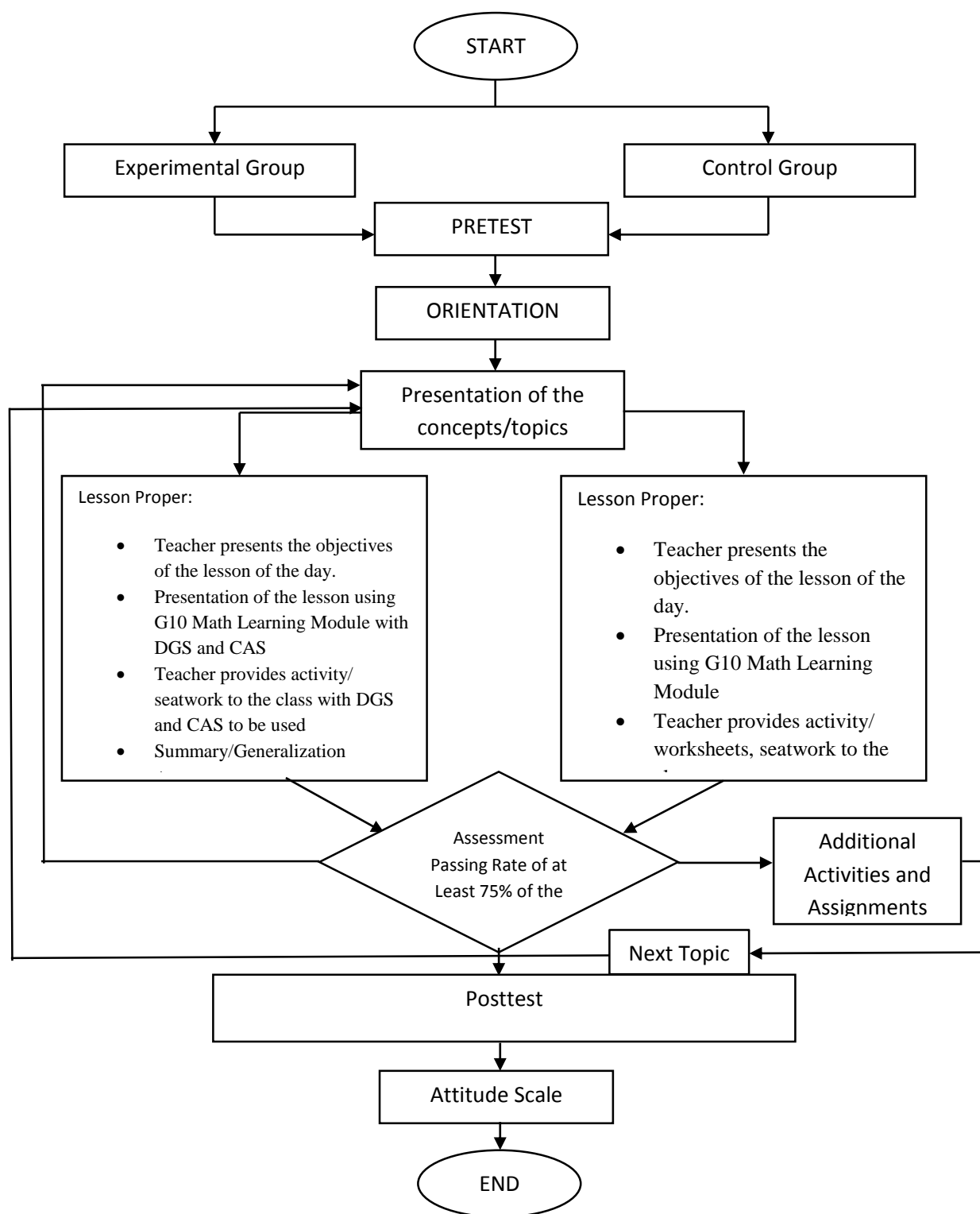
For the analysis and interpretation, the data were tested at 0.05 level of significance. Mean, Standard Deviation and One – way Analysis of Covariance (ANCOVA) were the statistical tools used to examine the significant difference in the achievement test scores between the students who were taught mathematics with DGS and CAS and the students who were taught mathematics traditionally. The t-test for independent samples was used to test if a significant difference exists in the attitude towards mathematics between the students taught mathematics with DGS and CAS and the students taught mathematics traditionally. The achievement of the students in mathematics were interpreted based from the NAT Achievement Level Descriptive Equivalence which had been adopted and used by the school and the mathematics department for measuring and interpreting the mastery level of the students.

<i>Percentage Range (%)</i>	<i>Mastery Level</i>
96 – 100	Mastered
86 – 95	Closely Approximating Mastery
66 – 85	Moving Towards Mastery
35 – 65	Average Mastery
15 – 34	Low Mastery
5 – 14	Very Low Mastery
0 – 4	Absolutely No Mastery

The Mathematics Attitude Scale was composed of 25 statements which measured the attitude towards mathematics. Students' extent of agreement or disagreement for every statement was expressed in a 5-point scale. The five choices of responses were: *Strongly Agree (SA)*, *Agree (A)*, *Undecided (U)*, *Disagree (D)*, and *Strongly Disagree (SD)*.

Determining the positive and negative statements in the attitude scale was done first and the highest score of five will be given to the response indicative of the most favorable attitude. The response in the positive statements has a weighted score of 5, 4, 3, 2, and 1. The negative statements were scored in reversed order. The scoring is as follows:

<i>Limits</i>		<i>Scale</i>		<i>Response</i>	<i>Qualifying Statement</i>
<i>Positive</i>	<i>Negative</i>	<i>Positive</i>	<i>Negative</i>		
4.20–5.00	1.00–1.79	5	1	Strongly Agree	The students have positive attitude towards Mathematics
3.40–4.19	1.80–2.59	4	2	Agree	The students are not sure of their Attitude
2.60–3.39	2.60–3.39	3	3	Undecided	The students have negative attitude towards Mathematics
1.50–2.59	3.40–4.19	2	4	Disagree	
1.00–1.79	4.20–5.00	1	5	Strongly Disagree	



Schema of the Management of Classes

Results and Discussions

Achievement of Students towards Mathematics

The mean scores from the pretest and posttest result of the two groups, the experimental and the control groups, were analyzed and presented in Tables 1 and 2.

Table 1. Pretest and Posttest Achievement Scores of Students in Mathematics

Groups	N	Pretest			Posttest			Qualitative Description
		\bar{x}	%	SD	\bar{x}	%	SD	
Control	25	12.92	43.07	4.32	14.88	49.60	3.40	Average Mastery
Experimental	25	12.96	43.20	3.60	16.60	55.33	3.43	Average Mastery
Overall	50	12.94	43.13	3.94	15.74	52.47	3.48	Average Mastery

Table 2. Posttest Achievement Scores of Students in Mathematics According to their Mastery Level

Range (%)	Control Group			Experimental Group			
	f	%	Mastery Level	f	%	Mastery Level	
96 – 100	0	0	Mastered	0	0	Mastered	
86 – 95	0	0	Closely Approximating Mastery	0	0	Closely Approximating Mastery	
66 – 85	3	12	Moving Towards Mastery	3	12	Moving Towards Mastery	
35 – 65	19	84	Average Mastery	20	80	Average Mastery	
15 – 34	3	12	Low Mastery	2	8	Low Mastery	
5 – 14	0	0	Very Low Mastery	0	0	Very Low Mastery	
0 – 4	0	0	Absolutely No Mastery	0	0	Absolutely No Mastery	

The data presented in Table 1 show that students from both experimental and control group had an average mastery level on the competencies tested in the achievement test. The experimental group had higher mean scores than the students from the control group. Table 2 show that the more students from the experimental group obtained higher mastery level compared to that of the control group. The experimental group has 1 lesser student who obtained low mastery compared to that of the control group and 1 more student in the Average Mastery level.

The results in their pretest indicated that the levels of students' abilities from both the experimental group and the control group were very close and therefore comparable for the conduct of the research. However, this only served as a covariate in this study. Considering the standard deviations for the pretest, the control group got a higher value compared to that of the control group. This indicated a wider dispersion in the scores of the students in the control group.

As shown in the result, the students in the experimental group obtained higher mean in the posttest, which differs 1.72 from the control group. During the conduct of the study, the students in the experimental group were observed to have shown eagerness to learn the relationships as one variable changes in the simulation in the software. They had shown interest to learn more through manipulating different models within the simulation to discover more about the lesson. Their motivation and interest can be seen as indicated in their journal. One student said “*It made me understand Mathematics more and made it easier for me to understand the lessons*” while the other one said “*I learned to prove theorems by using the DGS and CAS software.*”

The standard deviations for both groups also indicated that their responses were varied. The lower value in the standard deviation for the control group shows that their scores were closer to the mean compared to the experimental group. This means that the students from the control group, whether from high mathematical ability level or from low, were to some extent homogeneous in their achievement scores compared to that of the experimental group. The control group was taught using the traditional method which was the lecture method. The higher value of the standard deviation for the experimental group indicates that their scores were widely dispersed compared to the latter indicating that some students in the experimental group had become more confident with the use of DGS and CAS software.

In order to test the significant difference in the posttest achievement scores between those students from experimental group and those from the control group, the data gathered were subjected to One-Way Analysis of Covariance (ANCOVA). The result is presented in Table 3.

Table 3. One-Way ANCOVA to compare the Achievement in Mathematics between the Experimental Group and the Control Group

Source of Variation	Type III Sum of Squares	df	Mean Square	F-ratio	p-value
Corrected Model	252.461 ^a	2	126.231	17.289	.000
Intercept	325.021	1	325.021	44.516	.000
Covariates	215.481	1	215.481	29.513	.000
Main Effects	36.068	1	36.068	4.940	.031
Error	343.159	47	7.301		
Total	12983.000	50			
Corrected Total	595.620	49			

* significant at 0.05 level

The data in Table 3 show that there was a significant difference in the posttest scores between the students in the experimental group and that of the students in the control group. The null hypothesis which states that there is no significant difference in the achievement in Mathematics between those students taught with DGS and CAS software and those who were taught without the DGS and CAS software was tested at 0.05 level of significance. The result shown in Table 3 indicated that the main effects obtained a p-value of 0.031. Since p-value was lower than the significance level of 0.05, the null hypothesis is *rejected*.

Based on these results, the student’s experiences with the help of DGS and CAS learning process had helped them obtain a higher score; hence their achievement was improved. The activities with the software could have enabled the students to broaden and deepen their understanding about their lessons through discovering the necessary concepts and relationships among models in the topic.

The result showed that the integration of Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) in teaching Mathematics significantly improves students' academic achievement. Based from the observation during the conduct of the study, students were very interested and highly motivated during the manipulations in the drawing space of the software. The software provided a very interactive and friendly environment and motivation as manifested in their active participation and making decisions based on their observation. This could further show that the students taught using the software performed better compared to the students taught without it.

The integration of the software provided activities that were more student directed. Students from the experimental group were observed to be very inquisitive about the effects of varying one variable in the simulation into another. On the interviews conducted, one student said "*I like the feature of the software that it gives us directly the information we need for us to see the relationship of the lines and angles of the circles.*" The other student also claimed "*With the use of the DGS I can show the proof of how the theorems work.*"

Many studies conducted reveal similar findings to the study conducted. Coraje (2009) showed that the ICT integration in the Advanced Algebra was effective, as it showed an improvement in the students' achievement test. The result of the study is also parallel with the result of Dogan (2011) whose findings revealed that students' in experimental group who were exposed to classroom teaching, laboratory experiments, computer simulated activities achieved significantly higher academic achievement than their counterparts in the control group who were exposed to traditional classroom.

However, suggestions were still made that teaching with CAI should be used to supplement the teacher directed instruction to further familiarize the students in the teaching using computer technology as this is needed for the competitive education of the computer age.

Attitude of Students towards Mathematics

The 25 item Mathematics Attitude Scale adopted from Aiken was used to obtain data to answer the second problem. Table 4 presents the mean and standard deviation of attitude of students in Mathematics between those who were taught with DGS and CAS and those taught without the use of DGS and CAS.

As shown in Table 4, the overall mean scores showed that both groups have rated *Agree* in terms of their attitude towards Mathematics. However, the means differed by 0.072 in favor of the experimental group indicating that these students displayed more positive and favorable attitude towards Mathematics compared to the students from the control group. This could mean that the integration of DGS and CAS learning process in teaching Mathematics subject helped broaden positive and favorable attitude of the students in the experimental group towards the software and to the subject itself.

There were 6 items from the attitude scale that both experimental group and control group generated the same positive attitude. Both groups agreed that when they worked with problems in Mathematics, their thinking and reasoning were sharpened. They both agreed that they were excited on the subject.

Table 4. Students Attitude Scale towards Mathematics

Items	Experimental Group			Control Group		
	\bar{x}	SD	QD	\bar{x}	SD	QD
*Mathematics is a subject I am afraid of.	2.84	1.14	U	2.68	1.18	U
When I work with problems in Mathematics, my thinking and reasoning are sharpened.	3.72	0.89	A	3.92	0.95	A
*I am unable to think clearly when working with Mathematics	2.84	1.07	U	2.92	0.81	U
I feel excited learning about Mathematics	3.56	0.92	A	3.76	0.83	A

*Study of Mathematics is not important unless you are an engineer.	4.28	0.79	SD	4.24	0.93	SD
*Learning Mathematics makes me feel bored.	3.76	0.97	D	3.68	0.95	D
*I feel bored listening to people taking about Mathematics	3.68	0.85	D	3.68	1.07	D
Mathematics is a topic I greatly enjoy.	3.16	0.94	U	3.48	0.71	U
*Of all my teachers, I like Mathematics teacher least.	3.72	0.98	D	3.20	0.96	U
Being with people who are good in Mathematics is enjoyable	3.96	1.02	A	3.80	1.00	A
*No matter how hard I try, I cannot understand Mathematics	3.56	0.96	D	3.44	0.96	D
I feel happier in my Mathematics class than in any other class.	3.00	0.71	U	2.72	0.84	U
Mathematics gives me such satisfaction.	3.48	0.77	A	3.40	0.65	A
*Mathematics is not necessary in our country.	4.48	0.82	SD	4.60	0.65	SD
I find Mathematics useful for problems of everyday life.	4.04	1.06	A	4.12	0.78	A
*I don't enjoy going beyond the assigned work in Mathematics	3.52	1.05	D	3.12	0.83	U
I feel I have a good foundation in Mathematics.	3.16	0.85	U	3.00	0.82	U
*I study Mathematics just to pass the year level.	3.40	1.12	D	3.36	1.25	U
*I feel nervous in Mathematics class.	2.80	1.00	U	2.72	1.10	U
I have a feeling I can get high grade in Mathematics.	3.08	0.86	U	2.88	0.78	U
*I feel uncomfortable listening to Mathematics.	3.32	1.11	U	3.60	0.50	D
*I would not enjoy working with Mathematics.	3.80	0.87	D	3.44	0.77	D
Learning Mathematics makes me feel great.	3.88	0.93	A	3.60	0.87	A
*Being with people who are good in Mathematics is boring.	4.12	0.83	D	4.08	0.49	D
I am confident when solving Mathematics problems.	3.08	1.08	U	3.00	1.08	U
Overall	3.530	0.469	A	3.458	0.555	A

Legend: SA – Strongly Agree A – Agree U – Undecided
D – Disagree SD – Strongly Disagree
* – negatively stated statements

They enjoyed with people who were good in Mathematics. They both feel great in learning with the subject that it gives them satisfaction, and it was very useful for problems of everyday life. This could mean that whatever teaching approach their teachers were using, they still believed that the subject had a positive effect on their attitude.

Six statements were rated by both groups with unfavorable attitude. Both the experimental and the control groups disagreed that the subject was not necessary unless you're an engineer; that learning math and listening to people talking about math is boring. They disagreed that no matter how hard they try they can't understand math and that people who were good in this subject were boring.

There were three statements from the scale that the experimental group disagreed; while, the control group were undecided. The statements were that: Of all my teachers, I like Mathematics teacher least; I don't enjoy going beyond the assigned work in Mathematics; and, I study math just to pass the year level. From the unstructured interview conducted, some students said "*I like the Mathematics class if our teacher will use the software in making his discussions.*" Other student said "*It feels like I am holding the concept in my mouse and all I have to do is to figure it out by moving the objects in the drawing space.*" These interviews may have answered the statements why the students from the experimental group had a positive attitude towards these negative statements.

The experimental group rated one statement Undecided and the control group rated Disagree. The students who were taught Mathematics with DGS and CAS felt uncomfortable listening to Mathematics while the students from the traditional setting has disagreed on this. The self-discovery approach of the ICT integration in the classroom and the constructivist learning processes used by the teacher might have affected the preference of the students in terms of learning strategies. They prefer more to be engaging themselves to guided activities in the mathematics classroom rather than spending the entire session listening to teachers as the primary source of instruction and information.

The data further show that the integration of the Computer-Assisted Instruction as an instructional tool develops the students reading and communication skills necessary for them to execute properly the instructions to be followed. They can participate in the discussion with the use of DGS and CAS especially if it employs animation, motion or graphics since this can enhance their understanding. When DGS and CAS are used in the mathematics class they become more participative by giving additional information. Moreover, they can easily understand new ideas and concepts thus this stimulates their attention in the class. Computers being used as instructional tool ease boredom of the students.

The result could further show that the integration of the software learning process helped the students to deviate from what was the control group were rating. This result supports the claims of Lunce (2006) that educational simulations have a number of advantages over other instructional methodologies and media. Students often find active participation in simulations to be more interesting, intrinsically motivating and closer to real world experiences than other learning modalities. As observed, the students from the experimental group showed their enthusiasm in learning with the use of DGS and CAS. They actively participated in the activity and in the class discussion. Excitement and eagerness to learn was also observed, since the students rush to the computer laboratory upon hearing the bell for their scheduled time and even wanted to stay even when the time was over.

Both the experimental group and the control group were undecided on the following eight statements: Mathematics is a subject I am afraid of; I am unable to think clearly when working with math; math is a topic I greatly enjoy; I feel happier in my math class than in any other class; I feel I have a good foundation in math; I feel nervous in math class; I have a feeling I can get high grade in math; and I am confident when solving math problems. The overall findings show that the students in the experimental group who were taught with DGS and CAS tends to have positive attitude towards the subject; while, the students who were not exposed to this learning environment stayed undecided and uncertain in making more favorable decisions about how they feel towards Mathematics.

Moreover, Table 4 showed that the standard deviation of the experimental group was lower compared to the standard deviation of the control group. This shows that there was a lesser variation on the attitude scores of the experimental group that cluster towards the mean. This indicates that the experimental group is more identical in their attitude towards the subject. The control group had a higher standard deviation indicating that their attitude scores were more varied and scattered.

To test the significant difference in the attitude towards mathematics between the experimental group and the control group, t-test was employed. The test analysis is presented in Table 5.

Table 5. Test of Significant Difference in the Attitude towards Mathematics between the Experimental Group and the Control Group

Groups	\bar{x}	SD	df	t-value	p-value
Experimental	3.5296	0.55525	48	0.495	0.623
Control	3.4576	0.46934			

* significant at 0.05 level

The null hypothesis which states that there is no significant difference in the attitude towards Mathematics between those students taught in Mathematics with DGS and CAS and those who were taught in Mathematics without DGS and CAS was tested using t-test at 0.05 level of significance. The result shown in Table 5 indicated a p-value more than the significance level of 0.05. As a result, the null hypothesis is *accepted*. Therefore, there is no significant difference in the attitude towards Mathematics of students when taught with DGS and CAS than those who were taught without DGS and CAS. The p-value was not sufficient to warrant the claim that teaching students with DGS and CAS influences the attitude of students towards Mathematics. The result is shown by the responses given by both groups in the attitude scale wherein a number of statements from the attitude scale were rated equally as undecided. However, as shown in Table 5, the data indicates that the experimental group had a higher mean rating compared with that of the control group.

Students from the experimental group suggested in their journal prompts that the use of the software must be implemented throughout the curriculum for the learning process gave them easier ways to deal with the subject. One of the students said *“I’ve learned many things in the software like when the central angle and inscribed angle have the same intercepted arc, the measure of the inscribed angle is one-half the central angle.”* Reactions of the students during their activities and their responses to the interview manifest that they like doing Mathematics with the help of DGS and CAS.

The findings conform to the study of Alaj (2006), Al Senaidi (2008), and Mehdiyev (2009) who both investigated the effects of CAI both in the achievement and attitude of students. The results showed that the dynamic software DGS and CAS has a positive effects on students’ motivation towards learning together with their achievement.

Lunce (2006) mentioned, that there are a number of disadvantages in the use of computer simulation that could be a factor why this study did not reveal a significant difference from the attitude of the students. One student in the interview said, *“I like it more in the chalk and talk discussion because I can understand more if the teacher will explain the lesson.”* Another student said, *“The tools of the DGS and CAS are very hard to manipulate, I’m always confused on which tool is to be used to create figures and models.”* This could have been one of the reasons why not all studies resulted to positive results. These results also suggested that the complexity of the software must be addressed first, proper and enough orientation on how to use them must be conducted to avoid these reactions.

Consequently, the findings of the study provided insights that the use of DGS and CAS in teaching Mathematics, could help improve mathematics achievement of students. Furthermore, the use of DGS and CAS in teaching Mathematics could motivate the students to learn and could enhance their preference, hence favorable attitude towards Mathematics.

Findings

From the analysis of data, the following findings were derived:

1. There is a significant difference in the mathematics achievement of students in Mathematics when taught with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) compared with those who were taught without Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) in favor of the experimental group.

2. There is no significant difference in the attitude of students in Mathematics when taught with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) compared with those who were taught without Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS).

Conclusions

The following can be inferred from the findings of the study:

1. With the significant difference in the academic achievement between students taught with Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) (experimental group) and students taught without Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) (control group) favoring the experimental group, then Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) could be used to enhance students' capabilities in understanding Geometry.

Students who were taught with DGS and CAS had higher scores in Mathematics and showed competence in knowledge and skills compared with those in the control group who were exposed to conventional teaching. Therefore, the integration of DGS and CAS in Mathematics lessons leads to better academic achievement result compared with that of the conventional method of teaching.

2. The students being exposed to Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) learning environment have the same preference and outlook with the students from conventional math class.

Recommendations

Based on the aforementioned findings, the following are recommended:

1. Mathematics teachers are encouraged to integrate the Dynamic Geometry Software (DGS) and Computer Algebra Systems (CAS) in the learning process to enhance students learning and academic performance.
2. Trainings for the relevant skills could be done adequately to promote positive attitude towards Computer – Assisted Instructions.
3. Instructional materials not just for grade 10 but to all areas in mathematics could be developed.
4. Further studies about strategies and learning process integrating Computer – Assisted Instructions could be done to provide sufficient claims on positive results on students' performance and their attitude towards Mathematics.

References

- Baser, Mustafa and Durmus, Soner (2009). *The Effectiveness of Computer Supported Versus Real Laboratory Inquiry Learning Environments on The Understanding of Direct Current Electricity among Pre-Service Elementary School Teachers*. Retrieved on September 27, 2015 from http://www.ejms.com/v6n1/EURASIA_76N1_Baser.pdf
- Bill, David T (2003). "Popular Theory Supporting the Use of Computer Simulation for Experiential Learning." Retrieved on September 27, 2015 at <http://liquidknowledgegroup.com/Media/ArticleFiles/Computer%20Simulation.pdf>
- Charlton, B (2006). *Lectures are an effective teaching method because they exploit human evolved 'human nature' to improve learning*. Retrieved October 30, 2015 at www.hedweb.com/bgcharlton/ed-lect.html
- Coraje, D.(2009). *Effects of Information and Communication Technology (ICT) Integration on the Achievement of Students in Selected Topics in Advanced Algebra*. Unpublished Master's Thesis, Bukidnon State University, Malaybalay
- Damodharan, V. (2007). *Innovative Methods of Teaching*. Retrieved August 30, 2015 at math.arizona.edu/~atp.../Damodharan_Innovative_Methods.p...
- Dogan, M. (2011) *The Role of Dynamic Geometry Software in the Process of Learning: GeoGebra Example about Triangles** Retrieved January 30, 2015 at www.time2010.uma.es/Proceedings/Papers/A026_Paper.pdf

- Jonassen, D. (2000). *Constructivism and Computer-Mediated Communication in Distance Education*. Retrieved April 28, 2015 at www.uni-oldenburg.de/zef/cde/media/readings/jonassen95.pdf
- Keong, C.(2005). *A Study on the Use of ICT in Mathematics Teaching*. Retrieved April 28, 2015 at peoplelearn.homestead.com/MEdHOME2/.../Math.teaching.pdf
- Lunce, L. (2006). *Simulations: Bringing the benefits of situated learning to the traditional classroom*. Retrieved July 5, 2015 at citeseerx.ist.psu.edu/viewdoc/download?... - United States
- Mehanovic, S.(2008). *The Potential and Challenges of the Use of Dynamic Software in Upper Secondary Mathematics*. Retrieved August 20, 2015 at liu.diva-portal.org/smash/get/diva2:421408/FULLTEXT01
- Miranda, E. (2012), *Multi Mouse Mischief Lessons in Grade V Science*. Unpublished Master's Thesis, Bukidnon State University, Malaybalay City
- Quellmalz, E. (2008) *Exploring the Role of Technology-Based Simulations in Science Assessment: The Calipers Project*. Retrieved November 5, 2015 at calipers.sri.com/downloads/CalipersAERA07.pdf
- Ramani, et.al.(2012). *Computer Assisted Instruction in Teaching of Mathematics*. Retrieved September 20, 2015 at www.ijsrp.org/research-paper-1112/ijsrp-p1119.pdf
- Ritland, B. (2005). *Learning Object System as Constructivist Learning Environments: Related Assumptions, Theories and Applications*. Retrieved September 5, 2015 at zope.unimc.it/elphd/.../Learning%20Object%20System.doc
- Strangman, Nicole and Hall, Tracey (2009). *“Virtual Reality/ Computer Simulations”*. Retrieved on September 25, 2015 from http://aim.cast.org/sites/aim.cast.org/files/ncac_VR.pdf
- Wilson, R. (2009). *Learning Mathematics with Mathematical Software*. Retrieved Aug. 28, 2015 at wiredspace.wits.ac.za/bitstream/handle/10539/11380/finalone.pdf?

THE INNOVATION OF SMART SCHOOL ALLIANCE – AN ECOLOGICAL CHAIN OF EDUCATION IN TAIWAN

Yen-Yin Wang, Yung-Hsuan Chen, Yu-Chun Cheng & Chia Heng Chen
Digital Education Institute, Institute for Information Industry, Taipei City, Taiwan
yenyinwang@iii.org.tw, hsuenchen@iii.org.tw, eugeniacheng@iii.org.tw,
stephchen@iii.org.tw

ABSTRACT

Smart School Alliance is based on the distance education and telelearning to drive in elementary education field to promote creative cooperative/collaborative learning. There are four model as Joint-Curriculum, Joint-Teaching, Joint-Presentation, and Cross-cultural projects. This study propose six STEPs for development Learning Interactive Live Teaching Program, and share Webcasting and Live Courses experience as NMMBA, Tourism English, Theater English, Readings, Robotic learning, original inhabitant's culture, new residents as Vietnamese leaning, circuit-related experiments in science , Malaysia & Taiwan co-learning ,Online to Offline Exhibition for Filipino, business CEO lectures, museums, sightseeing factory, and so on. Smart School Alliance involves over 68 industrial and educational units, 750 schools and 40,860 teachers and students. This study putting emphasis on narrative history research in the interactive learning environments, and result shows positive feedback. Future Prospects is to develop qualifications and certifications for interactive live teaching and to cooperate with international unit to be a part of intelligent campus alliances

Keywords: Distance education and telelearning, elementary education, cooperative/collaborative learning, cross-cultural projects, interactive learning environments.

Introduction

Smart School Alliance is focus on elementary education and founded by the Industrial Development Bureau, Ministry of Economic Affairs in Taiwan, This plan is implemented by the Institute for Information Industry. This study about Smart School Alliance is based on this plan, the purposes are to apply distance education and telelearning tools to drive innovative development of other industries (i.e. manufacturing industry, service industry, traditional industries...etc.) and to deepen the cooperative/collaborative learning by the innovation applications.

Taiwan faced with globalization, industrial restructuring, the low birth rate, and many other challenges. Schools of all levels (including kindergartens) total number of students fell to 461.6 million in 2015 is the lowest ratio in 35 years. As a direct result of the declining birth rate ratio rose small school, elementary school students in 2015 fewer than 50 over 374 schools, accounting for the number of national schools the ratio was 14.2%. The 347 small schools compared with 10 years ago (149 schools) increased 1.5 times [2].

Low birth rate and fiscal pressure reason, the Ministry of Education recommended that the Control Yuan, cut down and merge mini hundred primary school age, the estimated annual savings of up to 51 billion funding source [3]. Changhua County, one of Taiwan country, in 2015, staff costs, business expenses accounted for 97%, compare with land, housing construction, machinery and IT hardware and software equipment, etc, only occupied 3% [4]. Part of the policy applied principles of economics in education, emphasizing 3E (economy, efficiency, effectiveness). Many remoteness and small schools could not escape the fate of being eliminated and merge.

To overcome those problems, we joint schools to compose Smart School Alliance, operate headquarters in Taipei, gathered more than 68 enterprises, engaged live webcasting learning system, promoted co-teachers, implied common curriculum between different schools, to solve every school average costs up to 15 million financial burden.

Models of Smart School Alliance

Smart School Alliance implements 22 counties and cities, more than 750 schools, 40,860 students, teachers, and parents, shortened 5000 hours traffic costs with technology, shortening the distance 300,000 km round trip with the web, with the league gets pretty circle around the earth 7 network. Overall, Modes of Smart School Alliance has four categories, such as Joint-Curriculum, Joint-Teaching and Learning, Joint-Presentation, and Cross-culture project (Fig. 1).

- 1.1 Joint-Curriculum: invite well-known teachers to give specialized courses, or school teachers to share the featured courses of their schools, and exchange courses with other schools (such as birds and slips).
- 1.2 Joint-Teaching and Learning: encourage teachers all over Taiwan to give classes to other regions.
- 1.3 Joint-Presentation: promote O2O online study pals to learn, present their achievement, and experience the innovative technological products (such as 3D, brainwave learning) together.
- 1.4 Cross-culture project: Implement additional courses from home and abroad, apart from local on-site courses, to expand the international views of the students.



Fig. 1. Modes of Smart School Alliance

Interactive Live Teaching Program STEPs

By Domestic and Oversea Empirical Practices of distance education and telelearning to create the share economy in Education. This study aim to promote smart campus services, utilize live webcasting learning to enhance the innovation and visibility of international learning. Six Steps for Promoting the Interactive Live Teaching Program as follows (Fig. 2).

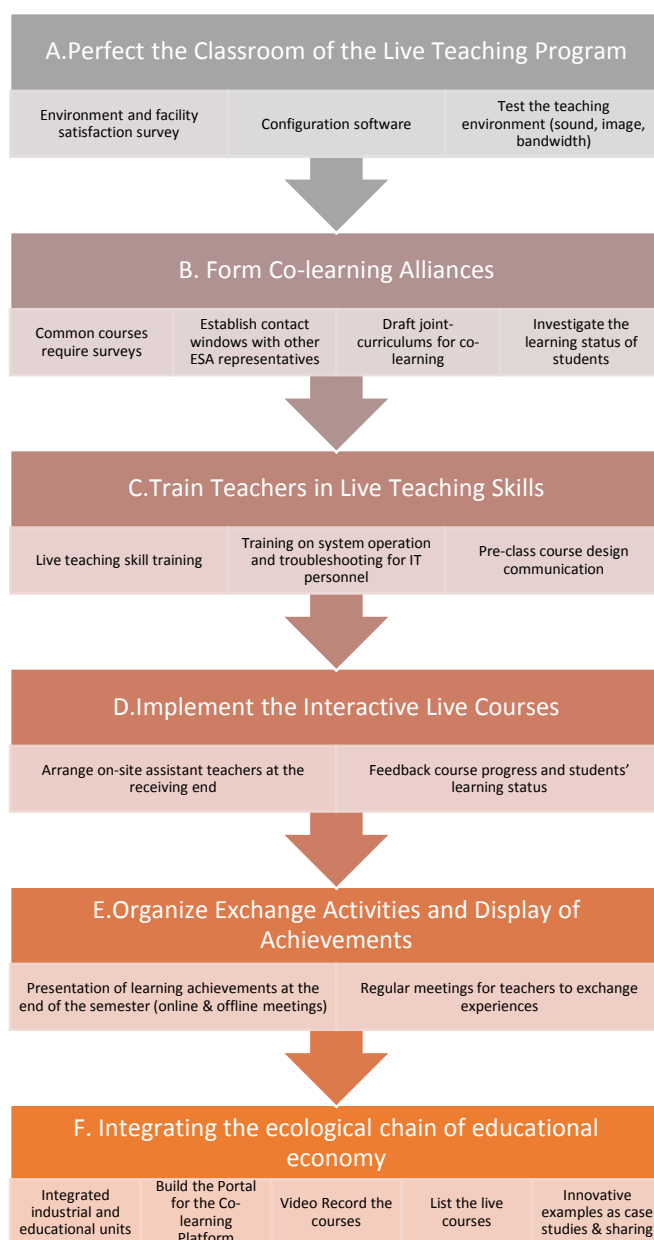


Fig. 2. Six Steps for Promoting the Interactive Live Teaching Program

Optimizing Classrooms for the Live Teaching Program

This study invited various industries to donate resources and integrated donations from more than 68 domestic and foreign businesses and educational units across five industries, including live education, content publishing, teaching devices, and training industries, as well as educational institutions—all of whom provided the hardware and software necessary for the demonstration. Then, we used the “interactive learning environments and facility satisfaction survey” configuration and test (covering such matters as the application and analysis of the bandwidth of school networks, computers, projectors, cameras, and echo-reduction microphones) to improve the live education environment. Moreover, professional schools were asked to contribute teachers from relevant industries and courses, facilitating inter-school cooperation and sharing among teachers, thereby promoting a sharing economy in the field of education.

Forming Co-Learning Alliances

This step involved understanding user demands (including schools, teachers, and students) for the course, past course contents, versions used, course schedules, and students' academic levels through communication and discussion, assisting the schools in forming co-learning alliances, and arranging the schedule for the joint curriculum. Schools were asked to arrange on-site teaching assistants to facilitate the implementation of the courses.

Training Teachers in Live Teaching

In the next step, training in system operation and troubleshooting arranged for IT personnel (including, for example, establishing the live collaborative learning environment, operating the software and hardware, and setting up the audio environment). The training in live teaching skills used a 21st century learning structure with embedded science and technology content. The training consisted of teaching demonstrations and experience sharing, teaching-process design, software operation (live teaching software, an instant feedback system, and the united service management platform), and simulation of a teaching results presentation. The purpose was to assist schools in imparting digital creative skills. There were positive comments. Examples of the training used in the study include remote live training in lesson plan design for teachers, done by the National Museum of Marine Biology and Aquariums (NMMBA) (Fig. 3). In that case, teachers could teach shark tooth specimens, coral ecosystems courses (Fig. 4) and turtle feeding reality with webcasting (Fig. 5).



Fig. 3. Remote Live Training on Lesson Plan Design for Teachers by the NMMBA



Fig. 4. Child asks the teacher that next time when I go to NMMBA, will shark specimens still at museum. Will it rot right?

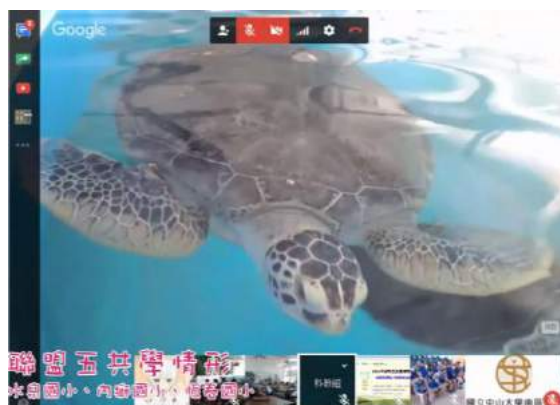


Fig. 5 turtle feeding reality with webcasting system by the NMMBA

Implementing the Interactive Live Courses

Teachers on the remote end (i.e., the senders) were the trainers, who were in charge of designing lesson plans, drafting learning sheets, and communicating with on-site teachers before the classes. The on-site teachers (i.e., the receivers) acted as assistant tutors and expected to provide lists of students from each participating school before the classes. They have to print the relevant materials required for the classes, assist with course progress on-site, report on the participants' learning progress, and regularly update the audio and video data of the students, so that the trainer could assess student progress. For courses where students were likely to have larger differences in level, such as English, classes were further being divided into sub-groups (A, B, and C) to receive training separately.

Two types of courses as follows: courses on various subjects provided by teachers from relevant industries, and courses featuring in-depth explanations of specific subjects provided by teachers. This study putting emphasis on narrative history research method, descriptions of each type of course in interactive learning environments are as follows:

Courses on Various Subjects Provided by Teachers from Relevant Industries

Teachers from corresponding industries were invited as lecturers to offer training covering a diversified range of industry-related topics. Such as courses on Tourism English (Fig.6) and Theater English (Fig.7) were given by Filipino cram school teachers, inspirational stories of personal growth told by corporate CEOs, morning story readings provided by various foundations . Other webcasting courses are interactive picture books covering applications offered by companies from the telecommunications industry, courses about robot manufacturers given by companies from the hardware industry (Fig. 8), and class form museum that children facing video camera and asked loudly: what is the food of carol? (Fig. 9). Schools were able to select the courses in advance and continue their learning progress, according to the instructions, once enrollment was completed.

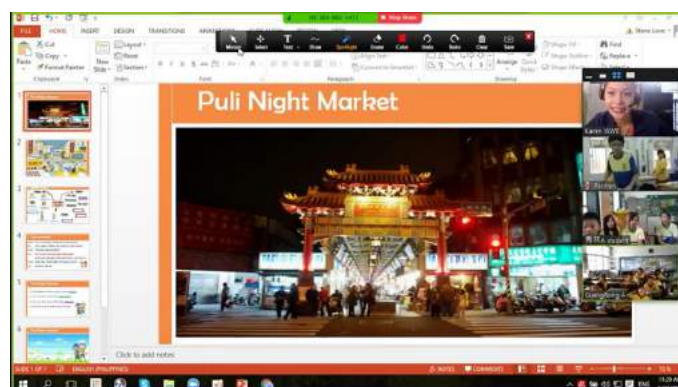


Fig. 6 courses on Tourism English were given by Filipino teachers



Fig. 7 courses on Theater English were given by Filipino teachers



Fig. 8 Remote robotic learning course by hardware industry



Fig.9 children facing video camera and asked loudly: what is the food of carol?

Courses with in-Depth Explanations of Specific Subjects Provided by School Teachers

Local or retired teachers from each region were invited to lecture in courses that their corresponding schools were known for, including the Euploea butterfly, the ecology of Yushan Mountain, the macaques on Shoushan mountain, legends told by elders, the culture of the Taiwanese original inhabitants in the Thao language (Fig. 10). Since There are only one teacher in one school could teach Thao language in Taiwan, by remote learning students could breakthrough counties distance to attend this course.

Other webcasting courses were Paiwan original inhabitant's traditional costumes, equipment and Nursery Rhymes (Fig. 11), the language and culture of the new residents in Vietnamese (Fig. 12), music played on the recorder, and magic circuit-related experiments in science. Teachers were able to fully utilize their specialties and divided responsibilities accordingly. Moreover, they designed co-learning curricula together and provided opportunities for students from various countries, counties, cities, and regions to learn and interact with each other, thus expanding their horizons. An example is Malaysia & Taiwan co-learning Programs to exchange Nation Features such as Malay wedding meals, Formosan macaques, and folk story (Fig. 13).



Fig. 10 courses about Taiwanese original inhabitants in the Thao language



Fig. 11 webcasting courses about Paiwan original inhabitant's traditional costumes, equipment and Nursery Rhymes



Fig. 12 the language and culture of the new residents in Vietnamese



Fig. 13 Malaysia & Taiwan co-learning Programs –exchange Nation Features

Organizing Exchange Activities and Displaying Achievements

This study held online & offline meetings for presentation of learning achievements at the end of the semester. Example of the presentation as The Remote, Interschool Quick-Response Contest among Students from Paiwan Elementary Schools (Fig 14). Online to Offline Exhibition for Filipino and Taiwan children (Fig.15).

The present study employed online questionnaires and face-to-face interviews or online regular meetings to exchange experiences, collect feedback and suggestions from the teachers. Examples of teachers' responses include the following: "I regret that I was not able to participate in the training...I did not expect there to be online training! I am so thankful! Is it possible to watch it online as we are doing right now? I really would like to learn more about other people's methods, thanks."

"Reset oneself to zero, new knowledge will naturally enter and change will begin. It feels so great to be able to learn simultaneously with everyone else. It's awesome!" "Thank you! This is great! I strongly recommend that all government training adopt the methods of live learning! I have to travel 4.5 hours, going up and down hills. There is no energy left to seriously get involved in study afterwards!" "I hope that the remote live study can be integrated into the training system of each county and city, with recorded and certified online learning time."



Fig. 14 The Remote, Interschool Quick-Response Contest among Students from Paiwan Elementary Schools.



Fig.15 Online to Offline Exhibition for Filipino and Taiwan children

Integrating the Ecological Chain of Educational Economy

Over the years, Smart School Alliance have invited domestic and foreign industries to invest resources and have integrated more than 68 industrial and educational units to promote interactive live teaching programs in schools. The cooperation and joint efforts of industries and schools utilized science and technology to facilitate on-campus innovation, develop high quality, affordable formal educational services, and ensure equal opportunity in education.

The research partners in the present study covered the live education, content publishing, teaching devices, and training industries, as well as educational institutions. The industrial units were responsible for building the hardware and software environments, as well as supplying teachers from corresponding

industries and courses with diversified subjects to facilitate interschool cooperation among teachers and the sharing of experiences, thereby driving the educational sharing economy and connecting the ecological chain of educational economy. Case as Malaysia and Taiwan use IRS and multinational teaching video (Fig.16), and Promote social cooperation between enterprises and schools (Fig.17). A detailed list of these units is as follows:

- 1.1.1 Live education industry (over 12 companies): Cloudpe Corp, Micampus, MiTAC, AVer Information, AVerMedia, HABOOK Information Technology Inc., Prosperity Innovation Inc., Hong Ding Educational Technology, Polycom, Zoom, iKala, LIVEhouse.in, and IMAR Technology Co., Ltd.
- 1.1.2 Content publishing industry (over 17 companies): Gjun Information, Mega International, Over-Paradigm, Shuo Yang Digital Technology Co. Ltd., Fresco Logic, Farsail, Knowledge Universe Technology, SmartFun, BAIS Education Technology Co. Ltd, UDN, LiveABC, Love Reading iread.abook.come.tw, Yuan-Liou Publishing Co., Ltd, Sharp Point Press, Rainbow Educational Ltd., and Edutainment Co.
- 1.1.3 Teaching device industry (over nine companies): Alchemy Technology Co. Ltd., StudyFun Technology Inc., Shuo Yang Digital Technology Co. Ltd., Wistron Corporation, Elite International Educational Group, EDiversity Ltd., Aidmics Biotechnology, Smart Seeds Union, Nancy Bruin Enterprise LTD., and Thumb.com.
- 1.1.4 Educational institutions (over 11 organizations): Taiwan Literacy Association, Commonwealth Education Foundation, NMMBA, PUHU Footwear Co., Ltd., FLOMO Stationary Museum, HuaJin Consulting Co Ltd, Taiwan metal creation museum, Retired Teachers' Group, National Education Counseling Group, National Taiwan Normal University, and Magic Story Association.

Training industry (over 19 companies): Air Aviation Academy, ai Think International Education Center, RaiseDigital, Hello Maker, Startmath, Wang Yu Chemistry, SUNNET Science and Technology, Julin Culture and Education Group, Tong-shin Education, Shei Mon Institution of Culture and Education, Sheng Chun Biology, Hormin Math, Chou Shao-Tang Chinese, Han Sheng Maths, Kao Chien History, Hsiung Tai-Yu Earth Science, Lo Wen Civics, Hung Li Geography, and Wu Ti Physics.



Fig.16 Malaysia and Taiwan use IRS and multinational teaching video



Fig.17 Promote social cooperation between enterprises and schools

Future Prospects

Smart School Alliance integrated companies from various industries and elementary schools in each region of Taiwan and organized courses in the manner of learning alliances that covered different subjects and promoted a co-learning mechanism, such as English learning alliances, alliances with local experts, action reading alliances, specific courses given by well-known teachers, a Thao language course, a robot-making course, and courses in a diversified range of subjects. Moreover, it stimulated the academic interests of students from rural and semi-rural areas of Taiwan. Based on the empirical results of an experiment involving more than 750 schools and 40,860 teachers and students, the following recommendations for the future were compiled:

Design trainer qualifications and certifications for interactive live teaching, and train teachers from industries and schools in presenting live courses.

Facing the requirements of a new era in education, the sophistication of teacher professional development has become an important topic of late. This study extended traditional methods of teacher training and proposed that, in addition to academic knowledge, an “International, Remote, Interactive, Live Teaching” certification course for teachers and engineers should be designed, targeting industrial teachers who are interested in marketing products and services and expanding their international market, school teachers who have the intention to extend education beyond the campus and connect to the resources of various industries, and parents and other passionate people who want to promote self-directed learning, so that the skills and experiences of live training can be systematically disseminated.

The suggested contents of the training include live teaching practice (using Facebook, Line, Zoom, Skype, Hangouts, YouTube, Livehouse.in, etc.), the use of software and hardware (the use of the interactive student response system, assessment systems, live DV broadcasts, epidiascopes, digital microscopes, echo-reduction microphones, webcams, digital whiteboards, and e-book packages), remote live teaching experience sharing (360-degree cameras and drones), micro-film clips of the courses (filming, screencasts, and video clips uploaded to YouTube), and key skills to market a course (managing a Facebook community, making Google forms, setting up agendas on e-calendars, and arranging key skills training in marketing). Moreover, special projects, case observations, real-time online teaching practice, and achievement presentations can also be utilized to train seed teachers to take this learning beyond national schools and to be active on international teaching platforms.

Starting with distance learning, schools are being encouraged to develop “intelligent campus” innovative services in the future

Smart School Alliance courses will constant cooperate with business CEO lectures, museums, sightseeing factory, and so on. This project is not only focusing on intelligent learning but also on the whole campus as the images of intelligent campus (Fig.18, 19). Ministry of Economic Affairs in Taiwan also regards intelligent Campus as one of its important policies. With the advantages of domestic software and hardware development, is committed to promoting the integration of six innovative cross-domain iCampus services (6i, iManagement, iGreen, iGovernance, iHealth, iLearning and iSocial). In that case, through networks could connect both physical and digital schools.

The developments of intelligent campus in Taiwan[5] involve Establishment of a Digital network Environment, Joint-Selection of Professional Talent by Head schools, Unified Management and Reporting System, Record of Health and Nourishment During Lunch, Joint-Test Design to Evaluate Learning Results, Big Data Analysis of All Relevant Schools, Specialized Team In Charge Of Fundraising and Financing, Digital Library With more than Tens of Thousands of E-books, Cross-School Sports Competitions Among Study Pals, Cross-School Outdoor Exploration Programs,

Career-Oriented Counseling Community, Punch-in system for students, Electronic fencing supervision at guard office, Visual Instrumentation System, Alert and Tracking Systems Using Smart Wristbands, Solar-Powered Stadium , Remote Doctor From the Health Center, Personalized Neurological Development Course, Detected Adaptability of Study With Brainwave Sensors, School Visit by STEAM Teachers, International Live Curriculum, and Study Results Provided by the Head School. Smart School Alliance will continue to push down in National policy, and look forward to cooperate with the Global School, to create a global school alliance to promote equal learning opportunity and elimination of the digital divide.

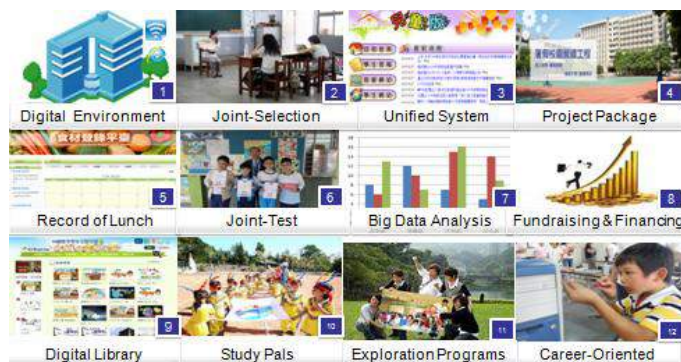


Fig. 18 Images of Intelligent Campus (1)



Fig.19 Images of Intelligent Campus (2)

References

- [1] Industrial Bureau, Ministry of Economic Affairs (2017). The Integrated and International Intelligent Learning Industry Program & E-Learning Industry Cross-Domain Advancement Plan. Retrieved July 10, 2017 from: <http://www.epark.org.tw/eng/>.
- [2] Statistics Department, Ministry of Education (2017). Educational Statistics of the Republic of China 2016. Retrieved July 10, 2017 from: http://stats.moe.gov.tw/files/ebook/Education_Statistics/105/105edu.pdf.
- [3] National Academy for Educational Research (2016). Cut down and merge the school case studies from the point of view of fairness and justice on a primary school. Retrieved July 10, 2017 from: http://www.naer.edu.tw/ezfiles/0/1000/attach/62/pta_6118_6198878_31220.pdf
- [4] Zong-De Jian (2016). Small schools and the whole policy analysis. Taiwan Education Review magazine, 2016, 5 (4) , p33-38 .
- [5] Smart Campus(2017). Innovation Learning Center, Digital Education Institute, Institute for Information Industry. Retrieved July 10, 2017 from: <http://ilc.ii.edu.org.tw/>

PEDAGOGICAL APPROACH AS TRAINING AIDS FOR E-COMMERCE ENTREPRENEURS

Noornasirah Nasri & Yulita Hanum P Iskandar
Graduate School of Business, Universiti Sains Malaysia, Pulau Pinang, Malaysia
nasirahnasri@gmail.com, yulita@usm.my

ABSTRACT

Entrepreneurship education and training have gained much attention from the academia in recent years. The relationship between skills shortage and training in technology deserves even more attention presently since two decade ago. Evidence from the previous research found that something missing from the training that would trigger to look for further information. The purpose to this study is to investigate the pedagogical factor that influencing training and its impact on entrepreneurial performance among e-commerce entrepreneurs in registered training centers in Malaysia. Pedagogical approach contents entity, activity, process and property are consider as cohesive significant antecedents. **Keywords:** Entrepreneurs, training, pedagogy, e-commerce

Introduction

This paper looks at issues around entrepreneurial training and in so doing offers explanation, framework and critical analysis of the concept. Research conducted by Jones and Iredale [1] seek the most appropriate way to construe the concept of entrepreneurs training is from a pedagogical viewpoint. Skills and knowledge is one of the barriers for the uptake and use of Internet and e-commerce among entrepreneurs [2]–[4]. However other factors such as bureaucracy and poor education and training have impeded entrepreneurial growth [5]. Yet, the percentage of entrepreneurial education and training shows (Table 1) the increasing year by year since 2011. Thus, entrepreneurship education and training in Malaysia is moving forward towards the right direction however issues and challenges still persist [6].

Table1: Entrepreneurial Education and Training

	2011	2012	2013	2014	2015
	(%)	(%)	(%)	(%)	(%)
Malaysia	2.730	2.940	3.030	3.120	5.150

Pedagogy based training is needed between educational institutional and training centers as well as companies to preparing an e-commerce entrepreneurs to implement technology skills and acquired knowledge in an instructional setting [7], [8]. Pedagogy as learning oriented towards social goals [9]. However, little has been done to train e-commerce entrepreneurs based on pedagogy approach (Gunasekaran et al., 2004; Swatman & Chan, 2001) while pedagogy should come first before technology [11].

Knowledge indicates as a crucial term to deliver the information. Additionally in the new era of technology. If entrepreneurs failed to efficiently perform their business related technology, they will not be able to gain a high profit due to the lack of knowledge and skill in e-commerce. The learning elements is vital to stabilize the knowledge in proper way. Thus, learning content pedagogy should take part as training aids for e-commerce entrepreneurs [12]. Therefore, the purpose of the study is to investigate the factor influence training through pedagogical approach and its impact on the entrepreneur's performance in e-commerce.

Literature Review

Entrepreneurs Training

Entrepreneurship development and training is not a new phenomenon. As far back as 1994 a coordinated entrepreneurship strategy was developed and implemented [13]. There is a widespread belief that the provision of training in terms of developing existing or introducing new skills and/or knowledge to entrepreneurs, will increase their business performance in the context of e-commerce [14]. Entrepreneurship education has progressed in great strides and has spread widely around the world in recent decades [15]. The previous studies identified the linked between training and e-commerce entrepreneurs in order to see the training for e-commerce entrepreneurs scenario.

Table 2: The Relation between Training and E-commerce Entrepreneurs

Author	Training	Entrepreneu	E-commerce	Performance
	r			
[16]	x	x	x	x
[17]	x	x	x	x
[18]	x	x	x	
[3]	x	x	x	x
[19]	x	x	x	
[20]	x	x	x	
[21]	x		x	
[14]	x	x	x	x
[2]	x	x	x	x
[22]	x	x	x	
[23]	x	x	x	x
[24]	x	x	x	x
[25]	x	x	x	

It is crucial for entrepreneurs to realize that the conscious and careful response to market changes must be enriched by the action-reaction dualism attitude, and training is important as a tool for developing knowledge and skills aiming to maintain, increase and innovate their core competences for strategic positioning in the market [15].

Entrepreneurs and Human Capital Theory

The concept of human capital is implicit in many empirical studies of the survival chances of new businesses [26]. Human capital theory predicts that individuals or groups with greater levels of knowledge, skills, and other competencies (capital assets) will achieve better results than those who have lower levels of skills [27]. For more than three decades entrepreneurship researchers have been interested in the relationship between human capital including education, experience, knowledge, and skills and success [28]. Bruderl [26] opined that human capital theory in the entrepreneurial context argue that although the general application of human capital is on employees. Therefore, there is no any purpose why it should not be applicable to entrepreneurs as well, and accordingly. Researchers' interest in human capital is reflected in the numerous studies that have applied the concept to entrepreneurship [26], [28].

Instructional Transaction Theory as A Pedagogy

The pedagogy is not subject specific but can be introduced and applied across the curriculum [29], [30]. As Rink [31] suggests, all pedagogy has its “roots in particular learning theory” and it is necessary for teachers to be aware of the assumptions about learning that underpin any method of teaching. The study based Instructional Transaction Theory on the Gagné [32] assumption that there are different kinds of instructional outcomes or goals, and that each kind of outcome requires different conditions of instruction (learning strategies) [33]. The Instructional Transaction Theory (ITT) will be an extension of Human Capital Theory (HCT) like Gagné and Merrill [34] suggested the idea of an

enterprise. An enterprise is a complex human performance involving an integrated set of knowledge and skill while all that elements match with the entrepreneurs need for training.

Framework

Figure illustrates the research framework for this study. This theoretical framework is develop based on HCT theory and will supported by ITT as a new extension. The study will focus on training as a pedagogy elements. The study will investigate the relationship of training and entrepreneur's performance in e-commerce. The dimension of pedagogical approach of knowledge objects namely entity, activity, process and property. While entrepreneur's performance as an outcome.

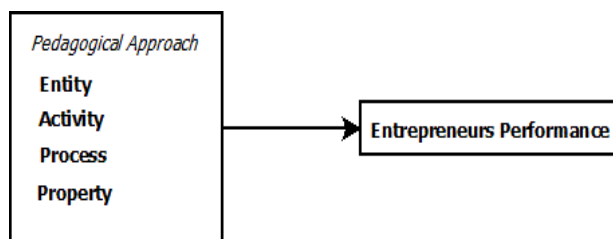


Figure 1: Research Framework

The selection of variables in this framework is based on the main theory of HCT. HCT focus on the individual performance and capability. Thus the study tend to expand a new results by applying learning theory (ITT) to support the objectives of this study. Learning theory normally content pedagogy elements that could help to enhance the entrepreneurs understanding of training activity.

Methodology

Research Design

The study will use a survey quantitative approach. The framework will be test to investigate the pedagogical factor influence training activity and its impact to e-commerce entrepreneur's performance who have attend training in training center in Malaysia. A cross-sectional research design as data will be collected as a single point in time. The study will use non-probability which is purposive sampling will be selected as the study intent to collect the data from the training centers as a become necessary to obtain information from specific target groups because they are conform to some criteria set by the study [35].

Unit of Analysis

The unit of analysis of this study is the individual, which is entrepreneurs who deal with e-commerce and who have attend training at training center in Malaysia. Walker et.al [36] stressed that the term of 'entrepreneur' is employed to describe the individual owning or managing the activities.

Sampling Technique

The expected sample size will be obtain using G*Power software [37]. For this study, effect size was set to 0.15. The value of α was 0.05, and the required power ($1-\beta$) will be 0.8, with a one-tailed test. The expected sample size was calculated as $n = 85$ by the program. This means at least 85 e-commerce entrepreneurs are needed for each experiment to detect effect sizes of 0.15 with 80% power. The study will tend to collect more than 85 number of calculated respondents. The survey will be a personally administering questionnaires to groups of individuals which have attend training in training centers. In that sense, there is a 100% response rate [35].

Data Collection

This study will apply self-administered questionnaire in collecting the data. Self-administered questionnaire refers to 'a data collection technique in which the respondents reads the survey questions and records his or her responses without the presence of a trained interviewer'[38]. Dillman [39] argued that 'considerable evidence suggests that people are more likely to give honest answers to self-administered than to interview questions'.

Data Analysis

This research will apply two types of software: the Statistical Package for Social Science (SPSS) and SEM SmartPLS which were developed by [40]. SPSS will be used for data input, screening, demographic profiling, and descriptive statistics to analyze data in the first phase. This software is widely used by researchers as a data analysis technique [35].

Then, in the second phase, SmartPLS will be used for hypotheses testing addressed in Chapter Two by means of Structural Equation Modeling (SEM) utilizing the Partial Least Analysis (PLS) approach. The study determined that PLS would be the most appropriate technique in the testing of the hypotheses along with the measurement quality of the formative and reflective indicators.

Summary

The discussion above concludes that entrepreneurial pedagogy is of paramount importance and should be developed in the Malaysia e-commerce training system. Indeed, the method of teaching should be based on entrepreneurs as a learner rather than the trainer. Entrepreneurship are most appropriately understood and practiced as different; with different goals and different means to achieving these goals. Through greater conceptual clarity, a way forward is offered. This paper has sketched a future agenda in which enterprise as pedagogy offers clarity for policy developments throughout training.

Acknowledgment

The authors would like to thank Universiti Sains Malaysia and Ministry of Higher Education, Malaysia.

References

- [1] B. Jones and N. Iredale, "Enterprise education as pedagogy," *Educ. + Train.*, vol. 52, no. 1, pp. 7–19, 2010.
- [2] Y. Duan, "E-Commerce Training for SMEs," 2005.
- [3] T. R. Eikebrokk and D. H. Olsen, "Training, Competence, and Business Performance: Evidence from E-business in European Small and Medium-Sized Enterprises," *Int. J. E-bus. Res.*, vol. 5, no. March, pp. 92–116, 2009.
- [4] M. Thanji and S. Vasantha, "A Study on Drivers and Barriers of Consumer Adoption Towards E-Commerce Offerings for Education," vol. 9, no. August, pp. 1–4, 2016.
- [5] Knoema, "Global Entrepreneurship Monitor - Adult Population Survey Measures, 2015," Knoema, 2016. [Online]. Available: <https://knoema.com/GEM2016/global-entrepreneurship-monitor-adult-population-survey-measures-2015?country=1000600>. [Accessed: 17-Dec-2016].
- [6] M. Kamaruddin, N. Faizah, M. Lajin, S. Z. Buyong, and A. A. Bakri, "Entrepreneurship Education in Malaysia: A Critical Review," *J. Technol. Manag. Bus.*, vol. 2, no. 2, pp. 1–11, 2015.
- [7] K. . Abdul Rahman, M. S. Saud, Y. Kamin, and A. Samah, "InjET Based Learning," *Int. J. Educ. Train.*, vol. 1, no. 1, pp. 1–9, 2015.
- [8] D. P. Diaz and K. F. Bontenbal, "Pedagogy-based technology training," 2000.
- [9] G. Hinchliffe, "Education or Pedagogy?," *J. Philos. Educ.*, vol. 35, no. 1, pp. 31–45, 2001.
- [10] A. Gunasekaran, R. E. McGaughey, and R. D. McNeil, "E-Commerce : Teaching and Learning," *J. Electron. Commer. Organ.*, vol. 2, no. 2, pp. 1–16, 2004.
- [11] P. M. C. Swatman and E. S. K. Chan, "eCommerce / eBusiness Education : Pedagogy or New Product Development?," in *Springer-Verlag*, no. 2001, 2001, pp. 1–33.
- [12] D. M. Watson, "Pedagogy before Technology : Re-thinking the Relationship between ICT and Teaching," *Educ. Inf. Technol.* 64, vol. 6, no. 4, pp. 251–266, 2001.
- [13] E. Isaacs, K. Visser, C. Friedrich, and P. Brijlal, "Entrepreneurship education and training at the Further Education and Training (FET) level in South Africa," *South African J. Educ.*, vol. 27, no. 2002, pp. 613–629, 2007.
- [14] D. H. Olsen and T. R. Eikebrokk, "Training for the e-business competition: An empirical investigation of the relationship between competence, training and performance in European SMEs," *Proc. Annu. Hawaii Int. Conf. Syst. Sci.*, vol. 6, no. C, pp. 1–10, 2006.

- [15] A. Naia, B. Rui, J. Carlos, and T. Virginia, "Entrepreneurship Education Literature in The 2000s," *J. Entrep. Educ.*, vol. 18, no. 1, pp. 111–136, 2015.
- [16] S. Olatunji, "The development of a framework in information behaviour of SME managers when adopting emerging ICTs," 2016.
- [17] T. Mazzarol, "SMEs engagement with e-commerce, e-business and e-marketing," *Small Enterp. Res.*, no. May, pp. 1–12, Mar. 2015.
- [18] L. Han, "Study on the personnel training mode of e-commerce major," vol. 519–520. pp. 412–415, 2014.
- [19] Nurwahida Fuad, A. M. Bohari, and C. W. Hin, "An Exploratory Study on Socio-Economic Status of Malay Women Entrepreneurs in Penang : A Case of ICT-based Business," *J. Intelek*, vol. 6, no. 2, pp. 50–60, 2011.
- [20] D. WU, "Notice of Retraction of E-commerce Training in China," 2011, pp. 1–4.
- [21] L. Zhuoqun, W. Liying, and H. Jianping, "The Innovative Models of e-Commerce Practice Teaching," in *International Conference on Scalable Computing and Communications; The Eighth International Conference on Embedded Computing*, 2009, pp. 498–502.
- [22] H. Matlay, "Training and human resource issues in small e-businesses: towards a research agenda," *Educ. + Train.*, vol. 46, no. 8/9, pp. 520–526, 2004.
- [23] H. Darch and T. Lucas, "Training as an e-commerce enabler," *J. Work. Learn.*, vol. 14, no. 4, pp. 148–155, 2002.
- [24] E. Hauge et al., "SMEs Competence for E-business Success – exploring the gap between the needs for e- business competence and training offered.," 2002.
- [25] J. Mitchell, "E-Competent Australia: Report on the Impact of E-Commerce on the National Training Framework," 2000.
- [26] J. Brüderl, P. Preisendörfer, and R. Ziegler, "Survival Chances of Newly Founded Business Organizations," *Am. Sociol. Rev.*, vol. 57, no. 2, pp. 227–242, 1992.
- [27] J. Sánchez, "The impact of an entrepreneurship education program on entrepreneurial competencies and intention," *J. Small Bus. Manag.*, 2013.
- [28] J. M. Unger, A. Rauch, M. Frese, and N. Rosenbusch, "Journal of Business Venturing Human capital and entrepreneurial success : A meta-analytical review," *J. Bus. Ventur.*, vol. 26, pp. 341–358, 2011.
- [29] N. Iredale, "Enterprise Education in Primary Schools: A Survey In Primary Schools: A Survey in Two Northern LEAs," *Educ. Train.*, 1993.
- [30] Ofsted, "Learning to Be Enterprising; An Evaluation of Enterprising Learning at Key Stage 4," 2004.
- [31] J. Rink, "< em> Teaching Physical Education for Learning," 1993.
- [32] R. Gagné, "The conditions of learning and theory of instruction," 1985.
- [33] M. D. Merrill, "Instructional Transaction Theory: Knowledge Relationships among Processes, Entities, and Activities," *Educ. Technol.*, vol. 33, no. 4, pp. 5–16, 1992.
- [34] R. M. Gagne and M. D. Merrill, "Integrative Goals for Instructional-Design," *Etr&D-Educational Technol. Res. Dev.*, vol. 38, no. 1, pp. 23–30, 1990.
- [35] U. Sekaran, *Research Method for Business*, vol. 53. 2003.
- [36] E. Walker, J. Redmond, B. Webster, and M. Le Clus, "Small business owners: too busy to train?," *J. Small Bus. Enterp. Dev.*, vol. 14, no. 2, pp. 294–306, 2007.
- [37] A. Buchner, E. Erdfelder, and F. Faul, "How to use G* Power.1997.," URL [http:// www. psycho. uni- duesseldorf. de/](http://www.psych.uni-duesseldorf.de/) ..., 2010. [Online]. Available: https://scholar.google.com.my/scholar?q=A.+Buchner%252C+F.+Faul%252C+and+E.+Erdfelder.+%25282010%2529&btnG=&hl=en&as_sdt=0%252C5#0. [Accessed: 09-Mar-2016].
- [38] J. F. Hair, R. B. Bush, and D. J. Ortinau, "Marketing Research–Within a Changing Information Environment," in *Marketing Research–Within a Changing Information ...*, 2003, p. 601.
- [39] D. Dillman, *Mail and Internet surveys: the tailored design, —2007 update*. 2007.
- [40] C. Ringle, S. Wende, and A. Will, "Finite mixture partial least squares analysis: Methodology and numerical examples," *Handb. Partial least squares*, 2010.

A STUDY ON CREATIVITY AND INNOVATION IN COURSE DESIGN AND TEACHING METHODS TOWARDS STUDENTS ACADEMIC PERFORMANCE AT PRIVATE HIGHER EDUCATION INSTITUTION, MALAYSIA

Selvi Narayanan,
Faculty of Business, Asia Metropolitan University, Cheras
selvinarayanan@amu.edu.my

ABSTRACT

Education is an engine for growth and progress for any society and nation. Many challenges faced by 21st century education despite the implementation of many teaching and learning approaches. In the pre- technology education context, most teachers use teacher - centered learning method. There are many studies which shows that traditional method no more relevant to the current younger generations and many higher Education Institution moving forward by applying creativity and innovation in their teaching and learning activities. This paper attempts to investigate the relationship between creativity and innovation towards students academic performance in private higher education institutions. Information has been collected through surveys, interviews, observations and together with secondary data (Library research) were analyzed using SPSS. The studies found that creative and innovative teaching methods makes a particular concept clear to the students, students develop interest to know exactly the concept, creates long lasting memory / correlation of a concept and there is positive relationship with creativity, innovation with student academic performance using various teaching methods. Through this study, the reasearcher have proposed few ways which could be used applied by teachers / educators in private higher education institutions in effort to educate students using student centered learning instead of traditional teaching method.

Keywords: Creativity, Innovation, Academic Achievement

Introduction

Education is an engine for the growth and progress for any society and nation. Many challenges faced by 21st century education despite the implementation of many teaching and learning approaches. We can see that the profile of our learners has changed. Chen, 2010 described that digital natives weaned on video games and Web 2.0, and have been described as “matching through our schools, carrying a transformational change in their pockets in the form of powerful multimedia handheld devices”. The 21st century, according to Pink (2005), will be dominated by a different way of knowing, being and doing, and right – brain capacities will come increasingly to the core. In the pre-technology education context, most teachers use teacher – centered learning method. At the same time, there are many studies which show that traditional method no more relevant to the current younger generations.

Recent educational changes in various countries have associated pedagogical innovations with cross-curricular competencies, such as social and communicative skills, meta-cognitive skills, reasoning and creative thinking (Kohler, Boissonnade & Giglio, 2015). In order to meet the current expectations educators therefore need to depart from ideas and pedagogies of yesterday and become bold advocates to develop the sorts of leaning dispositions needed for our learners and their work future (Kwek, S.H, 2011).

Nowadays, many higher education institutions was moving forward by applying creativity and innovation in their teaching and learning activities. Creativity is the ability to make or bring to existence something new, whether a new solution to a problem, a new method or device or a new artistic object or form (Olatoye, Akintunde and Ogunsanya, 2010). Creativity and innovation can create design thinking which is an approach to learning that focuses on developing students creative, confidence through hand-on projects that focus on empathy, promoting a bias toward action, encouraging indention

and fostering active problem- solving skills and competencies. Thus, through the implementation of creative and innovation in the teaching and learning curriculum, educators can help students to develop a skill set that includes ideas generally not fostered within traditional setting and at the same time can improve their academic performance.

Therefore, this study attempts to investigate the relationship between creativity and innovation towards student's academic performance in private higher education institutions. In addition, via this study the researchers have proposed few ways which could be used by teachers / educators in private higher education institutions in effort to educate students using leaning centered approach instead of traditional teaching method.

Creativity and Innovation in Education

Creativity is an ability to make or bring to existence something new, whether a new solution to a problem, a new method or device or a new artistic object or form (Olatoye, Akintunde & Ogunsanya, 2010). According to Pennick, 1992 creativity is a process of becoming sensitive to problems, disharmonies, as well as identifying, searching for solutions, making guesses or formulation of hypothesis, and possibly modifying and restating them, and experimenting to find results and finally communicating the results.

Runco (2007), creativity is a uniquely human trait that reflects our ability to adapt to changing circumstances, and our effective cognitive abilities to combine and improve upon idea to which we are exposed.

Besides that, creativity also produces actionable ideas, new concepts, new designs and new opportunities while innovation adds values to the new products (Olatoye, Akintunde & Ogunsanya, 2010). Adding to this point, Akinboye, 2003 said that without creativity, a person is not to access the fullness of information and resources available but is locked up in old habits, structures, patterns, concepts and perceptions. As the society becomes more complex, there is a gradual increase in the awareness that yesterday's methods do not effectively solve contemporary problems of the society (Akinboye, 1955 in Olatoye etc 2010) and this is why innovation and creativity are needed in nearly all the facets of the society.

Creativity also refers to a psychological process, related to play, imagination, fantasy, feelings and emotions, meaning making and the use of symbols (Vygotsky, 1925/1971; Joh-Steiner et al., 2010)

Innovation can be defined as new ideas, products or practices by an individual or group within a specific social system (Rogers & Shoemaker, 1971 cited by Kohler, Boissonnade & Giglio, 2015).

Creativity curriculum is a carefully planned, thematic approach to teaching and learning designed to support student's natural curiosity and stimulate their creativity. The curriculum is students or learners centered and have an emphasis on skills. Besides that, creative teaching means "teaching using imaginative approaches to make leaning more interesting, exciting and effective. This is a necessary part of all good teaching".

In education, it seems student creativity varies from country to country. Palaniappan (2009), he has compared creativity levels of Malaysian and American students. He reported that American students are significantly superior to their Malaysian counterparts in general creativity as well as in its components, namely fluency, flexibility, originality and elaboration (Olatoye, Akintunde & Ogunsanya, 2010). In addition, creative activities lead to innovation while creativity is the art of producing new ideas, approach or action, innovation is the process of both generating and applying such creative ideas and converting them into novel, useful and viable products, services and business practices. Besides that, according to Trilling and Faded (2009), to be an effective in this new paradigm requires a move from teacher instruction requires a move from teacher-directed to student – centered learning, from direct teacher instruction to interactive exchange with and among students, from teaching context

knowledge to equipping students with the relevant skills, and from teaching basic contents to problem solving processes (Kivunja, C.2014). It calls for a move away from time-slotted schedules to completion of tasks on-demand, from teaching that applies a one-size-fits-all approach to all students to one that provides personalized scaffolding for learners, from competitive learning to collaborative learning, from classroom tied contexts to foot-loose global learning networks, from textbook-based data to web-based sources, from summative to formative assessment of students' performance, and from learning at school to learning throughout life (Kivunja, 2014).

According to Tulbure (2012), effective teaching requires flexibility, creativity and responsibility in order to provide an instructional environment able to respond to the learner's individual needs (Fayombo, 2015) and the attainment of good academic achievement and educational outcomes (Fayombo, 2015). Moreover, he also mentioned that most students learn best when the style of presentation is aligned with their preferred learning style and it is important for teacher to understand the students' styles. By doing this, teachers many gain insights into ways of making academic information more accessible to diverse groups of learners and an increased awareness of individual learning styles can help educators import new information in a memorable way (Brady,2013 cited by Fayombo, 2015).

Besides that, former US President Bill Clinton said the knowledge-based economy is "science and technology as fuel, innovation as power" (Je Lee, 2011). Creativity is the creative flame of innovation and the creativity education has become the essence of future education (Je Lee, 2011). In nutshell, when challenged by global competition, innovation is an assurance to enhance competitiveness and creativity / innovation can be greatly cultivated through education (Je Lee, 2011).

In addition, Jan 2002, Taiwan's Ministry of Education published The White Paper on Creativity Education with a 'nation of creativity' as a vision. With this, it defined the role of creativity in educational reform as making an all-out effort to promote creativity education as the focus of educational reform in the future. Therefore, to enable students to be creative, teaching must be innovative and creative so as to improve the learner's innovative capability.

Bruce, R (1989), leaning occurs in the interaction between the learners and the learning environment; when the appropriate strategies and skills are applied to technology use, making it a favorable tool for teaching, then better teaching effectiveness can be developed. Apart from that, Wu (2002), also pointed out that teaching innovation (during the teaching process) is when teachers use multi-faceted and likely teaching methods, and diversified and rich content to stimulate student's inner interest in learning, thus, developing positive student attitudes toward proactive learning and enhancing students' learning ability.

Hereby, teaching innovation and creativity can be separated into two secondary dimensions and their operational definitions can be explained as follows:

- (a) Innovation of teaching methods: means teachers using new and meaningful methods, for example, the application of cloud technology, conducting online education, or the use of an electronic whiteboard to solve teaching problems and being whiteboard to solve teaching problems and being.
- (b) Innovation of course design: means to implement innovative course design that inspires students to integrate knowledge with a practical, flexible innovative ability, enabling them to make a more substantial contribution to the relevant areas in the future.

According to Chen 2010), teaching innovation means teachers having creativity and showing vivid and likely teaching method to make students interested in learning, thus enhancing the teaching effectiveness (Je Lee, 2011).

There are several reasons for teaching innovation for students.

1. Developing student capabilities for independent analysis, thinking and judgment;
2. Stimulating student interest and motivation for leaning;

3. Tapping student potential in creativity and problem solving; and
4. Enhancing students' leaning ability

Whereas the purposes of teaching innovation for teachers are:

1. Enhancing teaching quality and effectiveness;
2. Having rich and diverse teaching content and methods;
3. Having a diversified student assessment; and
4. Achieving educational goals and ideas,
(Wu, C.S.2002, Chiu, C.W.2000; Chang, C.C.2008).

Research Objective

The purpose of this article is to investigate the relationship between creativity and innovation in teaching methods has connection with student's academic performance. Discussion also focuses to identify the implications of creativity and innovation in teaching methods or approach at tertiary education level. This study is also trying to make an attempt to recommend way how teachers can apply the creativity method and curriculum.

Research Questions

Following are the research question for this study:

1. What is the relationship between creativity and innovation in teaching method with students' academic performance / achievements?
2. What are the contributions of creativity and innovation in curriculum and teaching method to the students and for the nation?
3. What are the ways or action can be taken or implement in order to incorporate the elements of creativity and innovation in curriculum and teaching method in private universities.

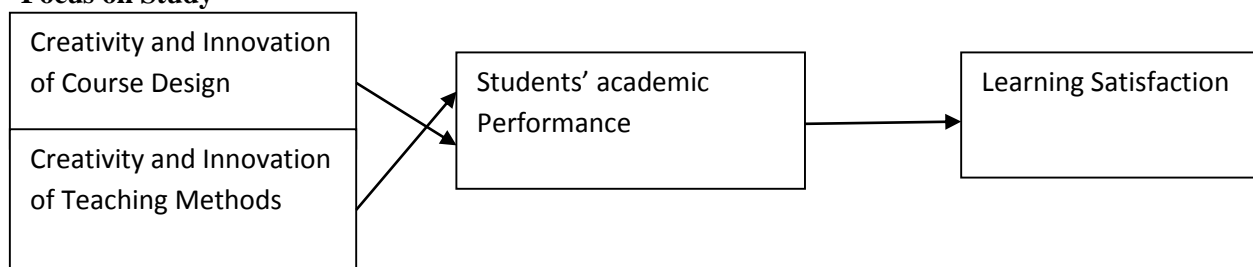
Method of Research

Sampling Methods

This study used convenience sampling to target educators at tertiary level in a private colleges and universities around the Klang Valley namely AMU, CUCMS, UTAR, UNITAR and UCSI. About 50 sets of questionnaires distributed as a pilot test. Revisions were made accordingly based on feedback received from the pilot test group. Upon improvement, post tests were then conducted. Three hundred (300) sets of questionnaires were formally handed out using several methods like face to face, via email and social media. There were 230 valid samples, and thus sample recovery rate was 76.6%.

Apart from questionnaires, other methods such as interview, observations also been used to get teachers and students' opinion on curriculum and teaching methods in private education institutions. Besides, researcher also obtained information from secondary data such as library research and journal articles.

Focus on Study



Source: Research framework adopted from Je Lee, 2011

Questionnaire Design

The questionnaire design for the study included each observable dimension and the breakdown measurement method has applied. A Likert 5-point Scale Method was adopted for the measurement of the questionnaire. A five (5) to one (1) score was given according to the extent of agreement and disagreement. Five points indicates extremely agreed and one point indicates extremely disagreed. The higher the score, the higher the degree of agreement and vice versa.

There were two latent variables, innovation of course design and teaching methods. The questionnaire was adopted and improved from Catharine, 2013.

There were a few questions for each observable / explicit variable in the survey. The data collected from investigation were then processed, and the original data files were established. For the questionnaire data were analyzed using SPSS.

Table 1. Respondents Distribution by Institution.

Institution	Lecturer	Student	Total
AMU	30	30	60
CUCMS	30	30	60
UTAR	30	33	60
UNITAR	30	30	60
UCSI	30	30	60
			300

Creativity and Innovation towards Students Academic Performance

Creativity and innovation are becoming important for the development of the 21st century knowledge society. Education is seen as central in fostering creative and innovative skills. Therefore, creativity and innovation should incorporated in curriculum design and teaching methods. Moreover, creativity in education has move to do with the process than with the product and focuses therefore on the development of thinking and cognitive skills.

There are many studies found that there is positive relationship between creativity in curriculum design and teaching method with students' academic performance at private higher learning institutions. Clemson University in the United States is an example of university putting creativity into practice by developing an online Creative Thinking Program (CTP) and as a result the university can see the differences among their students. Even the university received student's comments on positive side. Student's claimed that they can have their own way of doing things (Louca, Despina, Simona & Elmos, 2014).

This new supported also by this study. Based on research conducted among 200 lecturers from 5 private universities in the Klang Valley, they agreed that creativity and innovation in the curriculum design and teaching methods can contribute towards student's academic performance. Traditional educational approaches have resulted in a mismatch between what is taught to the students and what industry need. Thus, many institutions are moving towards problem based leaning as a solution to producing graduates who are creative; think critically and analytically (Damodhara & Rengarajan).

Research found that the teachers are key figures in constructing a creative climate, but they need support from both policy makers and institutions. Basically, curriculum and assessment are the main aspects to be addressed in order to allow creativity and innovation in the class room. Far an example, curriculum should undergo a skillful and thorough development, giving importance to every

subject, taking creativity into consideration and defining it coherently throughout the curriculum, allowing freedom and time for discovery, and taking learner's interest into account (Ferrari, A., Cachia, R., and Punie, Y., 2009).

In creativity and innovation teaching students are able to practically engage individually or in groups. According Mr Sooria (Senior Lecturer) at one of the private university in Cheras said that creativity and innovation integration in curriculum and teaching method will help students more work harder than the teacher and meantime they will be more motivated and interested in what they are doing compared to conventional method of teaching.

Another senior lecturer from USCI also shared his view. He also mentioned that creativity and innovation in teaching method as well as in curriculum will make students able to explain and enthuse about what they doing; also they can explaining with new ideas and processes.

However, not only student will be more independent and motivated, even teachers/ educators roles changed. Educators now must acting as facilitators where more empowering and enabling young people. They also exploring and start leaning with young people and most important thing is they (teachers) actively listening to students. By doing this, there will be changes in student's academic performance day by day.

From the survey, researcher found that students' agreed to the certain extend that their academic performance improved in certain subjects which their lecturers used more creativity and innovation compared to other subjects with the same conventional method of teaching.

Many students said that their academic result improved due to the teachers teaching method. According to them, they are motivated even most of the activities were hard but once they have worked out what to do, they found it quite easy. New techniques in teaching help them to find and solve problem around them. Problem solving skill is not only useful in teaching and learning, also very useful in daily life.

Apart from that, creativity in teaching methods also helped to improved social skills including teamwork and communication. Class activities such as group discussion, presentation and so for that will help students improve their oral communication and this will help them to obtain good marks and grades. In addition, students also can gain self confident by doing this type of activities.

In addition, case study as a teaching method help students gain the skills of teamwork, independent modeling of the solution, independent reasoning and defending their opinion. This method involves ambiguity in the solution and choosing the most appropriate one. Thus, the result is not only knowledge but also professional skills and well- formed personality and set of values (Yakovleva, N.C, Yakovleva, E.X., 2014). This literature supported by majority lecturers who participated in this research study. Meantime, the teachers who have participated in this study believed that teaching and learning in higher education is a shared process, with responsibilities on both student and teacher to contribute to their academic success. According to them, the best teaching helps the students to question their preconceptions, and motivates them to learn.

Teachers also agreed to the point that by using creativity in curriculum design and innovative teaching students are motivated and they are willing to show their commitment in their studies. Creativity and innovation give students more freedom and opportunities for them to select their learning mode and need to adapt the Adult Learning Principles of Knowles' in higher education institution.

Researcher also identified through study that learner-centered approach such as practice based model have been encouraging and the students' interest and understanding in innovation practice has clearly accelerated when measured by formal and informal course feedback after each course

completion (Montonen & Eriksson, 2013). The findings show that students' achieved outstanding result in the courses where creativity and innovation took place.

Conclusion and Recommendation

The findings of this study revealed that students learn differently and they also prefer different teaching methods. The responsibility is on the teacher to use creativity and innovation in their daily teaching including using videos, role play, games, discussion, group work and glossary activities. Thus, it is necessary for the teachers to discover their learners' distinctive behaviors at the beginning of the academic session so as to be able to utilize the teaching methods that will match the varieties of the students learning styles for good academic achievement.

There are few ways to teachers to develop their creativity in the classroom. Firstly, they should become knowledgeable teachers where they can develop through books, training courses, online courses, online resources, and university programmes. Also, they can connect with other teacher from other institution using blogs, Facebook and twitter. They also can join a teacher's association and attend talks and workshops live or online where they can exchange ideas.

Besides that, teachers should become a collector of teaching ideas from several of resources. They can use these ideas out when the right opportunity presents itself. Teachers also encourage sharing their learning with others. They can offer to lead a session and then share their thoughts.

Apart from this, teachers should remove the blocks the creative thinking. No-one can claim that every person has the same skills and abilities as everyone else, but all people have the potential to be creative. Thus, teacher should always think out of box to help their students learn more effectively and efficiently.

In a nutshell, Ministry of Higher Education, higher education provider and teachers should work together incorporate the creativity and innovation in curriculum design teaching methods in order to improve students' academic performance.

References

- Ayob, A. Et al. (2011). Nurturing Creativity and Innovative Thinking through Experiential nLearning. *Procedia Social and Behavioral Sciences*. Pp 247-254.
- Cropley, D.H., Kaufman, J.C., Cropley, A.J.(2011). Measuring Creativity for Innovation Management. *Journal of Technology Management and Innovation*. Vol.6. Issue 3. Pp 14-30.
- Fatombo, G. (2015). Learning Styles, Teaching Strategies and Academic Achievement among some Psychology Undergraduates in Barbados. *Caribbean Educational Research Journal*. Vol.3. No.2. pp 46-61
- Je Lee, Y. (2011). A Study on the Effect of Teaching Innovation on Learning Effectiveness with Learning Satisfaction as a Mediator. *World Transactions on Engineering and Technology Education*. Vol.9. No. 2. Pp 92-101.
- Kohler, A.,Boissonnade, R. Giglio, M. (2015). From Innative Teacher Education to Creative Pedagogical Designs. *Teaching Innovation*. Vol. 28. Issue 3. Pp 116-129.
- Kivunja.D. (2014), Innovative pedagogies in higher education to become effective teachers of 21st century skills: unpacking the learning and innovations skills domain of the new learning paradigm, *International Journal of Higher Education*, Vol. 3, No. 4; 2014.
- Lin, Y.S. (2011), Fostering Creativity through Education—A Conceptual Framework of Creative Pedagogy, *Scientific Research*, Vol.2, No.3, 149-155.
- Louca, E.P., Maraouchou, D.V., Mihai, S.Konis,E. (2014). Teaching for Creativity in Universities. *Journal of Education and Human Development*. Vol.3. No. 4. Pp 131-154.
- Kwek,S.H.(2011), Innovation in the Classroom: Design Thinking for 21st Century Learning. Retrieved from http://www.stanford.edu/group/redlab/cgi-bin/publications_resources.php

- Montonen, T. & Erisson, P. (2013). Teaching and Learning Practice: A Case Study from Finland. *International Journal Human Resources Development and Management*. Vol.13. No. 2/3. Pp 107-118.
- Olatoye, R.A., Akintunde, S.O., & Ogunsanya, E.A. (2010), Relationship between Creativity and Academic Achievement of Business Administration Students in South Western Polytechnics, Nigeria, *An international Multi-Disciplinary Journal, Ethiopia*, Vol.4 (3a) July, 2010.
- Yokovle, N.O., (2014). Interactive Teaching Methods in Cotemporary Higher Education. *Science Direct*. Pp 75-80.

THE IMPACT OF FLOOD IN HOSPITAL AND MITIGATION MEASURES: LITERATURE REVIEW

Noor Ain Yusoff, Haryati Shafii & Roshartini Omar

Faculty of Management Technology and Business, Universiti Tun Hussein Onn Malaysia

arein1804@yahoo.com, haryati@uthm.edu.my, shartini@uthm.edu.my

ABSTRACT

In late December 2014, the flood was most significant and largest recorded specifically in the Kelantan, Malaysia. It was considered to be a “tsunami like disaster” in which 202,000 victims were displaced and causing widespread collapse of public infrastructure. Flooding of hospital results in interruption of business, loss of infrastructure, such as electrical power and water supplies, increased difficulty in providing routine medical and increased patient admissions and nursing care for patients with chronic diseases, such as renal failure, diabetes, cancer, cystic fibrosis and mental illness. The aimed of this paper to identify the best of measures for reduce the risk of flood in hospital. Several related previous study can be used as measures to reduce flood risk in Malaysian hospitals affected by floods. Early stage research of related studies hope to help add more information to assist researchers in reducing the risk of flooding in hospital. With proper pre-event preparation and proper administrative framework for mitigation flood risk of hospitals, the continuing medical services can be provided to patient especially during emergency.

Keywords: Flood impact, hospital, mitigation measures

Introduction

Floods are natural disaster resulting from rainfall in certain seasons because water levels of rivers and lakes overflowed and went into the surroundings (Lin, Chou and Wu, 2013; and Nordin, 2010). Floods can create various of damage to property and loss of life is significant. Scenario flooding and destruction from flooding not only recorded in Malaysia but also throughout the world. According to the World Meteorological Organisation (WMO), the flooding is three worst natural disasters in the world and has claimed thousands of lives and destruction of property valuation hundred thousand million (Syed Hussain and Ismail, 2014). A record number of floods in Malaysia, such as in year 1926, 1931, 1947, 1954, 1957, 1963, 1965, 1967, 1969, 1971, 1973, 1983, 1988, 1993, 1998, 2001, 2006, 2007 and 2010. Reports from Department of Irrigation and Drainage stated that about 29,000 square kilometers, or 9% of the total area and more than 4.82 million people (22%) of the population affected by floods every year (Chan, 2015; and Chan, 1995).

Floods are an annual occurrence of varying in state on the east coast of Peninsular Malaysia such as Pahang, Terengganu and Kelantan. In late December 2014, the flood was most significant and largest recorded specifically in the Kelantan. It was considered to be a “tsunami like disaster” in which 202,000 victims were displaced and causing widespread collapse of public infrastructure (Ghani et al., 2016; and Baharuddin et al., 2015). Kelantan faces Northeast monsoon from November to March each year and compounded by unplanned urbanization, geographical characteristic and land use planning, triggered the severe flood (Khan et al., 2014). Healthcare facilities were severely affected by the flood and patients had difficulties receiving medical treatment in a timely and effective manner as most of the healthcare facilities and public amenities were located on the flood plain (Ghani et al., 2016).

Hospital is among most important in which it gives a medical facility and treatment of the highest quality to in and out of patients (Sam and Pesigan, 2011). In addition to being a major referral centre that provides diagnostic and treatment services. Hospital building equipped with modern facilities and building of sophisticated medical equipment as well as involving professional staff to provide medical services and care to patients (Sapri and Baba, 2008; and Lai et al., 2003). Therefore, this study was to review the issue of the impact of floods in the hospital and measures to reduce its impact.

Impact of Floods on Health Services

Flooding can either damage hospital facilities directly or disrupt access to them (Meusel and Krich, 2005). Damage may be direct costs such as losses in infrastructure, expensive medical equipment, hospital furniture, lifeline installations and medical supplies. Indirect costs are unforeseen expenses after emergencies such as increased risk of outbreaks due to loss of laboratory and diagnostic support, temporary solutions like field hospitals and the loss income normally generated by health care services (Menne et al., 2103; and Sam and Pesigan, 2011).

In Malaysia

On December 2014, a massive flood happened in the state of Kelantan, Malaysia. It was recorded as the most significant and disastrous flood in Kelantan. The governments estimated around 200,000 people were affected (Chong, 2015). Hospital are also affected by the floods 2014 in Kelantan, such as Hospital Raja Perempuan Zainab II (HRPZ II), Kuala Krai, Tumpat, Pasir Mas, Gua Musang and Tanah Merah (Berita Harian, 2014). Hospital Raja Perempuan Zainab II (HPRZ II) is the worst hospital affected due to water entered and had to stop 80 percent of their services due to flooding and left more 200 patients had to be transferred to the Hospital Universiti Sains Malaysia (HUSM). (Sinar Harian, 2014). The situation became chaotic in Hospital Universiti Sains Malaysia (HUSM) in Kubang Kerian due to increasing the number of patients because of the closure Raja Perempuan Zainab II (HPRZ II) hospital.

Another challenge that was encountered during flood was a shortage of staff. Almost 50% of the staff was affected by the floods, including the head of the Emergency Department. Furthermore, there was no disaster declaration from the top-down at HUSM on day 1 of the disaster, meaning that Emergency Department staff had to handle the situation themselves. With the increasing number of patients, this became a disaster for them (Baharuddin et al., 2015). About five of patients were evacuated to Hospital Besut, Terengganu to receive more critical treatment due to insufficient number of care beds. There are many cases referred from HPRZ II involving victims who suffer from chronic diseases such as acute respiratory syndrome, chronic respiratory disease and heart disease jammed (Kamarul Aryffin et al., 2015). While the average amount of losses incurred by the Kuala Krai hospital due to floods in 2014 is estimated at RM1 millions of which including damage to non-drug items such as medical equipment, non-medical and other facilities is estimated at RM600 million. While items involving drugs is estimated at RM500 thousand (refer figure 1) (Hospital Kuala Krai, 2016). In addition, the fuel shortage is causing disruption to the electricity supply in Kuala Krai hospital. This is because there is no storage fuel for use in emergencies. Increasing the number of flood victims in Kuala Krai hospital has caused shortages of food, drugs, oxygen gas and clean water. Because of that, the critical patients should be transferred for getting further treatment (Abdullah, 2015).



Figure 1: Damage in stationery stores and pharmacies during the floods in 2014 (HKK, 2016)

In Overseas

During the past 10 years, in the European Region, 1000 persons are reported to have been killed by floods and more than 3.4 million affected. Flooding of health facilities results in interruption of business, loss of infrastructure, such as electrical power and water supplies, increased difficulty in providing routine medical and increased patient admissions and nursing care for patients with chronic diseases, such as renal failure, diabetes, cancer, cystic fibrosis and mental illness. Ukraine reported damage to 122 hospital due to flooding (Menne et al., 2013). Typhoon Nari hit the coastal region of northern Taiwan on the night of September 16, 2001. The health care system in Taipei was seriously damaged. There were 11 hospital damaged by storm induced flooding, which left them in vulnerable condition requiring evacuation. Storm water filled the basements and first floor of many hospitals and caused the backup generators to be inoperable. Power was limited to critical care units, operating rooms and to important laboratory equipment. Therefore, providing medical service at full capacity was nearly impossible in the aftermath of the typhoon. Some emergency services were closed to the public for days (Lai et al., 2003). In 2007, floods in the New South Wales Hunter Valley has caused the Morriset Hospital was without power for almost two days (Carthey, Chandra and Loosemore, 2008). Some hospital were completely destroyed during 2004 Hurricane Katrina in the USA and in Australia many hospital have been damaged and cut-off from surrounding communities during severe cyclones, storms and major flooding events in the recent past (Chand and Loosemore, 2016). Flooding occurred in the Gloucestershire Hospital UK has caused water contamination and had disruption inoperability of medical services and cease of activities (Achour et al., 2014).

Flood Risk Reduction Strategies in Hospital

Given growing international concern about the resilience of health facilities in the face of climate change, many countries have strengthened and developed legal frameworks, research and funding schemes for disaster reduction and climate change adaptation (Loosemore and McGeorge, 2014). Floods also caused a large damage of property and life threatening population. Therefore, these publications mainly focus on floods (Said et al., 2013). Flooding can either damage health care facilities directly or disrupt access to them (Menne et al. 2013). Federal Emergency Management Agency (FEMA) design guide for improving hospital safety provides important insights into variety of hazards mitigation for health facilities (Federal Emergency Management Agency, 2007). The FloodProBe project aims to provide cost effective solution for flood risk reduction in urban UK areas (Van Ree *et al.*, 2011). The World Health Organization (WHO) Regional Office for Europe and the United Kingdom Health Protection Agency (HPA) collaborated to assess the health effects of floods as well as to identify measures to prevent or minimize their health effects. This Hyogo Framework for Action (2005-2015) adopted by the World Conference on Disaster Reduction highlights the need to integrate planning for disaster risk reduction into the health sector. This framework addresses primary, secondary and tertiary prevention for managing flood risk with a range of interventions and measures to reduce the impact of human health (refer table 1) (Menne et al., 2013).

In studies Plate (2002) and Chan (2015) said, both of structural and non-structural method needs identified for disaster reduction planning. Selection the best of measures to be able solve or reduce the impact of disaster problems. All activities the both management method of structural aimed “controlling” and non-structural is to reduce the floods impact (Chan, 2015). FEMA recommends to reducing flood effects in critical facilities must relocating the facilities outside of the floodplain (Federal Emergency Management Agency, 2013). Having listed some study recommended to mitigate the impacts of flood, it is important to point out that multi method mitigation flood is considered the best practice.

Table 1. Preventive measures for flood risk reduction in hospital (Menne et al., 2013)

Primary	Structural (physically engineered interventions) including tree planting, control of water source and reconstruction of the defense to the beach / river. Nonstructural (policy and organization) including land used management, stewardship and government, resource generation, health financing and service delivery.
Secondary	Flood forecasting, warning system, moving belongings and assets, Evacuation shelters and temporary and mobile structures, maintaining health services.
Tertiary	Include ensuring clean water and food supplies, close relationship with another agency (military, fire and rescue, police, water organizations, gas organization, human resources)

Result and Discussion

Sudden and unexpected flood often lead to severe damage and dramatic disruptions to the affected area especially in hospital. According to Sam and Pesigan (2011) the destructive effects of natural disasters on infrastructure and operations due to inadequate planning and disaster management. Because prevention is more cost-effective than dealing with problems caused by the calamity, several improvements can be made in the initial preparation for hospitals in a flood. A comprehensive preparation should include a systemic process of planning, which includes structural, nonstructural and administrative issues (Lai et al., 2003). The common organisational objectives to across all case studies which emerged in hospital were (Loosemore and McGeorge, 2014):

- Continuity of service delivery;
- Preserving the building structure's integrity along with its building services;
- Having effective communication both externally and internally;
- Maintaining access to and from the site and;
- Ensuring availability and safety of relevant staff on hand to respond to the crises.

Hospital located near riverbeds, storm drains and areas of lower altitudes sustained even more damage. Thus, hospital must be designed and built to prevent potential disruption of function caused by flooding (World Health Organisation, 2010). Structural elements for hospital building such as safe location, design, and structure are important considerations for allowing buildings to withstand the recent events. Tree planting also important, it is because a canopy of tree can slow precipitation, intercept rainfall and slow its flow into natural and engineered drainage system (Menne et al., 2013).

While floods can also cause damage to the equipment or drugs. Previously, hospital design focused on the optimum use of space to prepare the most effective interaction and action among different departments (Sam and Pesigan, 2011). Thus, heavy equipment such as the telephone lines, electric generators, heavy medical equipment and medical supply storage are usually placed in basement. Therefore, when occur flooding, emergency response is interrupted immediately. Several measures can prevent this damage, such as regular inspections of the drainage system and sewage system, relocating the important medical equipment to above grade and convenient maintenance of the equipment to keep it in best working order (Lai et al., 2003). In hospital located in flood prone areas transformer, emergency generator and electrical room must be relocated above grade or relocating the hospital outside of the floodplain, so that they can be safe from flooding (Federal Emergency Management Agency, 2013). This is non-structural suggestions, if applied this suggestion will prevent costly damage where interferes with the efficiency and functionality of a hospital.

Features Administration also needs to be considered in preparation for the floods. This includes preparation and training is not limited to the emergency staff only, but also involves the management of hospital staff (Kamarul Aryffin et al., 2015). Besides, the effective communication through top-down management is needed. This ensures the flood information flow can be channeled properly. Effective communications from other parties that cooperated with hospitals to help flood victims are also required (Baharuddin et al., 2015). The information chain in communication system should be monitored every

moment. Effective human resource management is important to ensure that the hospital staff is required during flooding sufficient to ensure continuity of operation. The list of contact numbers of hospital staff should be updated (Kamarulazizi et al., 2015).

Increasing the number of patients caused the beds care inadequate (Baharuddin et al., 2015). Sufficient number of critical care beds must be available for the transfer of patients from disaster impacted hospitals or mass casualties (Lai et al., 2003). Hospitals often rely on electric generators during electric supply disruption. However, inadequate fuel supply and cause an electric generator are not operating. Therefore, adequate the fuel supply should be available during disaster and the fuel storage is needed (Abdullah, 2015). Hospital should be ensuring that they can prepare water and food for the first 72 hours of the flood (Menne et al., 2013). Due to methods of communication depend on a power supply, communication hospital are interrupted during power outages. Both external and internal communication must have other, prearranged methods of communication. Hospital should be having backup equipment to support their communication such as radios, battery-run speakerphones and walkie-talkie (Da Costa and Williams, 2008).

The main reasons for evacuation are the presence of water in building and loss of power (Menne et al., 2013). Critical patients should be transferred to other hospital for further treatment. Because roads were flooded, rafts and boats were use as alternative method for patient evacuation during this time. Same also with supplies such as fuel, food and water were brought to hospital by the same method (Lai et al., 2003). Several related previous study can be used as measures to reduce flood risk in Malaysian hospitals affected by floods. For example, location of the hospital is clearly giving potential damage when flooding occurs. Hazard assessment should be started before construction of a hospital. Flood can affect the internal hospital facilities, such as communications, electricity, medical equipment and supplies also transportation to evacuated patients. Therefore, proper preparation is needed before an event occurs.

Conclusion

Floods catastrophic can cause severe damage and can affect the national economy. The variety of damage includes structural, non-structural and administrative. Thus, the risk assessment of flood hazards is conducted to assess the weaknesses the exiting to ensure the best elements needed to reduce the effects the flood hazards in hospital. Selection the best measures through structural and non-structural methods to solve or reduce the problems that faced the impact of the floods. Although we cannot prevent natural disasters from occurring, early warning systems and a well-organized disaster management plan can lessen the disruption. With proper pre-event preparation and proper administrative guidelines for mitigation flood risk of hospitals, the continuing medical services can be provided to patient especially during emergency.

Acknowledgments

The authors wish to acknowledge the contribution of our partners in this research: Ministry of Health Malaysia, Hospital Raja Perempuan Zainab II, Hospital Kuala Krai, Hospital Pasir Mas, Ministry of Higher Education (Mybrain15),Universiti Tun Hussein Onn Malaysia (UTHM) and facilities.

References

- Abdullah, A. 2015. *An Island Of Hope: Hospital Kuala Krai, A Refuge During The Floods*. Medical Officer, Anaesthesiology Department Hospital Kuala Krai
- Achour, N., Miyajima, M., Pascale, F., and DF Price, A. 2014. Hospital resilience to natural hazards: Classification and performance of utilities. *Disaster prevention and management*, 23(1), 40-52.
- Baharuddin, K. A., Wahab, S. F. A., Ab Rahman, N. H. N., Mohamad, N. A. N., Kamauzaman, T. H. T., Noh, A. Y. M., & Majod, M. R. A. 2015. The record-setting flood of 2014 in Kelantan: challenges and recommendations from an emergency medicine perspective and why the medical campus stood dry. *The Malaysian journal of medical sciences: MJMS*, 22(2), 1.

- Berita Harian. 2014. Hospital Kuala Krai Bergelap. 26 December
- Carthey, J., Chandra, V., and Loosemore, M. 2008. Assessing the adaptive capacity of hospital facilities to cope with climate-related extreme weather events: a risk management approach. *Association of Researchers in Construction Management (ARCOM)*, 742e757.
- Chan, N. W. 2015. Impacts of Disasters and Disaster Risk Management in Malaysia: The Case of Floods. In *Resilience and Recovery in Asian Disasters* (pp. 239-265). Springer Japan.
- Chan, N. W. 1995. *A contextual analysis of flood Hazard management in peninsular Malaysia* (Doctoral dissertation, Middlesex University).
- Chand, A. M., and Loosemore, M. 2016. Hospital disaster management's understanding of built environment impacts on healthcare services during extreme weather events. *Engineering, Construction and Architectural Management*, 23(3), 385-402.
- Chong, Z. X. 2015. Experience of a medical student: volunteering in the emergency department during massive flood in Kelantan, Malaysia. *International Journal of Medical Students*, 3(3), 163-164.
- Da Costa, S., and Williams, J. 2008. Surviving flood and contamination: how teamwork kept our diabetes centre afloat. *Journal of Diabetes Nursing*, 12(8), 305-309.
- Federal Emergency Management Agency 2013, *Reducing Flood Effects in Critical Facilities*, Federal Emergency Management Agency, New York. NY.
- Federal Emergency Management Agency 2007. *Design Guide for Improving Hospital Safety in Earthquakes, Floods and High Winds: Providing Protection to People and Buildings*, Federal Emergency Management Agency, New York, NY.
- Ghani, A., MFM, M. F., Arifin, W. N., and Chew, K. S. 2016. Development And Psychometric Evaluation of Flood Disaster Management Questionnaire-(Flooddmq-Bm): Exploratory Factor Analysis And Item Response Theory Analysis. *International Journal of Public Health and Clinical Sciences*, 3(3), 59-70.
- Hospital Kuala Krai. 2016. *Laporan Kerosakan, Kerugian dan Gambar-Gambar Berkaitan Banjir 2014*. Hospital Kuala Krai, Kelantan. Malaysia.
- Kamarulazizi, I., Kanayathu, C. K., Noor Adelyna, M. A., Radeah, M. N., Normaliza, A. M., Sharifah Nurlaili Farhana, S. A. and Marlinah, M. 2015. Resolusi Persidangan Pengurusan Bencana Banjir Kelantan 2015. Pusat Kajian Kelestarian Global Unuversiti Sains Malaysia.
- Kamarul Aryffin, B., Shaikh Farid. A. W., Nik Hisamudin, N. A. r., Nik Arif, N.M., Tuan Hairulnizam, T. K., Abu Yazid, M. N. and Mohd Roslani, A. M. 2015. The Record-Setting Flood of 2014 in Kelantan: Challenges and Recommendations from an Emergency Medice Perspective and Why the Medical Campus Stood Dry. *Malaysia J. Med. Sci.*, 22(2), 1-7.
- Khan, M. M. A., Shaari, N. A. B., Bahar, A. M. A., Baten, M. A., and Nazaruddin, D. A. B. 2014. Flood impact assessment in Kota Bharu, Malaysia: A statistical analysis. *World Applied Sciences Journal*, 32(4), 626-634.
- Lai, T. I., Shih, F. Y., Chiang, W. C., Shen, S. T., and Chen, W. J. 2003. Strategies of disaster response in the health care system for tropical cyclones: experience following Typhoon Nari in Taipei City. *Academic emergency medicine*, 10(10), 1109-1112.
- Lin, G. F., Chou, Y. C., and Wu, M. C. 2013. Typhoon flood forecasting using integrated two-stage support vector machine approach. *Journal of Hydrology*, 486, 334-342.
- Loosemore, M., Chow, V., and McGeorge, D. 2014. Managing the health risks of extreme weather events by managing hospital infrastructure. *Engineering, Construction and Architectural Management*, 21(1), 4-32.
- Menne, B., Murray, V., and World Health Organization. 2013. Floods in the WHO European Region: health effects and their prevention.
- Meusel, D., and Kirch, W. 2005. Lessons to be Learned from the 2002 Floods in Dresden, Germany. In *Extreme Weather Events and Public Health Responses* (pp. 175-183). Springer Berlin Heidelberg.
- Nordin, A. S. 2010. *Kejadian Banjir di Taman Tun Dr. Ismail Jaya Shah Alam Selangor*: Universiti Teknologi Malaysia.

- Plate, E. J. 2002. Flood risk and flood management. *Journal of Hydrology*, 267(1), 2-11.
- Said, M. Z., Gapor, S. A., Samian, M. N. and Abd Aziz, A. M. 2013. *Konflik di Pusat Pemindahan Banjir: Kajian Kes di Daerah Padang Terap, Kedah* : School of Social Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia, Centre for Global Sustainability Studies, Universiti Sains Malaysia, Pulau Pinang, Malaysia. *Journal of Society and Space* 9 issue 1 (69-78)
- Sam A. Geroy, L., and Pesigan, A. M. 2011. Disaster risk reduction for health facilities in the Western Pacific Region. *International Journal of Disaster Resilience in the Built Environment*, 2(3), 268-277.
- Sapri, M. and Baba, M. 2008. *Penyumberan Luar Dalam Pengurusan Fasilitas*: Universiti Teknologi Malaysia.
- Sinar Harian. 2014. *HRPZ II hentikan 80 peratus Perkhidmatan*. 31 December
- Syed Hussain, T. P. R., Baharum, M. and Ismail, H. 2014. Kesiapan Kognitif Menghadapi Banjir bagi Meminimumkan Kemusnahan dan Kehilangan Nyawa. *Prosiding Persidangan Kebangsaan Ekonomi Malaysia Ke-9. "Urus Tadbir Ekonomi yang Adil : Ke Arah Ekonomi Berpendapatan Tinggi"* Kuala Terengganu, Terengganu, 17 – 19 Oktober 2014.
- Van Ree, C. C. D. F., Van, M. A., Heilemann, K., Morris, M. W., Royet, P., & Zevenbergen, C. (2011). FloodProBE: technologies for improved safety of the built environment in relation to flood events. *Environmental science & policy*, 14(7), 874-883.
- World Health Organisation. 2010. *Safe hospitals in emergencies and disasters: structural, non-structural and functional indicators*. Manila: World Health Organization Regional Office for the Western Pacific.

PRIVATE SCHOOL TEACHERS' PERCEPTION OF ORGANIZATIONAL COMMITMENT IN KLANG VALLEY, MALAYSIA

Ng Pek Cheng & Suhaida Abdul Kadir
Faculty of Educational Studies, Universiti Putra Malaysia
pekcheng85@gmail.com, suhaida@upm.edu.my

ABSTRACT

The main purpose of this study is to determine the level of organizational commitment among private school teachers in Klang Valley. Survey questionnaires were distributed to five private schools. 110 private school teachers participated in the survey. Data regarding organizational commitment were analyzed by using IBM SPSS Software version 22.0. Descriptive statistic was employed to identify level of teachers' organizational commitment. The result revealed that the level of organizational commitment are moderate.

Keywords: Organizational commitment, private school teachers

Introduction

In Malaysia Education Blueprint 2013-2015, Prime Minister Dato' Sri Haji Mohammad Najib bin Tun Haji Abdul Razak stated that education plays an important role in the development of social and economic capital in the country. He also stated the main component of the success in the country is the creativity, innovation and the skills from our nation. This statement shows that education is essential for every individual in the country. Since 2012, the development of private school have been increasing rapidly and more local students enrolled in private school (Keeling, A., 2015). Private school teachers have more options to teach in different school. Teachers who are being offered with higher wages often move to other schools.

Teachers' organizational commitment is an important aspect in achieving school's success because highly committed teachers will devote more of their time and put extra effort in their work to attain school's goals. A long term success of a school depends on the commitment of the teachers. Therefore, organizational commitment is an important issue to run a school. Improving the level of organization commitment of an individual can reduce the turnover intention in an organization (Lew, 2011). Furthermore, many research towards organizational commitment showed that the most significant result of organization is by maintaining a high degree of organizational commitment.

Methodology

Descriptive research design was employed to investigate the level of organizational commitment among private school teachers in Klang Valley. This study was conducted in private schools by using survey. Three-Component Model (TCM) Employee Commitment Survey Questionnaire is the instrument to measure teacher's perception of organizational commitment. The three-component model (TCM) employee commitment survey questionnaire was developed by Allen & Meyer (1990). This questionnaire consists of three component of commitment. There are affective commitment, normative commitment and continuance commitment. Each component have 8 items. There are 24 items from all components.

Survey questionnaires are distributed to five private schools teachers in Klang Valley. The data collected from the respondent was analyzed by IBM SPSS Software version 22.0. The descriptive analysis is to determine the level of organizational commitment among private school teachers in Klang Valley.

According to Ary et al., (2010), a population is defined as a group of people. The population of the study were 192 private school teachers. Stratified random sampling is used to identify the number of sample size in each school. Stratified random sampling is a process which certain subgroup are chosen for the sample based on proportion as they exist in the population (Fraenkel et al., 2012). 129 of questionnaires were distributed. Only 110 questionnaires were collected.

Research Finding

There were 110 teachers completed the questionnaire. The background of the respondents was being analyzed in the aspects of gender and age. The demographic information of the respondents in term of frequency and percentage is presented in Table 1.1. According to Table 1.1, 75 female and 35 male respondents participated in the study (68.2% female, 31.8% male).

40% of respondents are between 31 to 40 years. 37.3% of respondents is between age of 21-30. 13.5% of respondents are in the age group of 41-50. Only 4.5% of respondents are in the age group of 51-60 and the remaining 4.5% are in the age group of 61-70.

Table 1.1. Frequency and percentage of respondents' demographic profile

Demographic factors	Categories	Frequency(f)	Percentages(%)
Gender	Female	75	68.2
	Male	35	31.8
	Total	110	100
Age	21-30	41	37.3
	31-40	44	40.0
	41-50	15	13.6
	51-60	5	4.5
	61-70	5	4.5
	Total	110	100

There are three dimension of organizational commitment: 1) affective commitment, 2) continuance commitment and 3) normative commitment. Each dimension has 8 items. The overall mean of affective commitment is 3.2000, continuance commitment is 3.1523, and normative commitment is 3.0716. Table 1.2 shows the mean and standard deviation of each dimension of organizational commitment. Findings showed that overall teacher's level of organizational commitment is moderate.

Table 1.2: Mean and standard deviation of Organizational Commitment

Dimension	Mean of score	Standard deviation
Affective commitment	3.2000	.62516
Continuance commitment	3.1523	.44457
Normative commitment	3.0716	.49524
Overall	3.1413	.35839

Discussion

From the descriptive analysis, it was revealed that teacher's perception on affective commitment, continuance and normative commitment were in moderate level. Overall, organizational commitment were found to be at moderate level. Findings are similar with the study by Erdem & Ucar, (2013) which showed that overall organization commitment levels of primary school teachers are moderate. In addition, the findings is also coincide with Siti Fairuz Hamid et al., (2013) who revealed that most teachers perceived themselves as moderately committed to their schools.

Commitment is one of the important issues concerned by management of the organization. According to Colquitt et al. (2013), employee tends to leave the organization when their emotional attachment became lesser. It is considered a lost to the organization whenever employee leave the organization (Meyer & Allen, 1984). Teachers' commitment plays an important role to build a successful private school.

References

- Allen, N. and Meyer, J. (1990). The measurement and antecedents of affective, continuance, and normative commitment to the organization. *The Journal of Occupational Psychology*, 63: 1-18.
- Ary, D., Jacobs, L.C., Sorensen, C. and Razavieh, A. (2010). *Introduction to Research in Education*. Canada: Wadsworth, Cengage Learning
- Colquitt, J.A., Lepine, J.A., Wesson, M.J. (2013). *Organizational behaviour: Improving performance and commitment in the workplace*. New York: McGraw-Hill
- Erdem, M. & Ucar, I.H. (2013). Learning Organization Perceptions in Elementary Education in terms of Teachers and the Effect of Learning Organization on Organizational Commitment. *Educational Sciences: Theory & Practice*, 13(3): 1527-1534.
- Fraenkel, J. R., Wallen, N. E. and Hyun, H.H. (2012). *How to design and evaluate research in education*. New York: McGraw-Hill
- Meyer, J.P. & Allen, N.J. (1984). Testing the "side-bet theory" of organizational commitment: some methodological considerations. *Journal of Applied Psychology*, 69(3), 372-378.
- Ministry of Education Malaysia (2012). *Malaysia Education Blueprint 2013-2025*. Putrajaya: Ministry of Education Malaysia.
- Keeling, A. (2015, March 26). Expert Analysis: Increasing Number of International School Students in Malaysia are Local Children Aiming High. Retrieved 10 December, 2016, from <http://www.privateinternationalschoolfair.com/news/expert-analysis-increasing-number-of-international-school-students-in-malaysia-are-local>
- Lew, T.K. (2011). Affective Organizational Commitment and Turnover Intention of academics in Malaysia. *International Conference on Business and Economics Research*, 1: 111-114.
- Siti Fairuz Hamid, Norshidah Nordin, Afni Anida Adnan & Norsiah Sirun. (2013). A study on primary school teachers' organizational commitment and psychological empowerment in the district of klang. *Procedia - Social and Behavioral Sciences*, 90: 782 – 787

COLLECTIVE LEADERSHIP AMONG MALAYSIAN SECONDARY SCHOOL TEACHERS

Shiveh Sivalingam, Suhaida Abdul Kadir & Soaib Asimiran
Faculty of Educational Studies, University Putra Malaysia
shivz2809@gmail.com, suhaida@upm.edu.my, soaib@upm.edu.my

ABSTRACT

To date the increasing trend in the teaching fraternity is moving towards one where members of an educational institution play a managerial role. The term given to this style of leading is collective leadership and it is given immense importance in the Malaysian Education Blueprint 2013-2025 which states that the system is moving towards having every participating member in a school to have greater share in decision making. This paper studies collective leadership by demography on Malaysian secondary schools in Kuala Lumpur. The results show that there is no significant difference between gender as well as subjects and collective leadership, nonetheless, teachers with higher education and those who taught lower secondary levels had higher efficacy in collective leadership.

Keywords: Collective leadership

Introduction

The notion of multiple leaders gives the idea of delegated responsibilities among all members of an educational institution for the benefit of student growth. Whether it is shared leadership, distributed leadership or team leadership, the idea is similar. The key point is the interaction of all members of the institution towards achieving the same goal. To facilitate this idea, collective leadership is espoused to promote group effort in order to achieve the goals set. According to Leithwood and Jantzi (2012) in Leithwood and Louis (2012), collective leadership is the combined effects of all sources of leadership in the contribution made by each of these sources, for example administrators, teachers, students and parents. The ascendancy of collective leadership is revealed through research done by Leithwood and Louis (2012) who suggest that a strong influence exists between teachers and students who engage in learner centered practice with their students. To that effect, the capability of teachers in the classroom and the environment that the students are exposed to, play an important role in the determinant of suppositions set upon them.

The ascendancy of collective leadership is revealed through research done by Leithwood and Louis (2012) who suggest that a strong influence exists between teachers and students who engage in learner centered practice with their students. To that effect, the capability of teachers in the classroom and the environment that the students are exposed to, play an important role in the determinant of suppositions set upon them.

Researches from past studies have revealed the impact of sharing of responsibilities among organizational members and stakeholders. Leithwood and Mascall (2008) noted that collective leadership permits members to capitalize on the range of their individual strengths. Contractor et.al. (2012) related collective leadership to work being organized among teams, knowledge distributed up and down organizational hierarchies as workers become increasingly specialized, global (ized) and digit (ized).

Available literature also indicates that pertinent theories are located in the collective leadership compositions. Friedrich et. al. (2009) prescribed an integrative review of the collective leadership framework, including the individual, team, network and organizational factors that may influence the emergence of collective leadership. This framework established collective leadership to be one that defined a leader or a set of leaders, using skills and expertise within a network as the need arises. It is an overview of the multilevel factors such as individual leader's skills, team cohesion or organizational culture that may influence the emergence of collective leadership. The authors of this idea assert that

leader character determines how capable they are in building the network and communication conditions that facilitate the emergence of collective leadership.

The other team that worked on collective leadership would be Pounder, Ogawa and Adams (1995) who examined leadership provided by school administrators, teachers, secretaries and parents. Their work in testing a model regarding the influence of principals, teachers, parents, and secretaries on a number of mediating variables, as well as on a range of school outcomes, provided a useful model from a decade earlier. Leithwood and Mascall (2008) based their findings on this model to calculate the impact of collective leadership on key teacher variables and student achievement.

To date, most studies on collective leadership is focused in the context outside Asia and its development in this region is fairly recent. Rahimah and Ghavifekr (2014) in their research, found that in the current era, leadership is all about vitality, flexibility and innovativeness. In addition, it is regarding collaborative, innovativeness and distributive, sharing of power and authority, enhancing leadership capacity of all stakeholders. This is clearly in line with Malaysian Education Blueprint 2013-2025, which encourages teamwork, thus paving the way for collective leadership which can enhance work effectively. Rabindarang, Khuan and Khoo (2015) in their study emphasized that good relationships among leaders and workers give positive impacts for the organization's effectiveness. Rosnarizah and Hussein (2015) quote Harris (2002) who stated, trends in educational leadership now no longer see the principal shoulder all responsibilities (as) it is more focused on how to create a culture of accountability and learning as well developing school leadership capabilities. This is in support of research carried out by Rosnarizah and Zulkifli (2009), which found the collective leadership, prevailed in high schools in Malaysia. Further, this finding was supported by other researchers in technical and vocational schools (Rabindarang, Khuan and Khoo, 2015) and primary schools (Jamalulail et.al., 2013). Thus, collective leadership creates a collectivistic belief about capability among followers.

Objectives of This Study

The objectives of this research are as follows,

1. To determine the level of collective leadership among secondary school teachers.
2. To compare the level of collective leadership based on gender.
3. To compare the level of collective leadership based on subjects.
4. To compare the level of collective leadership based on education.
5. To identify factors predicting collective leadership among secondary school teachers.

Methodology and Data Analysis

This study utilizes the survey method. The target population for this study is secondary government school teachers while the accessible population would be secondary school teachers in chosen locations, by zone, in Kuala Lumpur. To determine the population for this study, several past studies were referred to. In the study of Kuala Lumpur teachers carried out by Iyer (2008), collegiality and cooperation were the third and fourth choices reflected in the perception of teamwork as a reflection of efficacy in effective schools. This study and a few others more, stirred an interest to study the relationship between sources of efficacy in leadership within Kuala Lumpur schools, and additionally, the consideration of accessibility, economic factors and determination of sufficient respondent availability; pointed to the selection of population for this study to be teachers in Kuala Lumpur. Since the population of teachers for this study is spread across Kuala Lumpur, a random cluster sampling method was used to select the samples for this particular study. This study was carried out among 10 government secondary schools in Kuala Lumpur. The schools selected were spread across three zones, namely Bangsar/Pudu, Keramat and Sentul.

The instrument used in this survey was adapted from Leithwood (2012). The constructs were translated to Bahasa Melayu for better understanding of the subjects and were measured using the 5-point Likert scale. There were 6 items for the collective leadership survey and 8 items for the sources of efficacy survey, both using scales ranging from (1) Strongly Disagree (2) Disagree (3) Slightly Disagree (4) Agree (5) Strongly Agree. The following section synthesizes the findings of this study.

Findings

The results of this study yield an interesting fact, that teachers with higher education have higher level of leadership (refer Table 3 and 4) while teachers designated to teach at lower secondary level also displayed higher level of collective leadership (Table 5). Factors such as gender and subjects taught such as language, mathematics/science and social sciences show no significant difference in terms of collective leadership (refer Table 1 and 2), though collective leadership as a variable is resonant among secondary school teachers.

Only demographic data was used in these findings, which is data for gender, subject, education and designation. All these are nominal level variables. Nominal data is limited in statistical computations because it does not carry meaning. As such only tests such as the t-test and ANOVA were performed at the nominal level variable. On the other hand, cross tabulations can be carried out with nominal variables, thus the chi-square test was performed (Pallant, 2013).

Gender Differences in Collective Leadership among Respondents

The independent samples t-test was conducted to compare collective leadership between male and female teachers in secondary schools in Kuala Lumpur. There was no significant difference in collective leadership among male (M=3.92, SD=.45) and female (M=3.96, SD=.35; $t(158) = -.713, p = .477 > .05$).

Table 1. Independent Samples t-test for Collective Leadership Based on Gender

GROUP	NO	MEAN	SD	t VALUE	SIG.
MALE	75	3.92	.45	-.713	.477
FEMALE	85	3.96	.35		

Difference between Collective Leadership and Subjects taught by Teachers

The analysis of variance (ANOVA) was conducted to determine the difference in collective leadership based on language, science/mathematics and social science teachers in secondary schools in Kuala Lumpur. There is no significant difference between the language, science/mathematics and social science teachers [$F(2,159) = 1.941, p = .147 > .05$].

Table 2. ANOVA Test for Collective Leadership among Teachers (Subject)

	SUM OF SQUARES	DEGREE OF FREEDOM	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	.500	2	.250	1.941	.147
WITHIN GROUPS	20.223	157	.129		
TOTAL	20.723	159			

Difference between Collective Leadership and Education

The analysis of variance (ANOVA) was conducted to determine the difference in collective leadership based on their educational backgrounds, if they had a diploma, degree or masters qualification. It was discovered that there is a significant difference between those who had a diploma, degree or masters [$F(2,159) = 4.862, p = .009 < .05$].

The teachers with degree qualification (M=3.83, SD=.35) has a significant difference with teachers with masters qualification (M=4.21, SD=.41), revealing that teachers with masters qualification had higher leadership levels than teachers with degree qualification.

Table 3. ANOVA Test for Collective Leadership of Teacher Education Background

	SUM OF SQUARES	OF DEGREE OF FREEDOM	OF MEAN SQUARE	F	SIG.
BETWEEN GROUPS	1.209	2	.604	4.862	.009
WITHIN GROUPS	19.514	157	.124		
TOTAL	20.723	159			

Table 4. Mean Reading for ANOVA Test on Collective Leadership of Teacher Education Background

	N	MEAN	SD
DIPLOMA	12	3.99	.28
DEGREE	141	3.83	.35
MASTERS	7	4.21	.41
TOTAL	160	3.86	.36

Relation between Level of Collective Leadership and Designation

The chi-square test of independence was performed to examine the relation between all nominal variables in this study. However, only designation and level of collective leadership displayed a significance. The relation between these variables was significant, $X^2 (2, N = 160) = 12.267, p=0.000$.

This shows that teachers at the lower secondary level displayed higher level of leadership with as many as 69 at the level of high whereas teachers at the upper secondary level charted 48 at the level of high. In terms of overall percentage, it translates to 43% of lower secondary school teachers displayed higher level of collective leadership compared to 30% of the upper secondary school teachers.

Table 5. Reading for Chi-square Test on Collective Leadership and Teacher Designation

	Level of Collective Leadership		Chi- Square value	p- value
	Moderate	High		
LOWER SECONDARY	38	69	12.267	0.000
UPPER SECONDARY	5	48		
TOTAL	43	117		

Discussion and Conclusion

Collective leadership in this study was based on Leithwood's (2012) components of the leader's repertoire. This involves the categories of leadership practices namely setting direction, developing people and redesigning the organization. This study confirms that collective leadership is resonant among secondary school teachers in Kuala Lumpur, which indicates that these teachers do create high performance expectations, provide support and consideration to one another and build collaborative cultures within their work domain. With the cultivation of these elements within the work environment,

teachers are able to display a higher level of confidence in their leadership capability as they feel valued in their work and are professionally satisfied. This finding is further reciprocated by Walumba et.al. (2004) who found a positive effect of interaction between leadership and confidence, which can greatly contribute to employee productivity.

Teachers with higher education have a higher level of leadership as seen in this study which supports past research that discovered, teachers with higher education, typically reflect on their experiences more adaptively, plan and organize more effectively and are more resilient when faced by obstacles (Tschannen-Moran et.al., 1998, Woolfolk Hoy & Davies, 2006). Key leader traits include drive, motivation, integrity and self-confidence (Kirkpatrick & Locke, 1991), all of which are displayed by teachers with higher leadership. Past studies have found that academic qualification does have a relationship with confidence (Moore & Esselman (1992) and Milson (2001). The study by Moore & Esselman (1992) discovered that academic qualification is a significant variable for teachers confidence. The study by Milson (2001) concluded that academic qualification is a factor that affects confidence.

Teachers who teach the lower secondary were also found to have higher leadership levels in this study which mirrors past research by Louis, Marks & Kruse (1996) who found that primary school environments are easier to handle, hence primary school teachers develop better and higher confidence and lead superior. Students in the lower secondary level are just coming out of primary school and are adjusting to new routines and an alternative lifestyle from their previous schools, which can make them vulnerable. Teachers handling lower secondary students have higher leadership, as these students would adhere to every rule and instruction as they did in their primary schools and are uncertain as they adjust themselves to their new educational environment. Battistich, Schaps & Wilson (2004) found that there was a need to have intervention programmes in elementary school to enhance students' 'connectedness' as they enter new educational environments.

Leadership is practiced daily in school as teachers are tasked with multidimensional duties. Without collaborative effort, there is an increase in the challenge faced by teachers. Collective leadership serves to utilize every teacher's expertise and specialty to promote the essential ingredients for successful leadership. The dimension of setting directions charts a clear course that all teachers understand, establishing expectations and tracking progress and performance. The dimension for developing people provides teachers and the others in the system with the necessary support and training to succeed. As a result, with shared responsibilities, everyone is encouraged to support and motivate one another for the benefit of the institution.

This study is also hoped to cultivate awareness and intensify the involvement of Principal and teachers in the management of the educational institution. The District Education Office, Department of Education, Institut Aminuddin Baki, Institute of Malaysian Teachers Education and other relevant organizations should take heed to provide awareness and knowledge of the importance to build teachers' esteem to school administrators and teachers alike.

References

- Avolio, B.J. & Bass, B.M. (2004) Multifactor leadership questionnaire: manual and sampler set (3 ed.) Mind Garden Inc
- Battistich, V., Schaps, E., & Wilson, N. (2004). Effects of an elementary school intervention on students' "connectedness" to school and social adjustment during middle school. *Journal of Primary Prevention*, 24(3), 243-262.
- Bolman, L. & Deal, T. (2013) Reframing Organizations: Artistry, choice and leadership (5th ed) New York, NY: John Wiley
- Contractor, N. S., DeChurch, L. A., Carson, J. B., Carter, D. R., & Keegan, B. (2012) The topology of collective leadership. *Leadership Quarterly*, 23, 994-1011
- Friedrich, T. L., Griffith, J. A., & Mumford, M. D. (2009) Collective leadership behaviors: Evaluating the leader, team network, and problem situation characteristics that influence their use. *The*

- Leadership Quarterly*, 27(2), 312–333.
- Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. W. (2004). Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions. *Educational Researcher*, 33(3), 3-13.
- Iyer, M.G. (2008) Current Views of the Characteristics of School Effectiveness in the context of National Secondary Schools from the Perception of Principals, Heads of Department and Teachers, Doctoral Thesis, University of Leicester, United Kingdom
- Jamalulail, A.W., Aida Hanim, A.H., Suriati, Z & Md Fuad, M.R. (2013) The relationship between headteacher's distributed leadership practices and teachers' motivation in national primary schools, *Asian Social Science Journal* (9,16)
- Jayasingam, S & Moey Y.C. (2009) Leadership Style and Perception of Effectiveness: Enlightening Malaysian Managers, *Asian Social Science* 5(2), 54-65
- Kirkpatrick, S.A. & Locke, E.A. (1991) Leadership: do traits matter? *Academy of Management Executive*, 5(2), 48-60
- Lambert, L. (2003). A framework for shared leadership. *Educational Leadership*, 58(8), 37-40.
- Leithwood, K. (2010). How the leading student achievement project improves student learning: An evolving theory of action. Retrieved on January, 21, 2012.
- Leithwood, K., & Louis, K. (2012). Linking leadership to student learning. San Francisco, CA: Jossey-Bass.
- Leithwood, K. & Mascall, B. (2008) Collective Leadership Effects on Student Achievement, *Educational Administration Quarterly*, 44 (4) 529-561
- Leithwood, K. & Jantzi, D. (2008) Linking leadership to student learning: The contributions of leader efficacy, *Educational Administration Quarterly*, 44 (4) 496-528
- Louis, K.S., Marks, H.M. & Kruse, S. (1996) Teachers' professional community in restructuring schools, *American Educational Research Journal*, 33, 757-798
- Malaysia Education Blueprint (MEB) (2013) Malaysia Education Blueprint (2013-2025): preschool to post secondary education, Putrajaya : Ministry of Education
- Milson, A.J. (2001) Teacher efficacy and character education. Paper presented at the Annual Meeting of the American Educational Research Association. (Seattle, WA, April 10-14, 2001)
- Moore, W. & Esselman, M. (1992) Teacher efficacy, power, school climate and achievement. A desegregating district's experience. Paper presented at the Annual Meeting of the American Educational Research Association, San Fransisco: CA
- Pallant, J (2013) SPSS Survival Manual: A step by step guide to data analysis using IBM SPSS (5th ed.), UK: McGraw Hill
- Pounder, D., Ogawa, R., & Adams, E. (1995). Leadership as an organization-wide phenomena: Its impact on school performance. *Educational Administration Quarterly*, 31(4), 564-588.
- Rabindarang, S., Khuan, W.B. & Khoo, Y.Y. (2015) The influence of distributed leadership on job stress in technical and vocational education, *International Journal of Academic Research in Business and Social Sciences*, 4 (1), 490-499
- Rahimah, H.A. & Ghavifekr, S. (2014) School leadership for the 21st century: A conceptual overview, *Malaysian Online Journal of Educational Management*, Vol.2: 1
- Rosnazirah, A. H. & Hussein, H. A. (2015) Distributed leadership, contextual factor and teachers' self-efficacy in Malaysia, *Malaysian Online Journal of Educational Management*, 3 (3), 1-12
- Rosnazirah, A. H. & Zulkifli, A.M. (2009) The prevalence of distributed leadership in selected secondary schools in Malaysia, paper presented at the 16th National Seminar on Management and Leadership in Education, Aminuddin Baki Institute (IAB)
- Ross, J.A. & Gray, P. (2006) School leadership and student achievement: The mediating effects of teacher beliefs, *Canadian Journal of Education* 29, 3, 798-822
- Sofi, S.N.S. & Sharif, A.M.S. (2014) Transformational leadership of vocational college directors and self-efficacy of vocational college lecturers, *Journal of Science, Mathematics and Technology* 1(2), 30-40
- Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, 68, 202-248.

- Walumbwa, F.O., Wang, P., Lawler, J.J., & Shi, K. (2004). The role of collective efficacy in the relations between transformational leadership and work outcomes. *Journal of Occupational and Organizational Psychology*, 77, 515-530
- Woolfolk Hoy, A., & Davis, H.A. (2006). Teacher self-efficacy and its influence on the achievement of adolescents. In F. Pajares & T. Urdan (Eds.), *Self-efficacy of adolescents* (pp. 117-137). Greenwich, Connecticut: Information Age Publishing.

RELATIONSHIP BETWEEN PRINCIPAL INSTRUCTIONAL LEADERSHIP AND TEACHER READINESS FOR CHANGE IN IMPLEMENTING SCHOOL BASED ASSESSMENT IN SELANGOR STATE MALAYSIA

Nor Azni Abdul Aziz, Soaib Asimiran, Foo Say Fooi, & Aminuddin Hassan
Faculty of Educational Studies, Universiti Putra Malaysia
azniaziz3@gmail.com, soaib@upm.edu.my

ABSTRACT

The instructional leadership of a principal has a positive effect on teacher readiness for change. As such, the purpose of this study was to examine the relationship between three dimensions of principal instructional leadership and teacher readiness for change in implementing School-Based Assessment (SBA) among secondary school teachers in Selangor. A quantitative correlational design was used to collect the data using an adapted questionnaire to measure principal instructional leadership and teacher readiness for change. Principal instructional leadership was measured using “Principal Instructional Measurement Rating Scale” (PIMRS) by Hallinger, while teacher readiness for change was measured using “Readiness for Organizational Change Scale” by Holt et al. The data for this cross-sectional study was obtained from 402 teachers who were selected through stratified random sampling. Data was analysed using SPSS in the form of mean, standard deviation, and Pearson correlation analysis. The findings show that the level of instructional leadership of the principal as a whole is high with a mean of 3.68 and standard deviation 0.57. The overall level of readiness for change among the teachers is high with a mean of 3.72 and standard deviation of 0.51. Tests to determine the correlation between the dimensions of the mission of school ($r = 0.321$, $p < 0.05$) and creating school learning climate ($r = 0.371$, $p < 0.05$) with readiness for change among the teachers show a significant positive but low correlation. Meanwhile, the relationship between managing the teaching program ($r = 0.470$, $p < 0.05$) with readiness for change among the teachers shows a significant positive but moderate correlation. Overall, this study provides the basis for teacher readiness to face changes and strengthening the educational administration field in enhancing instructional leadership model in schools.

Keywords: School-Based Assessment (SBA), Instructional Leadership, Readiness for Change

Introduction

Education changes are taking place across the world due to globalization, liberalization and development of information technology. This has resulted in the country's education policy makers having the need to make relevant changes and improvements in education, to address the challenges of achieving global standards of educational excellence. Principals must play the role as instructional leaders who bring positive impacts in preparing teachers for educational changes. According to Berkovich (2011), education policy reform is implemented as a way to improve the operation of the school systems, processes and learning outcomes of students. However, most of the educational changes failed to be implemented effectively in the organizations including in schools because of factors such as negative emotions of teachers in particular uncertainty, fear and doubtfulness that made it difficult for teachers to accept the changes (Yan, 2012). Therefore, when there are factors of resistance to change, teachers are no longer willing to implement reforms in education, bringing negatives impacts to educational change (Fullan, 2001).

Based on the Interim Strategic Plan 2011-2020 and the Malaysia Education Development Plan (PPPM) 2013-2025 (Pelan Pembangunan Pendidikan Malaysia, 2013), the implementation of School-Based Assessment (SBA) is a process of change from top-down of the Ministry of Education Malaysia (MOE) to improve the existing methods of student assessment; in order to enhance the quality of teaching and learning in schools. SBA is in line with the implementation of the national transformation programme to generate human capital that can compete globally (Pelan Pembangunan Pendidikan Malaysia, 2013). It is also a holistic form of assessment that assesses cognitive (intellectual), affective

(emotional and spiritual) and psychomotor (physical) aspects, in accordance with the National Philosophy of Education (Kementerian Pendidikan Malaysia, 2012).

Previous findings have shown that leadership has a relationship with readiness for change (Aarons, Sommerfeld, & Willging, 2011; Armenakis & Harris, 2009; Boga & Ensari, 2009; Choi, 2011; Gilley, Gilley, & Mcmillan, 2009; Hammond, Gresch, & Vitale, 2011; Holt, Armenakis, Harris, & Field, 2007; Lyons, Swindler, & Offner, 2009; Norshidah, 2011; Oreg, Vakola, & Armenakis, 2011; Santhidran et al., 2013; Walker, Armenakis, & Bernerth, 2007). Effective leaders are able to reduce resistance to change and influence their followers towards readiness for change (Armenakis & Bedeian, 1999; Armenakis & Harris, 2002; Foster, 2010; Holt et al., 2007). The instructional leadership of a principal has a positive effect on teacher readiness for change (Hallinger, 2003; Hallinger & Heck, 1998; Jainabee & Jamelaa, 2011; Jamelaa & Jainabee, 2011; Kursunoglu & Tanriogen, 2009), and the reading phase is the first phase in the process of change.

Employees must be in a state of readiness to support the impending changes (Armenakis & Harris, 2002). However, despite the finding that there is a relationship between leadership and readiness for change, there is still lack of studies that evaluate these relationships empirically, particularly in Malaysia (Norshidah, 2011). Additionally, studies have yet to investigate the relationship between the three dimensions of instructional leadership and school readiness for change within the organization. This relationship is important to evaluate with empirical studies, as it has bearing on the efficiency of changes like the transition to School Based Assessment (SBA). Therefore, the aim of this study was to investigate the relationship between the three dimensions of instructional leadership of the principal and the readiness for change of teachers in implementing SBA changes in school.

Literature Review

Generally, leadership can be defined as the relationship between an individual and a society that is built upon common goals, where the group is behaving according to the instruction, assessment, and influence of the leader (Hoy & Miskel, 2008). Leadership involves the process of influencing others to understand the actions to be implemented effectively in order to achieve common goals. Instructional leadership of principals refers to the behaviors conducted with the aim of promoting and improving the teaching and learning process in schools involving teachers, students, parents, school planning, school management, resources, and culture of the school (Hallinger & Murphy, 1985). An instructional leader is also a key factor for the success of the change in the schools and school achievement (Carrier, 2011; Sahin, 2011). It comprises the three dimensions of defining the mission of the school, managing the teaching programme, and creating a learning climate of the school. When changes occur in education system, principals who are commonly seen as instructional leaders in schools are to encourage teachers to achieve the academic goals of the school, working more in the works, and more willing to exert effort in implementing school changes (Lahui-Ako, 2001).

Readiness for change has been defined as the comprehensive attitude influenced simultaneously by content (what changed), process (how the changes are implemented), the context (the circumstances in which the change occurs), and individual (individual-related factor) that are all involved in a change (Holt, Armenakis, Field & Harris, 2007). Meanwhile, Armenakis et al. (1993) define readiness for change as the willingness to change beliefs, attitudes and positive intentions of someone involved to implement changes to achieve the set goals. Therefore, when someone shows supportive behavior to change due to the evaluation of thinking that drives the action, it is interpreted that the person is willing to change. Holt and Vardaman (2013) and Vakola (2013) concurred by stating that one of the important factors that affect the successful implementation of changes is early readiness for organizational change; and that will only change if the members in the organization is ready to implement the changes. Therefore, the readiness for change is one of the most important constructs for the first step in the process of change, as it evaluates a person's reaction to change and it reflects whether or not they support the change. If it is done well, the employees will be more motivated and committed

to provide support and implement change effectively. Conversely, if it is ignored, there will be obstacles that would hinder the success of the planned change.

In organizations such as schools, when there is readiness for change among principals and teachers, the school as an organization would be willing to accept change and hence, resistance will be reduced. However, if they are not prepared, the changes that have been planned in the school will be rejected, and then they will act in negative reactions such as being hesitant, fearful, and attempting to undermine the efforts of the changes implemented (Soumyaja, Kamalanabhan & Bhattacharyya, 2011). In schools, leadership of principals as instructional leader is seen as a positive impact in preparing teachers towards the change (Hallinger, 2003; Hallinger & Heck, 1998; Jainabee & Jamelaa, 2011; Jamelaa & Jainabee, 2011; Kursunoglu & Tanriogen, 2009; Suseela & Sim, 2010).

Effective leaders are more likely to provide support to change the basic values, beliefs, and attitudes of employees so that they are willing to accept and understand the change initiative (Santhidran et al., 2013). In addition, attitudes or practices of the leaders also play an important factor in the process of creating readiness for change of workers (Choi, 2011; Santhidran et al., 2013). In several studies by Lyons et al. (2009), Norshidah (2011) and Santhidran et al. (2013) who studied the effect of leadership on readiness for change shows that leadership has a positive and significant correlation with the readiness for change. It is therefore very important for leaders to understand the practices and the impact of leadership on workers because the first thing to be created in the process of change is the readiness for change of the employees to ensure that changes will be successfully implemented effectively (Santhidran et al., 2013).

Methodology

This is a cross-sectional study which was conducted in secondary schools in Selangor, Malaysia. The respondents were 402 teachers and sample selection was based on a stratified random sampling. The required number of samples was determined using Cochran's formula (Cochran, 1977). In order to collect data from the respondents, a questionnaire has been used comprising three parts, namely demographics, instructional leadership of the principal and the readiness for change among the teachers. The instrument was adapted from Hallinger (2003) and Holt et al. (2007) and it has been used to assess the level of instructional leadership of the principal and teacher's readiness for change. Cronbach's alpha reliability coefficient value of the entire instrument is 0.92 whereas the Cronbach's alpha reliability coefficient value for the

principal instructional leadership is 0.91 and that of the readiness for change of the teachers is 0.92. Descriptive analysis was used to obtain the mean value, frequency, and it described the standard deviation of scores for the constructs in this study to identify the level of instructional leadership of the principal and teacher's readiness to change. Meanwhile, the relationship between the two constructs has been analyzed using Pearson correlation analysis.

Findings

The findings show that the level of instructional leadership of the principal as a whole is at a high level with a mean of 3.68 and standard deviation 0.57. The first dimension of determining the mission of the schools has the highest mean value of 3.86 and a standard deviation of 0.63. This shows the principal's instructional leadership practices for the first dimension is at a high level. The second dimension of managing the teaching programme also shows the level of principal's instructional leadership is at a high level (M = 3.78, SD = 0.59). As for the third dimension on creating a learning climate of the school, the value obtained is the mean and standard deviation of 0.83 and 3.56 respectively which shows that the level of instructional leadership of the principal is at a moderate level.

Table 1. Level of Principal's Instructional Leadership

Dimension of Instructional Leadership	Mean	SD	Level
To determine school mission	3.83	0.66	High
To manage teaching programme	3.78	0.59	High

To establish school learning climate	3.54	0.83	Moderate
Overall Level	3.68	0.57	High

Levels of Instructional Leadership: 1.00–2.33=Low, 2.34–3.67=Moderate, 3.67–5.00=High

Meanwhile, the overall level of readiness for change among the teachers is at a high level with a mean of 3.72 and standard deviation of 0.51 as shown in Table 2. The dimension of management support has the highest mean value of 3.87 and a standard deviation of 0.59 that shows the level of management support for the readiness for change of the teachers is at a high level. This is followed by the dimension of appropriateness of change (M = 3.71, SD = 0.61) and it also shows respondents assess this dimension at a high level. For efficacy dimension of change (M = 3.66, SD = 0.56) and usefulness to themselves (M = 3.65, SD = 0.71), the findings indicate respondents' assessment is only at a moderate level.

Table 2. Levels of Readiness to Change among Teachers

Dimension of Readiness to Change	Mean	SD	Level
Appropriateness of Change	3.71	0.61	High
Management Support	3.87	0.59	High
Efficacy of Change	3.66	0.56	Moderate
Usefulness to Self (Themselves)	3.65	0.71	Moderate
Overall Level	3.72	0.51	High

Levels of Readiness to Change among Teachers: 1.00–2.3=Low, 2.34–3.67=Moderate, 3.67–5.00=High

Table 3. Relationship between Dimension of Principal's Instructional Leadership and Teacher's Readiness for Change

Dimension of Principal's Instructional Leadership	Teacher's Readiness For Change (r)
To determine school mission	0.321
To manage teaching programme	0.470
To establish school teaching climate	0.371

Tests to determine the correlation between the dimensions of the mission of school ($r = 0.321$, $p < 0.05$) and creating school learning climate ($r = 0.371$, $p < 0.05$) with readiness for change among the teachers showed a significant positive but low correlation. Meanwhile, the relationship between managing the teaching programme ($r = 0.470$, $p < 0.05$) with readiness for change among the teachers shows a significant positive but moderate correlation. This shows that when the principals have a high level of instructional leadership in the school, the readiness for change among teachers is also increased in implementing SBA.

Discussion

Findings from this study are consistent with those discovered by Finnigan (2010) and Chen (2013). Finnigan (2010) research was conducted in Chicago, where his research findings have shown that there is a significant relationship between instructional leadership of the principal and the readiness for change of the teachers surveyed in terms of the dimensions of teacher's efficacy in implementing any changes with regard to accountability. Chen (2013) research has found out that the principal's instructional leadership can improve the readiness for change of the ICT teachers in primary and secondary schools in Singapore. The results of both studies have shown that the principals as instructional leaders need to set goals, communicate information to teachers, influence teachers, encourage, and provide opportunities for professional development.

Based on the findings of this study, it has been shown also that when the principals display widespread practice of instructional leadership, by setting objectives to be achieved for SBA, manage SBA activities, and create a learning climate of the school in line with the goals of SBA; this makes the situation to allow more teachers to willingly change and accept positively to implement SBA. Teachers

believe in the appropriateness of changes undertaken that they understand the importance of changing to a more holistic assessment than previous assessments which are more focused on the examination alone. With clear information from time to time and guidance in implementing SBA from the principals, teachers are also becoming more willing to accept new changes imposed on them. When principals show support action in SBA amendment, teachers are also willing to support the change because it will benefit the on-going changes.

Conclusion

In conclusion, high level of instructional leadership of the principal increases teachers' willingness to face educational changes that occur, such as that of SBA system. Principals' high commitment and integrity are the key steering figure in school management, as well as teachers as the drivers for change. Principal as instructional leader of the school has to be the catalyst of change that will ensure schools achieve changes that are being implemented (Jainabee & Jamelaa, 2011; Kursunoglu & Tanriogen, 2009), by ensuring readiness for change among teachers. This is because when teachers are ready for changes in the organization of school, this will encourage them to become committed to implement the changes. Above all, the effect of leadership on readiness for change shows that leadership has a positive and significant correlation with the readiness for change.

References

- Aarons, G. A., Sommerfeld, D. H., & Willging, C. E. (2011). The soft underbelly of system change: The role of leadership and organizational climate in turnover during statewide behavioral health reform. *American Psychological Association*, 8(4), 269–281.
- Armenakis, A. A., & Bedeian, A. G. (1999). Organizational Change: A Review of Theory and Research in the 1990s. *Journal of Management*, 25(3), 293–315.
- Armenakis, A. A., & Harris, S. G. (2002). Crafting a change message to create transformational readiness. *Journal of Organizational Change Management*, 15(2), 169–183.
- Armenakis, A. A., & Harris, S. G. (2009). Reflections : our Journey in Organizational Change Research and Practice. *Journal of Change Management*, 9(2), 127–142.
- Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993). Creating Readiness for Organizational Change. *Human Relations*, 46(6), 681–703.
- Berkovich, I. (2011). No we won't! Teachers' resistance to educational reform. *Journal of Educational Administration*, 49(5), 563–578.
- Boga, I., & Ensari, N. (2009). The Role of Transformational Leadership and Organizational Change on Perceived Organizational Success. *The Psychologist-Manager Journal*, 12, 235–251.
- Carrier, L. (2011). *What Is Instructional Leadership And What Does It Look Like In Practice ? A Multi-Case Case Study Of Elementary School Principals Who Have Led Schools From Being Identified As Under Performing To Performing*. University of Massachusetts Amherst.
- Chen, W. (2013). School Leadership in ICT Implementation: Perspectives from Singapore. *Asia-Pacific Edu Res*, 22(3), 301–311. doi: 10.1007/s40299-012-0055-8
- Cochran, W. G. (1977), *Sampling Techniques*, Third Edition, New York: John Wiley & Sons, Inc.
- Choi, M. (2011). Employees' Attitudes Toward Organizational Change: A Literature Review. *Human Resource Management*, 50(4), 479–500.
- Foster, R. D. (2010). Resistance, Justice, and Commitment to Change. *Human Resource Development Quarterly*, 21(1), 1–39.
- Finnigan, K.S. (2010). Principal leadership and teacher motivation under high-stakes accountability policies. *Leadership & Policy in Schools*, 9 (2), 161-89.
- Fullan, M. (2001). *The new meaning of educational change*. 3rd Ed. New York: Teachers College Press.
- Gilley, A., Gilley, J. W., & Mcmillan, H. S. (2009). Organizational Change: Motivation, Communication, and Leadership Effectiveness. *Performance Improvement Quarterly*, 21(4), 75–94.
- Hallinger, P. (2003). Leading Educational Change: reflections on the practice of instructional and transformational leadership. *Cambridge Journal of Education*, 33(3), 329–352.
- Hallinger, P., & Heck, R. H. (1998). Exploring the Principal's Contribution to School Effectiveness: 1980-1995. *School Effectiveness and School Improvement*, 9(2), 157–191.

- Hallinger, P., & Murphy, J. (1985). Assessing the Instructional Management Behavior of Principals. *The Elementary School Journal*, 86(2), 217–247.
- Hammond, G. D., Gresch, E. B., & Vitale, D. C. (2011). Homegrown process improvement employing a change message model. *Journal of Organizational Change Management*, 24(4), 487–510.
- Holt, D. T., Armenakis, A. A., Feild, H. S., & Harris, S. G. (2007). Readiness for Organizational Change: The Systematic Development of a Scale. *The Journal of Applied Behavioral Science*, 43(2), 232–255.
- Holt, D. T., Armenakis, A. A., Harris, S. G., & Feild, H. S. (2007). Toward a Comprehensive Definition of Readiness for Change: A Review of Research and Instrumentation. *Research in Organizational Change and Development*, 16, 289–336.
- Holt, D. T., & Vardaman, J. M. (2013). Toward a Comprehensive Understanding of Readiness for Change : The Case for an Expanded Conceptualization. *Journal of Change Management*, 13(1), 9–18.
- Hoy, W. & Miskel, C. (2008). *Educational administration: Theory, research and practice*. (8th Ed.). New York, NY: McGraw Hill.
- Jainabee, M. K., & Jamelaa, B. A. (2011). Promoting Learning Environment and Attitude towards Change among Secondary School Principals in Pahang Malaysia: Teachers' Perceptions. *Procedia - Social and Behavioral Sciences*, 28, 45–49.
- Jamelaa, B. A. (2012). Amalan Kepimpinan Instruksional Dan Sikap Terhadap Perubahan dalam Kalangan Pengetua Sek. Men. di Negeri Pahang. Tesis Doktor Falsafah yang tidak diterbitkan, Universiti Kebangsaan Malaysia.
- Kursunoglu, A., & Tanriogen, A. (2009). The relationship between teachers' perceptions towards instructional leadership behaviors of their principals and teachers' attitudes towards change. *Procedia - Social and Behavioral Sciences*, 1(1), 252–258.
- Lahui-Ako, B. (2001). The instructional leadership behaviour of Papua New Guinea high school principals - A provincial case study. *Journal of Educational Administration*, 39(3), 233–265.
- Laporan Kementerian Pendidikan Malaysia. (2012).
- Lyons, J. B., Swindler, S. D., & Offner, A. (2009). The Impact of Leadership on Change Readiness in the US Military. *Journal of Change Management*, 9(4), 459–475.
- Norshidah, N. (2011). The Influence Of Emotional Intelligence, Leadership Behaviour And Organizational Commitment On Organizational Readiness For Change In Higher Learning Institution. *Procedia - Social and Behavioral Sciences*, 29, 129–138.
- Oreg, S., Vakola, M., & Armenakis, A. (2011). Change Recipients' Reactions to Organizational Change: A 60-Year Review of Quantitative Studies. *The Journal of Applied Behavioral Science*, 47(4), 461–524.
- Pelan Pembangunan Pendidikan Malaysia 2013-2025 (Pendidikan Prasekolah hingga Lepas Menengah). (2013). Putrajaya: Kementerian Pelajaran Malaysia.
- Sahin, S. (2011). Instructional Leadership In Turkey And The United States : Teachers ' Perspectives. *Problems of Education In The 21st Century*, 34, 122–137.
- Santhidran, S., Chandran, V. G. R., & Borromeo, J. (2013). Enabling organizational change – leadership , commitment to change and the mediating role of change readiness. *Journal of Business Economics and Management*, 14(2), 348–363.
- Soumyaja, D., Kamalanabhan, T. J., & Bhattacharyya, S. (2011). Employee Readiness to Change and Individual Intelligence : The Facilitating Role of Process and Contextual factors. *International Journal of Business Insights and Transformation*, 4(2), 85–91.
- Suseela, M. & Sim, K. H. (2010). Teacher perspectives of school-based assessment in a secondary school in Kuala Lumpur. *Procedia-Social and Behavioural Sciences*, 9, 1170-1176.
- Vakola, M. (2013). Multilevel Readiness to Organizational Change : A Conceptual Approach. *Journal of Change Management*, 13(1), 96–109.
- Walker, H. J., Armenakis, A. A., & Bernerth, J. B. (2007). Factors influencing organizational change efforts: An integrative investigation of change content, context, process and individual differences. *Journal of Organizational Change Management*, 20(6), 761–773.

CONCORDANCING AND WRITING: REVIEW OF RELATED LITERATURE

Sedigheh Shakib Kotamjani, Habsah Hussin, Hesam Tahsildar Tehrani & Sina Neissi,
Faculty of Educational Studies, Universiti Putra Malaysia
nshakib58@gmail.com, drhhesr@gmail.com, hesam_tut@yahoo.com,
sinaneissi@gmail.com,

ABSTRACT

In recent years, ESL and some EFL teachers have emphasized student-centered learning and focused on Computer-Aided Language Learning (CALL) and the use of linguistic corpora through Data-Driven Learning (DDL). Corpus consultation has been integrated into second language writing classrooms for a few decades. Some studies have reported that corpus consultation is useful to some extent. The present study aimed to review the potential of concordancing in L2 writing using existing literature. Therefore, all these empirical studies provide useful information on the impact of corpus concordancing. The results of the review showed that learner would benefit from concordancing as a reference tool if they are trained adequately in corpus consultation. Moreover, it is implied that learner concordancing raised learners' awareness in linguistics aspects and promote learner autonomy. Future studies are also suggested based on the gap identified in the reviewed studies.

Keywords: Concordancing, Writing, Corpus consultation

Introduction

A concordancer is a piece of software, either installed on a computer or accessed through a website, which can be used to search, access and analyze language from a corpus. They can be particularly useful in exploring the relationships between words and can give us very accurate information about the way language is authentically used. A typical concordancer allows learners to enter a word or phrase and search for multiple examples of how that word or phrase is used in everyday speech or writing. More complex concordancers can help learners to extract examples from particular contexts and even discriminate between spoken or written language uses. Having access to corpora of authentic language can help learners to check or reconfirm our assumptions about the way that language is used. Learners can check the collocations and authentic examples to demonstrate intended meaning.

Concerning concordancing or corpus consultation, as new kind of reference resources has been considered as a promising area for offering learners typical and frequent patterns obtained from authentic and natural linguistic data (Hyland, 2003; Johns, 1991). However, online corpora have been increasingly used as a tool for language learning. Since the 1980s, concordancing has been practically studied as a reference for supporting second language writing, mainly in context of universities (Yoon, 2008; Chambers & O'sullivan, 2004; Gilmore, 2009; Park & Kinginger, 2010; Kennedy & Miceli, 2010).

Due to the effect of process-oriented approach, the emphasis has been shifted to content and idea development in writing pedagogy; however, two criteria of accuracy and appropriateness in written text considered necessary in the professional and academic setting. (Yoon, 2008; Canagarajah, 2002; Hegelheimer, 2006). Even advanced English second language writers require writing support in terms of accuracy and appropriateness of using lexical, grammatical, and lexico-grammatical issues (Hinkel, 2004; Silva, 2009). Past studies found that concordancing can assist L2 writers to interpret the concordance lines and induce the appropriate patterns of language use and apply it to their writing. However, this potential of concordancing in L2 writing is dependent on many factors on the part of the learners such as level of their language proficiency, learning styles. This study aimed to review the empirical studies to investigate the potential of concordancing and issues on learner concordancing. In this section, empirical studies that examined the use of concordancing as a reference tool by second language writers are reviewed. The report is broken down into two sections: studies that examined

participants' performance in using concordancing for error correction or revision tasks; studies that tracked participants' longer-term use of concordancing.

Concordancing for Error Correction and Revision

The majority of the studies that examined second language writers' use of concordancing as a reference source had trained learners and assigned them classroom tasks. They consulted with corpora to correct errors in their written tasks, revise their writing according to teachers' feedback, or correct their errors independently.

Sullivan & Chambers, (2006) conducted a project at University of Limerick, eight advanced learners majoring in the French language attended in their study. The aim of action research was to observe the type of changes made by the learners in consulting with a corpus. As a part of the course requirements, students were supposed to hand in several writing tasks such as commentaries and essays; as a result, students were motivated to improve their writing skills.

The study was conducted during three stages. In the first stage, participants were asked to write the commentary in a two-hour supervised session. The researchers marked students' writing by underlining their errors/mistakes, which did not correspond to standard written French. The researcher did not provide any explanation or feedback in this stage. Students typed and e-mailed the commentaries to the researcher. Then, the researcher left multiple spaces between each line of text, to enable learners to make any changes in the provided spaces.

In the second stage, the students were introduced to corpora and concordancing during a three-week period in a computer laboratory. Initially, students were introduced to corpus linguistics and corpus-based research in the French language. Then, the different uses of the concordancer in language study were elaborated such as Wordsmith Tools. They were trained them how to devise strategies to find the intended meaning in the search box. Moreover, they were trained how to create a corpus, and analyze the corpus. The third stage includes empirical study and hands-on practice in corpus consultation.

Participants had 100-minute time to consult with the corpus and made any changes to improve their writing. They searched the underlined phrases and found the correct usage of those words and phrases from concordance lines. They were supposed to write the correct phrases and words in the spaces provided in the text. After making changes in their writing, participants filled up the evaluation form. The results of writing analyses revealed that corpus consultation was positive. They could change 64 errors out of 85; they successfully corrected 75% of errors. Corpus consultation enabled students to identify appropriate lexico-grammatical patterns. Substantially corpus consultation reduced the effect of first language interference. Moreover, they reported that concordancing was an effective tool for finding idiomatic phrases that could not be found by referring to dictionaries and grammar books. Based on the evaluation of corpus consultation survey, students were enthusiastic about checking different aspect of the language such as gender and agreement. Furthermore, they concluded that students with higher language proficiency would benefit more from corpus consultation.

Similarly, Gilmore (2009) carried out an exploratory study in a writing class of Japanese University to investigate the effects of using online corpora on the 'naturalness' of their writing. Moreover, two online corpora of British National Corpus and the COBUILD Corpus and Collocations Sampler were compared regarding applicability. Gilmore (2009) recruited forty-five Japanese undergraduate students in writing compulsory course. Participants were asked to write an essay on a topic. Afterward, teacher underlined and highlighted sentence-level, lexical, and grammatical problems in first drafts of participants' writing. Then, the teacher returned the essays to students for revising. Then, they were trained how to use online corpora to solve their problems and correct their errors. After training, students composed the second drafts of their essays by referring to online corpora out of the classroom setting. The researcher recruited four native speaker teacher to rate students' writing in terms

of naturalness. The results revealed that out of 350 lexical or grammatical problems, 214 (61.14%) were positively changed and rated as more natural by native speaker raters. Moreover, students showed more preferences for the COBUILD Corpus and Collocations Sampler. Gilmore (2009) suggested that that online corpus has the potential to assist students in improving the naturalness of their writing and decrease teacher's workload.

Another major point in corpus consultation is related to the effect of training on the processes and outcomes of learners' corpus use in concordancing studies. Kennedy & Miceli, (2001) suggested that guided training in learner corpus consultation should be included in the writing course to help learners in composing process. They designed a special corpus for the students to solve their problems, when revising their texts and named this function of the corpus as "treasure-hunting" tool (p. 79) to assist learners to find typical patterns. Students were supposed to find the required information from the corpus independently and revise the two texts by consulting the corpus. The results of evaluation revealed that to some extent students successfully made correct changes in their texts, although they were not aware of techniques and strategies in concordancing and were not able to avoid some pitfalls. The researchers suggested that the training provided for students was not sufficient to prepare them for the corpus consultation skills. They decided to provide more training sessions to improve students' observation and logical reasoning.

To gain more insight, Kennedy, & Miceli, (2010) integrated an "apprenticeship" approach into a curriculum for helping learners to learn through examples of authentic language. Three learners were chosen for case studies to examine the effectiveness of using corpus and bilingual dictionaries as reference resources in a creative writing course. They assigned autobiographical writing task in the Italian language.

Since Kennedy & Miceli, (2001) in their previous study, identified learners' difficulties during corpus consultation, they decided to start consulting with the corpus after apprenticeship approach which required the higher level of proficiency for understanding examples of concordance lines. Their apprenticeship approach focused on using the corpus for the problems at hand in writing task; they aimed to find the patterns that students use in a given text. Kennedy & Miceli (2010) compiled the corpus, named CWIC (*Contemporary Written Italian Corpus*) consists of 500,000 words related to genres of letters, emails, and magazines by providing the model of personal writing. They designed the user interface to enable learners to search concordance lines.

In apprenticeship, they familiarized students with using KWIC to improve their writing by enriching the content through *pattern hunting* and editing the linguistic aspects of their text for grammatical and lexico-grammatical accuracy, through *pattern defining*. These two functions of pattern-hunting and pattern-defining functions assist learners in finding the word patterns in the corpus. Moreover, they did not emphasize on the concept of a learner as a researcher. As learners lost their ideas on what to write or how to express the ideas into words, pattern-hunting function helped learners to search for the patterns of words in the corpus and concordance lines to find the useful word patterns.

Results revealed that out of three participants, two students effectively consulted with corpus and they used some strategies to solve their problems by consulting with corpus and dictionary. This study concluded that explicit training of corpus consultation should be provided prior to corpus use and make them familiar with unique functions of corpus consultation. Moreover, the teacher should train learners to interpret the examples. To sum up, they mentioned that this apprenticeship of corpus consultation is a long and gradual process of trial and error until the user develops the required skills of corpus consultation.

Although the task carried out by the participants was not a composition task, Frankenberg-Garcia's (2005) research is the only study that directly investigated the participants' preferred reference resources based on their particular needs. He compared the effectiveness of the resources and the participants' perceptions of their effectiveness. Sixteen undergraduate students at a Portuguese

university translated a short newspaper article (about 230 words) from Portuguese into English, consulting any resources they wished to use more than 20 resources provided (paper and online dictionaries, online concordancing programs, a term bank, and search engines). While translating, the participants kept a search log, which recorded in detail the problems they encountered, and the resources they consulted to solve them. The results showed that while 65% of the total lookups were successful, the participants perceived 83% of the searches were successful, it reveals a gap between actual and perceived effectiveness of the reference resources. Analysis of the participants' logs revealed that finding an English equivalent (58%) was the most frequent purpose of corpus consultation, which was followed by confirming a hunch (18%) and finding a collocation (16%).

One significant trend observed was that the participants tended to consult a single resource rather than searching for various resources to solve separate problems. Although the task in the study was somewhat different from those of other studies, the findings from this study provide two major insights. First, each resource may have unique functions for which it is best suited; therefore, the resources may complement each other when used together. Second, the learners require training not only in individual resources but also in how to consult all resources in combination.

The studies reviewed in this section provide an explanation on how and to what extent concordancing can support second language writers' problem solving especially at later stages of the writing process (revising and editing). On the other hand, the settings of these research studies are restricted, because the findings might not be generalized to academic contexts. Most of these studies employed a small specialized corpus, which was developed for their course and this special corpus was not publically available (Chambers & O'Sullivan, 2004; O'Sullivan & Chambers, 2006; Kennedy & Miceli, 2001, 2010). Mostly, these studies examined only the results of the learners' one-time uses of corpora and other reference resources, whereas learners were doing limited writing tasks in language or translation classroom. However, these types of timed tasks and settings are limited and might not reveal how corpus tools are used as a reference tool during the process of composing in the context of a university setting. Moreover, those timed-writing tasks assigned to students in these studies were not similar to typical academic writing tasks such as research paper, project, and dissertation in university settings. Overall, the findings obtained from these studies have not comprehensively elaborated the potential changes in students' writing performance and their attitudes towards using online reference resource consultation in academic writing.

Longitudinal Concordancing Studies

In this section, those studies have investigated concordancing over the course of a semester, or longer are reviewed. In these studies, students at universities consulted with corpus tools to write their assignments. These studies investigated how consulting with corpus had an effect on participants' writing and examined their attitudes toward academic writing in this setting. These studies tracked participants' independent corpus consultation by employing search logs or screen recording methods over specific time as they were composing their writing tasks.

Hyunsook Yoon (2005, 2008) conducted a two-phase longitudinal case study on six ESL graduate students who took an EAP course at university. Corpus consultation activity typically was taught in the EAP course during one semester. In the first phase, the researcher investigated how the effect of corpus use (Collins COBUILD Corpus) improved English second language writing competence over one semester. In the second phase of the study, Yoon (2008) examined how and to what extent six focal students autonomously consulted with the corpus in their writing process over the next semester. The results of the study revealed that not only the majority of students consulted with the corpus 'as a reference tool' for solving their problems but also corpus consultation assisted the students to increase their language awareness, in terms of recognizing the common usage and collocation. These aspects of language affected their writing accuracy and naturalness of writing positively. Moreover, as participants were searching their problems in the corpus, they had more responsibility for their writing. They changed into more independent and autonomous learners. Another finding was associated with the fact that students' major was English; therefore, they had positive

attitude toward the corpus tool. This point played a major role in using corpus frequently. Participants who were doing science majors (some students showed the most positive attitudes toward corpus use) had fewer writing assignments than the non-science major participants had and they used the corpus less frequently. Yoon argued that this need-based corpus use confirmed the findings of CALL studies that “lack of meaningful engagement” (p. 44) with the technology would reduce learners’ motivation to use it. Based on the findings, the researcher concluded that corpus consultation would be a beneficial and instructional tool, even for advanced second language writers who are fully aware of content and idea development, since they still struggle with some linguistic aspects.

Unlike other studies on concordancing, which were conducted mostly in general language or academic writing courses, Hafner and Candlin (2007) examined the potential of corpus use as an affordance for students of law in terms of providing language support for their legal writing assignments. Two cohorts of law students at Hong Kong University were asked to consult a specialized online corpus of legal cases as a language reference tool when completing their legal writing assignments. The results showed that the participants’ independent corpus use was moderate. The authors attributed relatively low rate of successful consultation due to the participants’ unfamiliarity with the corpus tool. In addition, participants consulted more with resources such as Google for language support. Interestingly, analysis of the search terms used by the participants revealed that their searches were intended to get the full pattern of legal documents than knowledge about specific lexical items. Linking this to the professional practices, the authors concluded that writers might perceive and adopt different affordances from corpus tools depending on their actual needs and the disciplinary/professional practices. These two studies suggest that motivation and success in using corpus tool as writing assistance can vary. It depends on the needs of individual learners, and their familiarity with the tool.

Likewise, Park (2010) carried out a study to examine and describe the functions of corpus consultation. He examined the possible effect of a specific online corpus and Google-powered concordance to increase ESL undergraduate learners’ lexico-grammatical awareness in an academic writing course. He employed different sources of data such as query logs, screen recording and stimulated recall during one semester. Park (2010) triangulated different sources of data to describe in detail the functions of corpus consultation and learners’ search patterns. The results obtained from results proposed that the concordancing recognized as an efficient and instructional tool. It raised participants’ lexico-grammatical awareness in a specific genre and improved their performance in text formulation. Nevertheless, he found that some participants failed to consult with the corpus to its full potential. For example, they consulted with the corpus mostly to confirm the accuracy and appropriateness of language items rather than to elicit patterns of academic texts. He analyzed the interactions between the students and the corpus tool and identified the patterns and functions of corpus consultation from the students’ searches. He implied that corpus consultation activity might not be considered as a tool for data-driven learning; however, it acts as a cognitive artifact that assists collaboratively human user to generate the text based on concordance results.

Likewise, Yoon (2016) conducted a study to investigate the effectiveness of free reference resource consultation on 6 Korean ESL graduate students in a Canadian university. The suit of reference resources called i-Conc including Google, concordancers such as COCA, JTW, Online bilingual and monolingual dictionaries, and thesaurus for resolving linguistic problems during academic writing task out of classroom setting. Moreover, Yoon investigated participants’ perceptions of i-Conc for writing academic writing. The results revealed that consulting with i-Conc suit assist participants to solve their linguistic problems and the reference resources served as a useful cognitive tool and extend the participants’ cognitive powers in solving lexical and grammatical patterns. Furthermore, some participants stated that the nature of concordancing is time-consuming; however, corpus consultation increased their confidence in academic writing.

Discussion and Conclusion

Based on the review of the literature on corpus consultation and concordancing, two important criteria play key roles in effective corpus consultations in EFL and ESL writing contexts: introducing comprehensive and proper corpora and training learners in concordancing. The most important criteria in corpora are the content and size of corpora. Larger corpora are more appropriate for general corpus linguistics purposes, whereas, several research findings reported that small specialized corpora also would be efficient for students for scholarly writing in different disciplines. On the other hand, general corpora which are freely available online would be useful for pedagogical purposes if students were trained how to make a query to retrieve appropriate results. As learners use general corpora, they have easy access to plentiful examples, and there is no need to spend time for compiling a corpus. Some researchers namely Bloch, (2007) and Chang (2014) argued that if students use larger and small corpora simultaneously, they will complement each other; therefore instructors must take into account size and content of the corpus to meet students' needs. Hence, corpora should be compatible with the types of writing tasks, and the level of students' language proficiency.

Much of the available literature on concordancing revealed that training and hands-on practice in using corpus would generate more optimistic results. The findings of previous research indicated that providing gradual and guided training when considering students' learning styles, and their levels of language proficiency would result in appropriate text revision and formulation. Some studies showed that teacher-prepared corpus could be a good starting point to guide learners through concordancing gradually. Consequently, this kind of teacher prepared concordance material would decrease "reduce the cognitive burden" in early stages of corpus consultation (Gaskell & Cobb, 2004; Boulton, 2010; Flowerdew, 2010). Moreover, Kennedy and Miceli (2010) have suggested that it is better learners start consulting with corpora as a reference resource to be familiarized with corpora and concordancing; consequently, they will be able to use corpora as a research tool which requires higher order thinking skills and language proficiency. To this end, instructors should provide hands-on training in concordancing along with practicing adequate exercises to learn how to formulate appropriate query terms, and how to interpret the results concordance lines. To equip them with such training, instructors are required to be familiar with using corpus tools and integrate concordancing into teacher training program (Breyer, 2006; Chambers, 2007; Flowerdew, 2010).

The reviewed studies suggested that training should be provided since some learners who have technophobia or lack of access to a computer might not benefit adequately from concordancing software (Breyer, 2006). A solution to this problem is that to introduce user-friendly concordancers to these type of technophobia learners to meet the needs of these kinds of language learners (Flowerdew, 2010).

The studies reviewed in this study reported positive results on using corpus tools in second language writing. However, most of these studies were conducted with the small number of students; therefore, the results are not generalizable. To uncover the potential and limitations of integrating concordancing into the classroom or out of classroom settings, and to promote corpus-based instruction, some empirical studies should be conducted to fill this gap in the existing literature. In what follows, the researcher suggest some further research in the area of corpus consultation. Initially, some experimental studies might be conducted on two groups of control and experimental learners with different language proficiency to examine the effects of corpus-based instruction on learners' writing. Another study might be conducted to measure the effect of integrating large and specialized corpora on students' writing in a university setting. Another potential area of research is to consider learning styles and preferences of student during corpus consultation Boulton (2010).

Further longitudinal studies are required to introduce Google as a concordancer and phrase banks to learners in combination with specialized and general concordancers to scaffold their writing and language learning. Learner concordancing is limited to language aspects such as grammar, lexis and lexico-grammatical patterns. Further study might discover the potential of concordancing for discourse-level aspects of scholarly writing (Lee and Swales, 2006). Only a few studies (Charles, 2007) considered discourse-level aspects in corpus consultation.

This study has drawn a conclusion based on the review of the literature on learner concordancing and writing. Concordancing would yield positive results in learners' writing if the teacher provides appropriate training and assistance to learners. Moreover, a teacher should take into consideration that learners with different learning styles and language proficiency would reflect different results in corpus consultation. It is implied that corpus consultation would assist second and foreign language learners in improving the linguistic aspects of their writing and promoting learner autonomy.

Despite much optimism on the potential of concordancing, corpus consultation has not made further progress in EFL and ESL classrooms until now. However, it has been recognized as a possible instructional tool in the curriculum (Boulton, 2009; Breyer, 2006; Chambers, 2007; Yoon & Hirvela, 2004). Therefore, constant efforts are required to popularize concordancing into classroom and teacher training to contribute to learner concordancing as a pedagogical tool in writing.

References

- Bloch, J. (2007). *Technologies in the second language composition classroom*. Ann Arbor, MI: 185: University of Michigan Press.
- Boulton, A. (2010). Data-driven learning: Taking the computer out of the equation. *Language Learning*, 60(3), 534–572. <https://doi.org/10.1111/j.1467-9922.2010.00566.x>
- Boulton, A., & Boulton, A. (2009). Data-driven Learning: Reasonable Fears and Rational Reassurance. *Indian Journal of Applied Linguistics*, 35(1), 81–106.
- Breyer, Y. (2009). Learning and teaching with corpora: reflections by student teachers. *Computer Assisted Language Learning*, 22(2), 153–172. <https://doi.org/10.1080/09588220902778328>
- Chambers, A. (2007). Popularising corpus consultation by language learners and teachers. In *Corpora in the Foreign Language Classroom* (pp. 3–16). Retrieved from <http://www.ingentaconnect.com/content/rodopi/lang/2007/00000061/00000001/art00002>
- Chambers, A., & O'sullivan, Í. (2004). Corpus consultation and advanced learners' writing skills in French. *ReCALL*, 16(1), 158–172. <https://doi.org/10.1017/S0958344004001211>
- Chang, J.-Y. (2014). The use of general and specialized corpora as reference sources for academic English writing: A case study. *ReCALL*, 26(2), 243–259. <https://doi.org/10.1017/S0958344014000056>
- Charles, M. (2007). Reconciling top-down and bottom-up approaches to graduate writing: using a corpus to teach rhetorical functions. *Journal of English for Academic Purposes*, 6(4), 289–302.
- Frankenberg-Garcia, A. (2005). A peek into what today's language learners as researchers actually do. *International Journal of Lexicography*, 18(3), 335–355. <https://doi.org/10.1093/ijl/eci015>
- Flowerdew, L. (2010). Using corpora for writing instruction. In A. O'Keeffe, & M. McCarthy (Eds.), *The Routledge handbook of corpus linguistics* (pp. 444–457). London, UK: Routledge.
- Gaskell, D., & Cobb, T. (2004). Can learners use concordance feedback for writing errors. *System*, 32(3), 301–319.
- Gilmore, A. (2009). Using online corpora to develop students' writing skills. *ELT Journal*, 63(4), 363–372. <https://doi.org/10.1093/elt/ccn056>
- Hafner, C. A., & Candlin, C. N. (2007). Corpus tools as an affordance to learning in professional legal education. *Journal of English for Academic Purposes*, 6(4), 303–318. <https://doi.org/10.1016/j.jeap.2007.09.005>
- Hinkel, E. (2004). Teaching Academic Esl Writing. *Practical Techniques in Vocabulary and Grammar*, 373. <https://doi.org/10.4324/9781410609427>
- Hyland, K. (2003). *Second language writing*. Cambridge: Cambridge University Press.
- Johns, T., & Johns, T. (1991). Should you be persuaded: Two samples of data-driven learning materials. *Classroom Concordancing: English Language Research Journal*, 4(Farrington 1989), 1–16.
- Kennedy, C., & Miceli, T. (2010). Corpus-assisted creative writing: Introducing intermediate Italian learners to a corpus as a reference resource. *Language Learning & Technology*, 14, 28–44.
- Kennedy, C., & Miceli, T. (2001). An Evaluation of Intermediate Students' Approaches To Corpus Investigation. *Language Learning & Technology*, 5(September), 77–90. Retrieved from <http://llt.msu.edu/vol5num3/kennedymiceli/>

- Lee, D., & Swales, J. (2006). A corpus-based EAP course for NNS doctoral students: Moving from available specialized corpora to self-compiled corpora. *English for Specific Purposes*, 25(1), 56–75. <https://doi.org/10.1016/j.esp.2005.02.010>
- O’Sullivan, Í. (2007). Enhancing a process-oriented approach to literacy and language learning: The role of corpus consultation literacy. *ReCALL*, 19(3), 269. <https://doi.org/10.1017/S095834400700033X>
- Park, K. (2012). Learner-Corpus Interaction: A Locus of Microgenesis in Corpus-assisted L2 Writing. *Applied Linguistics*, 33(4), 361–385. <https://doi.org/10.1093/applin/ams012>
- Park, K., & Kinginger, C. (2010b). Writing / thinking in real time: Digital video and corpus query analysis. *Language Learning & Technology*, 14(3), 31–50.
- Silva, T., & Silva, T. (2009). Toward an Understanding of the Distinct Nature of L2 Writing: The ESL Research and Its Implications. *English*, 27(4), 657–677. <https://doi.org/10.2307/3587400>
- Yoon, C. (2014). Web-Based Concordancing and Other Reference Resources As a Problem Solving Tool for L2 Writers: a Mixed Methods Study of Korean Esl Graduate Students’ Reference Resource Consultation.
- Yoon, H. (2005). *An investigation of students’ experiences with corpus technology in second language academic writing*. The Ohio State University, Columbus, OH.
- Yoon, H. (2008). More than a linguistic reference: The influence of corpus technology on L2 academic writing. *Language Learning & Technology*, 12(2), 31–48.
- Yoon, H., & Hirvela, A. (2004). ESL student attitudes toward corpus use in L2 writing, 13, 257–283. <https://doi.org/10.1016/j.jslw.2004.06.002>

DOES JOB SATISFACTION MATTER: EXAMING THE WORKPLACE DEVIANCE BEHAVIOUR

Mazni Alias, Intan Soraya Rosdi & Nasreen Khan

Faculty of Management, Multimedia University, 63100 Cyberjaya, Malaysia

mazni.alias@mmu.edu.my, soraya.rosdi@mmu.edu.my, nasreenkhan88@yahoo.com

ABSTRACT

This study is based on social exchange theory and test the Mout's model of workplace deviant behaviour. The purpose of the study is to investigate the role of job satisfaction on structure relationship between individual-related factors and workplace deviant behavior. The sampling frame of this study consists of support staff from public organizations in Malaysia. Cluster random sampling is used to identify the samples and total of 429 reponses are eligiable for the study. Findings indicate that all the individual-related factors except emotional intelligence play an important role in predicting workplace deviant behaviour through mediating role of job satisfaction. The study triggers more empirical research towards understanding the phenomenon of workplace deviant behaviour.

Keywords: Workplace deviant behavior, individual-related factors, job satisfaction

Introduction

Workplace deviant behavior is a negative social phenomenon that emerged in organizations. Research has captured specific effects of workplace deviant behavior, which are, among others, lower work performance and organizational competitiveness (Pearson et al., 2000), impaired social relationships among employees (Shim, 2008), and high employee turnover (Tepper, 2000). This study defined workplace deviant behavior from the points of view of Robinson and Bennet (2000), which described it as an act that is voluntary in nature, that goes against organizational standards and the well-being of the organization as well as individuals within it. It has been reported that workplace deviant behavior is one of the most serious organizational issues today and which has gone mostly unreported, unnoticed, or both. In the West, workplace deviant behavior tends to be higher in public organizations compared to private sector. In Malaysia, the focus on workplace deviant behavior in public service organizations has intensified in recent years as the Malaysian government aspires to stem corruption among public servants (Malaysia, 2010). The country's 'National Integrity Plan' (NIP) was launched in 2004 as an approach to prevent and handle the corruption. Subsequently, Malaysia's blueprints for social and economic development, which are the Ninth Malaysia Plan (2006 – 2010) and Tenth Malaysia Plan (2011 – 2015), highlighted that all the public service personnel should handle their work functions ethically and professionally to help accelerate Malaysia's productivity, growth and human resource development (Malaysia, 2010).

Number of research showed that incidence among the support staff are the highest in number compared to other groups of employees (Mayhew & McCarthy, 2005). Yet, there seems to be the lack of empirical studies on the causes of workplace deviant behavior, especially among support staff in the Asian context. There is an urgent need in investigating the factors that contribute to workplace deviant behavior among public service personnel in Malaysia. Once the factors are duly identified, strategic solutions can be developed to eradicate the problem or at least to reduce its prevalence in organizations. Studies have reported that when employees are not satisfied with the job, it can also effect on workplace deviant behavior (Srivastava, 2012). Research shows that there are different shapes of deviant work behavior. However, recent research has suggested to explore the individual related factors as the causes of workplace deviant behaviour.

This study attempts to use Mount's model of workplace deviant behaviour and test in the context of public organizations in Malaysia. The general objective of the research is to investigate the structure relationship between individual related factors and workplace deviant behaviour through the job satisfaction. The specific research objectives are outlined as below:

To determine relationship between individual-related factors and workplace deviant behaviour.

To determine relationship between individual-related factors and job satisfaction.

To determine job satisfaction and workplace deviant behaviour.

To examine the role of job satisfaction as a potential mediator between individual-related factors and workplace deviant behaviour.

Literature review

i) Social exchange theory - One of the most influential theories in understanding employee behavior is social exchange theory (Cropanzano & Mitchell, 2005). The theory was developed by Blau (1986) and describes employees' motivation in exchanging behavior and also highlight the attitude of employees towards organizational citizenship behavior (Coyle-Shapiro & Conway, 2005).

Social exchange theory is also used to support Mount et al.'s (2006) model of workplace deviant behavior. According to Mount et al. (2006), social exchange theory predicts that individuals are more likely to be dissatisfied if they receive unfavourable treatment from the organization. This is consistent with the norms of reciprocity which recognizes that employees reciprocate with destructive behaviors with the unfavourable conditions at workplace. Thus, the underlying theory for this study is the social exchange theory.

ii) Workplace deviant behavior - It covers the a range of behavioral acts from most important to insignificant, such as stealing, sexual harassment, and even doing personal work during office hours, (Wellen, 2004), cyber loafing (Lim, 2002), abusive management (Tepper, 2000) and drug abuse (Kidwell & Martin, 2005). Consequently, Bennett and Robinson (2003) categorises workplace deviant behavior into organizational and interpersonal deviance. The former refers to arriving work late and the latter refers to degrading co-workers Thus, the severity of workplace deviant behavior differs from one case to another.

Despite the conceptual differences among the constructs, identical measurement scale has been widely used to measure workplace deviance because workplace deviant behavior studies render a common set of behaviors. In this study, workplace deviant behavior is operationalised as negative voluntary behavior of employees, who break the ethical and legal aspect of organization.

iii) Individual-related factors and workplace deviant behavior- Numbers of previous researchers highlight the number of individual-related factors such as agreeableness and conscientiousness (Berry et al. 2007), negative affectivity (Ferguson's, 2007) and emotional intelligence (Mayer & Gayer, 1996) and its important roles in individuals' intentions to engage in workplace deviant behavior (Burton & Hoobler, 2007; Scheuer, 2010). Thus, study propose that individual related factors are composed of conscientiousness, negative affectivity, agreeableness, and emotional intelligence.

(a) Conscientiousness is a personality attribute that reveal the degree to which an individual is trustworthy, hard-working and responsible (Costa & McCrae, 1985). The behavior for high-conscientiousness employees is to engage in actions that use up the marximum effort to help their

organization (Kamdar and Van Dyne, 2007). Past researchers (e.g., Tseng, 2006; Elias & George, 2012) support the view of Kamdar and Van Dyne.

(b) Negative affectivity is defined as a higher-order personality variable, which represents the degree of individual that occurrence with high level of anxiety, hostility, fear, and anger (Watson & Clark, 1988). Chen et al. (2013) and Ferguson's (2007) conclude that negative affectivity has a unique relationship with both organizational and interpersonal deviance.

(c) Agreeableness is also known as a prominent individual-related factor that strongly predict the workplace deviant behavior (Bukhari & Ali, 2009). A study done by Bodankin and Tziner (2009) revealed that there is negative correlation between agreeableness and interpersonal deviance.

(d) Emotional intelligence refers to the capability to examine one's own and others' feelings and emotion and use emotion-based information to guide thinking and action. Emotional intelligence predicts individual's workplace behavior (Mayer & Gayer, 1996). Petrides et al. (2004) argue that people with high emotional intelligence could control their behavior from becoming deviant compared to those who have low emotional intelligence. Their finding is consistent with the conclusions made by Bibi et al. (2013).

Therefore, the identification of individual-related factors which include negative affectivity, agreeableness, conscientiousness, and emotional intelligence could provide an understanding in predicting support staffs' workplace deviant behavior. Based on the above discussion, this study proposes that:

Hypothesis 1: Individual-related factors (negative affectivity, agreeableness, conscientiousness, and emotional intelligence) have significant influence on workplace deviant behavior.

iv) Individual-related factors and Job Satisfaction - Considerable evidence indicates that individual-related factors are associated with job satisfaction (Afsar et al., 2011; Foulkrod et al., 2010; Lent and Brown, 2006). Naz et al. (2013) highlighted that individual-related factors have great contribution in changing the level of employee's job satisfaction. Studies conducted by Connolly and Viswesvaran (2000) indicate that there is a negative relationship between affective disposition and general job satisfaction. Studies done by Bruk-Lee et al. (2009) and Mehrad et al., (2015) also discovered that negative affectivity is correlated with job satisfaction. Whereas, Judge et. al. (2002) hypothesises that conscientiousness would positively relate to job satisfaction because this trait represents an individual tendency towards work involvement and goal achievement. The same findings was discovered by Tseng's (2006) and Kappagoda, (2012), in which the finding conclude that there is a strong relationship between individual-related factors with job satisfaction.

On the other hand, some studies have proved that individuals who are high likely to be agreeableness have a tendency to view situations in a more positive way and in return contributes to higher job satisfaction (Bruk-Lee et al. 2009). Similar results were found by Mehrad et al. (2015) and Kappagoda (2012). Whereas, some other studies highlighted emotional intelligence is an important variable for job satisfaction (Villard, 2004). In the same way, researchers such as Ealias & George (2012) revealed consistent result between emotional intelligence and job satisfaction. Therefore, the identification of individual-related factors which include agreeableness, negative affectivity, conscientiousness, and emotional intelligence would reveal useful data in understanding job satisfaction. Based on the above discussion, this study hypothesizes that:

Hypothesis 2: Individual-related factors (negative affectivity, conscientiousness, agreeableness, and emotional intelligence) have significant influence on job satisfaction.

v) *Job Satisfaction and Workplace Deviant Behavior* - Job satisfaction is defined as employee's attitude towards his/her work. It derives from one's decision by comparing desired expectations and actual outcomes about his or her job (Foulkrod et al., 2010). Scott-Cawiezell et al. (2005) argue that job satisfaction contributes to positive behaviors among employees. In contrast, low job satisfaction has negative consequences such as employee turnover, increasing overheads and declining returns (Zeffane et al., 2008), less organizational commitment, higher stress, lateness, and absenteeism from work (Ladebo, 2004). Researchers such as Herschovis et al. (2007) and Anjum & Parvez (2013) agree that low level of job satisfaction has a diminishing effect on workplace deviant behavior. Based on the above arguments, we postulate that:

Hypothesis 3: Job satisfaction have significant influence on workplace deviant behaviour.

(vi) *Job satisfaction as mediator*- So far, it has been established that specific individual-related factors and job satisfaction have direct impact on workplace deviant behavior. There is also evidence that the individual-related factors directly influence the job satisfaction. However, Mount et al. (2006) have argued that the relationship between these individual-related factors and workplace deviant behavior could be mediated by job satisfaction. Besides the study done by Mount et al. (2006), there seems to be a lack of empirical studies that look into the job satisfaction as a mediator between individual related behaviour and workplace deviant behaviour. Although there is some past research investigated on job satisfaction as a mediator role, those studies were focused on other dependent variables such as compensation structure, stress and affective commitment (Omer et al., 2012), and job security and intention to stay (Liang et al., 2011).

Previous researchers have strongly advised that there is a critical need for further investigation on the role of job satisfaction as a potential mediator between individual related behaviour and workplace deviant behavior. Hence, this study proposed that the following hypotheses be tested:

Hypothesis 4: Job satisfaction mediates the relationships between individual-related factors (negative affectivity, agreeableness, conscientiousness, and emotional intelligence) and workplace deviant behavior.

Conceptual Framework

Mount et al. (2006) argue that personality affects a person's deviant behavior in the workplace because human beings make conscious decisions on their actions, including those involving destructive behaviors. They further highlight that employees' satisfaction with their jobs also plays a significant role in explaining workplace deviant behavior. More specifically, individual personality has been shown to influence one's job satisfaction levels, and consequently impact on workplace deviant behavior.

The conceptual framework of this study is based on Mount et al.'s (2006) model of workplace deviant behavior. Mount et al. speculate that certain individual characteristics have indirect relationship with workplace deviance behaviour through the mediating effects of job satisfaction. Figure 1 presents the model of workplace deviant behaviour developed by Mount et al. (2006). Individual related factors such agreeableness, negative affectivity, conscientiousness, and emotional stability were employed as an exogenous variables, workplace deviant behaviour as a dependent variable and job satisfaction as a mediating variable.

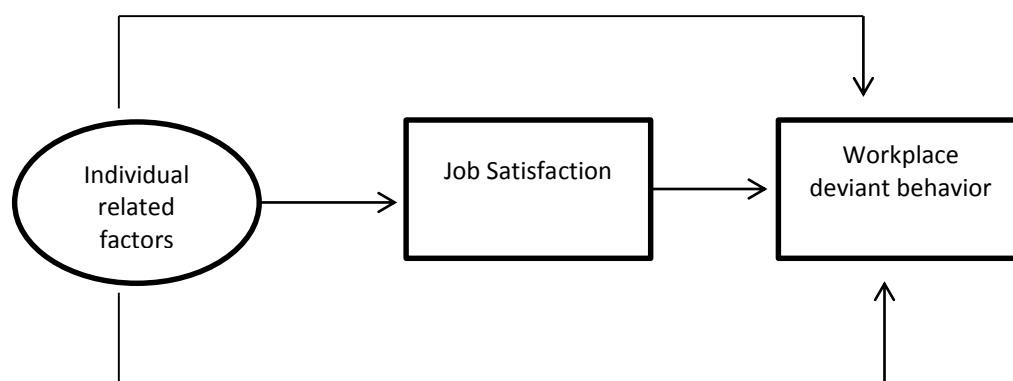


Figure 1: Conceptual framework of workplace deviant behaviour adopted from Mount et al.'s (2006)

Research Method

Among the public service organizations in Malaysia, the issue of workplace deviant behavior among support staff has turned critical. Incidence involving workplace deviant behavior of support staff in various Malaysian government agencies are reported regularly in the mass media (Abdul Rahman, 2008; Awanis, 2006). According to statistics for the year of 2009 and 2010, highest number of disciplinary actions imposed among the support staff are recorded due to workplace deviant behavior (Public Service Department, Malaysia, 2011). Therefore, the interest of the study is to investigate the causes of deviant behavior among support staff and also to determine whether job satisfaction plays a mediating role in reducing the deviant behavior.

A cross-sectional survey is used to determine the phenomenon of workplace deviant behavior. The major advantage of using the cross-sectional design is due to its feasibility. Furthermore, Murray (2006) postulated that cross-sectional survey research is the most commonly used among researchers for non-experimental research designs. Since the samples of the study are located in various parts of Malaysia, multi stage cluster random sampling is used to collect the samples. Multi stage cluster random sampling is suitable when the study involves human population in large geographical areas as it is more feasible and economical (Sekaran, 2009). The sampling frame of this study consists of support staff from public service organizations.

Workplace deviant behavior is measured by 5 items which are chosen from Hollinger and Clark (1983) as it is suitable to be used in the Malaysian organization context. Individual related behavior composed of 4 dimensions which are negative affectivity, measured by 7 items and developed by Watson et al. (1988); conscientiousness, measured by 12 items and adapted from Dawson, (1996); agreeableness, measured by 12 items and adapted from Costa and McCrae, (1985) and lastly emotional intelligence, measured by 16 items and developed by Wong and Law (2002). Lastly, job satisfaction as mediating variable is measured by 9 items and developed by Brayfield and Rothe (1951).

500 questionnaires were distributed and 429 were successful response, resulting in response rate of 85.8%. This study covered 35.4% male and 64.6% female employees. The respondents' age ranged from 21 years old to 60 years old. The majority of the respondents' age ranged from 31-40 years old. Most of them were married (75.5%), followed by 23.5% were single and 0.9% were divorced. A total number of 43.4% of the respondents had work tenure of less than five years, followed by 18.2% having work tenure for more than 20 years, 14.2% having work tenure of six to ten years, and 14.0% described

as having work tenure of 11-15 years. In terms of state level, the majority of the respondents were from Petaling Jaya (27.5%) and Johor (27.5%), followed by Kedah (27.0%) and Terengganu (17.9%).

Findings

The aforementioned fit indexes are also used to measure the fit of the proposed structural model. The results showed that all values satisfied the recommended level of acceptable fit: $\chi^2=899.457$ ($p<0.05$), $\chi^2/df=1.384$, GFI=.902, CFI=.984, IFI=.985, TLI=.983, and RMSEA=0.050. In summary, the result demonstrated a good overall fit for the proposed structural model. Overall, the model explained 52% of the variance in Job satisfaction and 67% of the variance in workplace deviant behavior. Thus, the proposed theoretical model fits with the sample data and supports our analysis.

Finding showed that except the emotional intelligence, all the individual factors such as conscientiousness ($\beta= -.29$); negative affectivity ($\beta=.25$); and agreeableness ($\beta= -.35$) impact on workplace deviant behavior. The results further indicated that except emotional intelligence, all the individual factors such as conscientiousness ($\beta=.29$, $p<.01$); negative affectivity ($\beta=-.14$, $p<.05$); and agreeableness ($\beta=.39$, $p<.01$) influence on job satisfaction. The study also found negative relationship between job satisfaction and workplace deviant behavior ($\beta=-.25$, $p<.01$).

After accounting for mediator variables (job satisfaction), the relation of exogenous variables (conscientiousness, negative affectivity, and agreeableness) to workplace deviant behavior was diminished but still significant. Among all the exogenous variables, the total effect of agreeableness on workplace deviant behavior through job satisfaction is the strongest ($\beta=-.25$), followed by conscientiousness ($\beta=-.22$) and, negative affectivity ($\beta=.22$). Furthermore, the R^2 value of workplace deviant behavior is .67 and it indicates that conscientiousness, negative affectivity, agreeableness, emotional intelligent and job satisfaction explained 67 percent of the variance in workplace deviant behavior.

Discussion

The purpose of the study is to test the model of workplace deviant behavior and also to investigate the prediction of individual-related factors on workplace deviant behaviour through job satisfaction. The result showed that negative affectivity influenced workplace deviant behavior. The finding is consistent research finding of Appelbaum and Shapiro (2006) and conclude that employees with negative affectivity trait tend to have negative attitudes and feelings against their customers, organization, job, and even themselves across all situations. In the similar situation, Goh (2007) further agrees that individuals with high-negative affectivity are more prone to feel negative emotion when they socialise with others and observe the conditions as irritating. Hence, support staff that was high in negative affectivity would frequently experience greater amounts of psychological distress and were more likely inclined towards workplace deviant behavior.

The findings further identified that agreeableness influenced the support staffs' workplace deviant behavior. The result of the study is aligned with those of prior researchers' studies (Monnaste, 2010; Babamiri et al., 2013). This consistency could be explained due to when disagreeable person interact with others can leads to conflict and thus predict the workplace deviant behaviour. Moreover, finding revealed that conscientiousness predicts workplace deviant behavior. The finding of the study supports one of the previous researchers such as Lee et al.'s (2005) empirical findings in Korean organizations. Smiliarly, Tseng (2006), Elias (2013) and Javed et al. (2014) agree with the outcomes.

Therefore, employees who are low in conscientiousness tend to act deviant compare to employees who are high in conscientiousness.

Emotional intelligence people are known to have the ability to monitor and control their feelings as well as their behaviors (Mayer & Geher, 1996). Hence, it is appeared that people with low emotional intelligence engage more workplace deviant behavior (Yin, 2010). Conversely, this study did not support emotional intelligence predict the workplace deviant behavior. The result of this study was inconsistent with other researchers' results (i.e., Bibi et al., 2013; Potcovaru, 2014). The context of this current study had possibly led to be inconsistent with previous finding. It should be noted that this study involved support staff from public organizations and due to their position as a front line service providers, they were exposed to public feedbacks and actions of different intensity. As such, they were trained to develop their social skills in managing their emotions and actions when dealing with the public.

The findings further indicated that job satisfaction predicted support staffs' workplace deviant behavior. Similarly, Spector and Fox (2005) found that if dissatisfied employees remained in the organization, they were more inclined to engage in various destructive behavior. Past empirical studies had also indicated that job satisfaction places a prominent role in workplace deviant behavior (Marcus & Wagner, 2007; Anjum & Parvez, 2013). The findings revealed negative affectivity influenced support staffs' job satisfaction. The result of this study was also aligned with (Bruck-Lee et al., 2009) and (Mehrad et al., 2015) studies. Connolly and Viswesvaran (2000) stress that negative affectivity was pertinent in the prediction of an employee's job satisfaction. As a support staff in the public service organization, they occasionally interact with the public and thus a state of calmness and serenity are some of the characteristics of low negative affectivity that influence support staffs' job satisfaction.

Subsequently, the result of this study also showed that agreeableness influence support staffs' job satisfaction. Mehrad et al. (2015) study context involves Indonesian and Malaysian respondents found high job satisfaction among those with high agreeableness personality. Consistent result was also obtained from Kappagoda's (2012) quantitative study involving 150 employees in various established universities. There was no doubt that individuals with high agreeableness were known to have more positive thoughts and views which contributed to higher job satisfaction (Bruck-Lee et al., 2009).

Consequently, study discovered that conscientiousness impact workplace deviant behavior. Finding of the study support previous researchers' conclusions such as Tseng (2006) who examine among technological industry employees in Taiwan and Kappagoda (2012) who observe 150 non-academic employees in various Sri-Lankan universities. The results of this study further revealed that emotional intelligence neither influence workplace deviant behaviour nor job satisfaction although past researchers have found other way around (e.g., Patra, 2004; Sy et al., 2006). The insignificant result in relationship between emotional intelligence and job satisfaction would possibly due to the nature of some jobs which does not require a high degree of emotional intelligence to make them satisfy with the job (Mousavi et al., 2012).

Study further discovered that except the emotional intelligence, negative affectivity, conscientiousness and agreeableness indirectly impact on work deviant behavior through partially mediation of job satisfaction. This implies that the inclusion of job satisfaction had contributed to the significance of workplace deviant behavior. Results further showed that job satisfaction not only had a direct relationship with workplace deviant behavior among support staff in the public service

organization, but also it mediated the relationship between relevant personality traits and workplace deviant behavior. In other words, employees with high negative affectivity, low conscientiousness, and low agreeableness were more deviant if they were not satisfied with their job.

The results also supported the earlier findings of Mount et al. (2006) in which he criticised that job satisfaction should not be expected as full mediating factor between the personality trait and workplace deviant behavior. Additionally, the negative perceptions of job satisfaction leads support staff to exhibit workplace deviant behavior, however, this relationship may be suppressed or facilitated depending on the support staffs' personality traits. Hence, job satisfaction and an individual dispositions play an important role in the engagement of various forms of workplace deviant behavior among support staff in the public service organization.

Limitations

The result of the study highlighted the critical role of job satisfaction as the mediator between individual-related factors in explaining support staffs' workplace deviant behaviour in the Malaysian public service context. In the modern organization, job satisfaction is an invaluable concept which organization must invest in due to its role as an underlying motivation component that affects an employee's attitude and organization's performance.

Issues concerning employee's destructive behaviour such as workplace deviant behaviour are sensitive and to the extent that sometimes it affects the employee's self-image. Therefore, it is considered as confidential and not all respondents are willing to share or reveal their experiences of workplace deviant behaviour. This has been pointed out by researchers (e.g., Berry et al., 2007; Schmidt et al., 2000) that self-reported workplace deviant behavioral studies are concerned about the honesty of responses due to the negative nature of workplace deviant behaviors. Nevertheless, evidence indicates that surveys using self-reported data are generally accurate (Spector, 1992), including those for undesirable behaviours (Ones, Viswesvaran & Schmidt, 1993). Thus, to reduce the effect of dishonesty and sensitivity, this study uses self-administered questionnaires for data collection.

Another limitation is that there is a great tendency for participants to give socially desirable responses (Smithikrai, 2008). Participants may not be willing to truthfully admit that they have engaged in workplace deviant behaviour at work. Hence, researchers suggested that in order to reduce social desirability, participants' anonymity should be used to make sure greater assurance in the results (Bennett & Robinson, 2003).

Future research

This study triggers more empirical research to be done on understanding the phenomenon of workplace deviant behaviour. It is interesting to note that current study is limited to samples of support staff with minimum level of education. Hence, it is proposed that future studies could examine samples at managerial levels with high level of education. It is also recommended that future studies should test whether the present findings can be generalised to employees at all levels in organization. This study employed individual-related factors as one of the independent variables. It is worth noting to involve more research on the role of individual differences as moderators between environment and workplace deviant behaviour.

The research framework of the current study adds new understanding of the pre-influence factors and the mediating role of job satisfaction on support staff workplace deviant behaviour in

Malaysian public service context. It is hoped that the above mentioned recommendations will guide other researchers to have a better understanding on the implication of individual-related factors and job satisfaction on workplace deviant behaviour.

References

- Abdul Rahman, A. R. (2008). *Predictors of workplace deviance behaviour in Malaysia*. Unpublished PhD Dissertation, University Sains Malaysia.
- Anjum, M. A., & Parvez, A. (2013). Counterproductive Behavior at Work: A Comparison of Blue Collar and White Collar Workers. *Pakistan Journal of Commerce and Social Sciences*, 7(3), 417-434.
- Appelbaum, S. H., & Shapiro, B. T. (2006). Diagnosis and remedies for deviant workplace behaviours. *Journal of American Academy of Business*, 9(2), 14-21.
- Awanis, K. I. (2006). *The relationship between deviance behavior among mara employees in northern Malaysia and its predictors*. Unpublished Master Dissertation, Universiti Sains Malaysia.
- Babamiri, M., Sabbagh, U., & Harsini, A. Z. (2013). Investigate the relationship between organizational justice and personality characteristics with counterproductive work behavior. *Journal of Life Science and Biomedicine*, 3(4), 268-272.
- Bennett, R. J., & Robinson, S. L. (2003). The past, present, and future of workplace deviance research. In J. Greenberg (Ed.), *Organizational behavior: The state of the science*. Lawrence Erlbaum Associates.
- Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organisational deviance, and their common correlates: a review and meta-analysis. [Meta-Analysis Review]. *Journal Applied Psychology*, 92(2), 410-424. DOI: 10.1037/0021-9010.92.2.410
- Bibi, Z., Karim, J., & ud Din, S. (2013). Workplace incivility and counterproductive work behavior: Moderating role of emotional intelligence. *Pakistan Journal of Psychological Research*, 28(2), 317.
- Blau, P. (1986). *Exchange and Power*. New York: John Wiley and Sons.
- Bodankin, M., & Tziner, A. (2009). Constructive Deviance, Destructive Deviance and Personality: How Do They Interrelate? *Economic Inferences*, XI(26), 550-564.
- Brayfield, A. H., & Rothe, H. F. (1951). An index of job satisfaction. *Journal of Applied Psychology*, 35(5), 307-311. DOI: 10.1037/h0055617
- Bruk-Lee, V., Khoury, H. A., Nixon, A. E., Goh, A., & Spector, P. E. (2009). Replicating and Extending Past Personality/Job Satisfaction Meta-Analyses. *Human Performance*, 22(2), 156-189. DOI: 10.1080/08959280902743709
- Bukhari, U. Z., & Ali, U. (2009). Relationship between organisational citizenship behavior and counterproductive work behavior in the Geographical context of Pakistan. *International Journal of Business and Management*, 4(1), 85-92.
- Burton, J. P., & Hoobler, J. M. (2007). *Abusive supervision and subordinate aggression: The role of self-esteem and narcissism*. Paper presented at the The meeting of the Academy of Management, Philadelphia, Pennsylvania.
- Chen, C. C., Chen, M. Y. C., & Liu, Y. C. (2013). Negative affectivity and workplace deviance: The moderating role of ethical climate. *The International Journal of Human Resource Management*, 24(15), 2894-2910. DOI: 10.1080/09585192.2012.753550
- Connolly, J. J., & Viswesvaran, C. (2000). The role of affectivity in job satisfaction: A meta-analysis. *Personality and Individual Differences*, 29(2), 265-281. DOI: 10.1016/S0191-8869(99)00192-0
- Costa, P. T., & McCrae, R. R. (1985). *The NEO Personality Inventory Manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Coyle-Shapiro, J. A. M., & Conway, N. (2005). Exchange relationships: examining psychological contracts and perceived organisational support. *Journal of Applied Psychology*, 90(4), 774-781. DOI: 10.1037/0021-9010.90.4.774

- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 1-27. DOI: 10.1177/0149206305279602
- Dawson, L. C. (1996). *Dispositional and Attitudinal Explanations of counterproductivity in the workplace*. Unpublished PhD Dissertation, University of Berkeley, California
- Ealias, A., & George, J. (2012). Emotional intelligence and job satisfaction: a correlational study. *Research journal of commerce and behavioral science*, 1(4).
- Ferguson, J. (2007). *Knowledge Creation Diffusion Utilization*. Unpublished PhD Dissertation, Graduate school of Vanderbilt, Chattanooga
- Foulkrod, K. H., Field, C., & Brown, C. V. R. (2010). Trauma Surgeon Personality and Job Satisfaction: Results from a National Survey. *American Surgeon*, 76(4), 422-427.
- Goh, A. (2007). *An attributional analysis of counterproductive work behavior in response to occupational stress*. PhD Dissertation. University of South Florida, Australia
- Herschovis, S. M., Turner, N., Barling, J., Arnold, K. A., Dupre, K. E., Inness, M., LeBlanc, M., & Sivanathan, N. (2007). Predicting workplace aggression: A meta-analysis. *Journal of Applied Psychology*, 92(1), 228-238. DOI: 10.1037/0021-9010.92.1.228
- Hollinger, R. C., & Clark, J. P. (1983). *Theft by employees*. Lexington, MA: Lexington Books.
- Javed, R., Amjad, M., Faqeer-Ul-Ummi, U. Y., & Bukhari, R. (2014). Investigating factors affecting employee workplace deviant behavior. *International Journal of Innovation and Applied Studies*, 9(3), 1073.
- Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, 87(3), 530-541.
- Kamdar, D., & Dyne., V. (2007). The joint effects of personality and workplace social exchange relationships in predicting task performance and citizenship performance. *Journal of Applied Psychology*, 92(5), 1286-1298. DOI: 10.1037/0021-9010.92.5.1286
- Kappagoda, S. (2012). The Impact of Five-Factor Model of Personality on Job Satisfaction of Non-academic employees in Sri Lankan Universities. *South East Asian Journal of Contemporary Business, Economics and Law*, 1.
- Kidwell, E. R., & Martin, L. C. (2005). *Managing organisational deviance*. Sage Publication: Thousand Oaks.
- Ladebo, O. (2004). Employees' personal motives for engaging in citizenship behavior: The case of workers in Nigeria's agriculture industry. *Current Research in Social Psychology*, 9(16), 220-233.
- Lee, K., Ashton, M. C., & Shin, K. (2005). Personality correlates of workplace anti-social. *Applied Psychology*, 54(1), 81-98.
- Lent, R. W., & Brown, D. S. (2006). Integrating person and situation perspectives on work satisfaction: A social cognitive view. *Journal of Vocational Behavior*, 69(2), 236-247. DOI: 10.1016/j.jvb.2006.02.006
- Lim, V. K. G. (2002). The IT way of loafing on the job: Cyberloafing, neutralizing, and organisational justice. *Journal of Organisational Behavior*, 23(5), 675-694. DOI: 10.1002/job.161
- Marcus, B., & Wagner, U. (2007). Combining dispositions and evaluations of vocation and job to account for counterproductive work behavior in adolescent job apprentices. *Journal of Occupational Health Psychology*, 12(2), 161-176. DOI: 10.1037/1076-8998.12.2.161
- Mayer, J. D., & Geher, G. (1996). Emotional intelligence and the identification of emotion. *Intelligence*, 22(2), 89-113. DOI: 10.1016/S0160-2896(96)90011-2
- Mayhew, C., & McCarthy, P. (2005). Occupational violence/bullying in public service organizations. *Journal of Occupational Health and Safety, Australia and New Zealand*, 21(1), 33-42.
- Mehrad, A., Halimatussadiyah, H., Ma'rof, R., & Haslinda, A. (2015). The role of personality factors on Job Satisfaction among Academic Staff at Public Research University, *Journal of Educational, Health and Community Psychology*, 4 (1), 16 – 24.
- Monnastes, S. N. (2010). *Perceived Organisational support and counterproductive work behavior: How personality moderates the relationship*. Unpublished Master Dissertation, San José State University, California.
- Mount, M., Ilies, R., & Johnson, E. (2006). Relationship of personality traits and counterproductive

- work behaviors: The mediating effects of job satisfaction. *Personnel Psychology*, 59(3), 591-622. DOI: 10.1111/j.1744-6570.2006.00048.x
- Mousavi, S. H., Yarmohammadi, S., Nosrat, A. B., & Tarasi, Z. (2012). The relationship between emotional intelligence and job satisfaction of physical education teachers. *Annals of Biological Research*, 3(2), 780-788.
- Murray, T. E. (2006). *Peer reporting of workplace deviance: The role of organisational justice and social contingency factors*. Unpublished PhD Dissertation, Touro University International California, USA.
- Naz, S., Rehman, S., and Sagib, H. (2013). The relationship between job satisfaction and personality trait among bank employees. *Far East Journal of Psychology and Business*, 11(3), 57–72.
- Anuar, M., Majid, A., & Johari, H. (2012). Organizational Commitment and Intention to Leave among Nurses in Malaysian Public Hospitals. *International Journal Of Business & Social Science*, 3(16), 194-199
- Ones, D. S., Viswesvaran, C., & Schmidt, F. L. (1993). Comprehensive meta-analysis of integrity test validities: Findings and implications for personnel selection and theories of job performance. *Journal of Applied Psychology*, 78(4), 679–703. DOI: 10.1037/0021-9010.78.4.679
- Patra, S. (2004). Role of emotional intelligence in educational management. *Journal Indian Education*, 30(1), 98-104.
- Pearson, C., Andersson, L., & Porath, C. (2000). Assessing and attacking. *Organizational Dynamics*, 29(2), 123-137. DOI: 10.1016/S0090-2616(00)00019-X
- Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, 36(2), 277-293. DOI: 10.1016/S0191-8869(03)00084-9
- Potcovaru, A. M. (2014). The Influence of the Counterproductive Work Behavior on the Organizational Performance. In *Proceedings of Administration and Public Management International Conference* (Vol. 10, No. 1, pp. 84-89). Research Centre in Public Administration and Public Services, Bucharest, Romania.
- Public Service Department, M. (2011). Statistics on disciplinary action in the Malaysian Public Service organization.
- Scheuer, L. M. (2010). *A climate for workplace aggression: The influence of abusive supervision, organisational factors, and subordinate predispositions*. Unpublished Master Dissertation, Northern Illinois University, United States.
- Schmidt, F. L., Viswesvaran, C., & Ones, D. S. (2000). Reliability is not validity and validity is not reliability. *Personnel Psychology*. 53(4), 901–912. DOI: 10.1111/j.1744-6570.2000.tb02422.x
- Scott-Cawiezell, J., Main, D. S., Vojir, C. P., Jones, K., Moore, L., Nutting, P. A., Kutner, J.S., Pennington, K. (2005). Linking nursing home working conditions to organisational performance. *Health Care Management Review*, 30(4), 372-380.
- Sekaran, U. (2009). *Research Methods For Business, A skill building approach* (4th ed.). U.S.A.: John Wiley and Sons, Inc.
- Shim, J. (2008). Concept exploration of workplace incivility: Its Implication to HRD. Retrieved from http://www.midwestacademy.org/Proceedings/2008/papers/Shim&Park_49.pdf
- Smithikrai, C. (2008). Moderating effect of situational strength on the relationship between personality traits and counterproductive work behavior. *Asian Journal of Social Psychology*, 11(4), 253-263. DOI: 10.1111/j.1467-839X.2008.00265.x
- Spector, P. E. (1992). *A consideration of the validity and meaning of self-report measures of job conditions*. West Sussex, England: John Wiley.
- Spector, P. E., & Fox, S. (2005). *A stressor-emotion model of counterproductive work behavior*. Washington, DC: American Psychological Association. DOI: 10.1037/10893-007
- Srivastava, S. (2012). Workplace passion as a moderator for workplace deviant behaviour– job satisfaction relationship: A comparative study between public sector and private sector managers. *Asia-Pacific Journal of Management Research and Innovation*, 8(4), 517-523. <http://dx.doi.org/10.1177/2319510X13481914>

- Syed, T., Tram, S., & O'Hara, L. A. (2006). Relation of employee and manager emotional intelligence to job satisfaction and performance. *Journal of Vocational Behavior*, 68(3), 461-473. DOI: 10.1016/j.jvb.2005.10.003
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 42(1), 100-108. DOI: 10.2307/1556375
- Tseng, H. Y. (2006). *Communication factors which promote employee's job satisfaction in Taiwan high-tech industry: A personality traits study*. Unpublished Master Dissertation, The University of Akron, United States.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 47, 1063-1070. DOI: 10.1037/0022-3514.54.6.1063
- Wellen, M. J. (2004). *From individual deviance to collective corruption: A social influence model for the spread of deviance in organisations*. Paper presented at the Social change in the 21st century conference centre for social change research, Queensland University of Technology, Australia.
- Wong, C., & Law, K. S. (2002). The effect of leader and follower emotional intelligence on performance and attitude: An exploratory study. *Leadership Quarterly*, 13(3), 243-274. DOI: 10.1016/S1048-9843(02)00099-1
- Yin, L. C. (2010). *Emotional Intelligence as a Moderator in the relationship between Negative Emotions and Counterproductive Work Behaviors*. An Honors Degree Project submitted to the School of Business in Partial Fulfillment of the Graduation Requirement for the Degree of Bachelor of Business Administration (Honors). Hong Kong Baptist University.
- Zeffane, R., Ibrahim, M., & El Mehairi, R. (2008). Exploring the differential impact of job satisfaction on employee attendance and conduct the case of a utility company in the United Arab Emirates. *Employee Relations*, 30(3), 237-250. DOI: 10.1108/01425450810866514

CREATION OF RELATIONAL VALUE DIMENSIONS TO BUILD RELATIONSHIP QUALITY

Nasreen Khan, Shereen Khan, Mazni Alias & Tan Booi Chen

Faculty of Management, Multimedia University, 63100 Cyberjaya, Malaysia

nasreen.khan@mmu.edu.my, shereen.khan@mmu.edu.my, mazni.alias@mmu.edu.my,
bctan@mmu.edu.my

ABSTRACT

Services are multifaceted in nature. When customer values of service are concerned, relationship is a requirement in accomplishing the desirable services. Only through the dependable relationship; service can be delivered with value. Buyer-seller relationships are certainly dynamic experience and it is essential for firms to observe all interactions that create value in any given relationship. The purpose of the study is to develop the relational value framework to build the relationship quality. A sample of 472 bank customers was obtained through survey questionnaire. The finding revealed that bank customer access the relational value in terms of confidence and communication. Further explained relational communication significantly improves relationship quality. The study provides a significant contribution to relationship marketing theory and improves academic understanding on the nature of relational value. It specifically increases bank managers understanding of value from customer perspectives and customer attitudes to improve the relationship quality.

Keywords: Relational value, relationship quality, customer satisfaction, relationship commitment

Introduction

Creating and delivering customer value is the foundation of marketing, gives the competitive advantage (Lindgreen and Wynstra, 2005), and improves relationship management (Payne, Holt and Frow, 2001). In reviewing the literature on value, customer value is required to consider not only from the perspectives of product/service but also from the relationship perspectives (Lindgreen and Wynstra, 2005). However, most research focuses on customer value in terms of transactional aspect and neglects the relational aspects of value (Parasuraman and Grewal, 2000). The role of customer value has been acknowledged over time by the financial institution. Melnick et al. (2000) criticized that customers nowadays do not consider functional excellence as a form of creating value because it could easily be imitated by competitors. In the past, interaction between service providers and customer is an important determinant of service quality perception (Zeithaml et al., 1988) and thus banks focus on high level of service to retain the relationships (Tyler and Stanley, 1999). However, it does not give competitive advantage in the banking sector nowadays and the fact is that customers today expect more than just basic service delivery. Hence, bankers and customer have to interact on reasonably regular basis to create value (Thusyanthy and Senthilnathan, 2012).

Over the years, many commercial banks have failed to build the relationship with the customer. As a result, customers are switching from one bank to another, number of repeat purchase dropped and attributed to the failure to embrace relationship marketing (Rootman et al, 2011). Relationship is therefore very important especially in service industry in which the heterogeneous nature of service allows providers to tailor the services that suit to clients' exact needs (Caroline and Elizabeth, 2014). Hence, understanding how relationships create value is increasingly emphasized in financial industry. Although, bank nowadays try to create a specific value in order to improve the customer relationship (Khare and Khare, 2008), banks are still required to rebuild a "relationship based banking" that is organized around customer relationships rather than products and channels.

In the past decade, there has been a noteworthy intensification in appreciating relationship marketing (Sheth and Parvatiyar, 2002) as it improves customer retention, company profitability

([Reichheld et al., 1990](#)) and competitive advantage to a service firm. Under a relationship marketing paradigm; relationship quality is the key driver of consumer loyalty to the service provider. Although there has been less agreement on what dimensions made up the relationship quality, Hennig-Thurau, et al. (2002) recommended that satisfaction and commitment are the dimensions of relationship quality. Very limited research has proven that the greater the level of customer satisfaction, the greater likelihood that customer will commit into relationship. However, there is significant research has discovered that relationship commitment is an important construct to predict the behavioral of loyal customers (Fullerton, 2005).

Financial service firms' success depends on its ability to respond to satisfy customer needs and meeting the customer expectation through maintaining relationship (Shaon and Rahman, 2015). Most researchers agree that customer value is a multidimensional and dynamic construct. A great impact of research is necessary to understand which element of relational value improves the relationship quality. The objectives of the study are to identify the dimensions of relational value and to assess the relationship between relational value dimensions and relationship quality dimensions. Researchers and practitioners would find this study useful as it considers dimensions of relational value in building the relationship quality which constitutes of satisfaction and commitment.

Literature Review

Value is the vital element of relationship marketing (Huber et al., 2007) and creation of higher value for customer is the next source of competitive advantage (Portolan, 2015). Banks are becoming aware of the importance of coordinating the internal activities to create the value for customers. However, value is a subjective construct that varies between cultures (Assael, 1995), between customers (Parasuraman, 1997), at different times (Ravald and Grönroos, 1996). Therefore, when business organizations become the value providers, they must design and position the value differently, as this skill will help them to survive in the competitive environment (Lapierre, 2000).

Since the customers have multiple simultaneous relationships with various service providers, obtaining loyal customers is the challenging task for the banks (Bjork, 2015). Previous research has shown that customers who has frequent transactions to one particular bank are less likely to switch and more likely to be loyal and (Baumann et al., 2005). To be able to capture the complete loyal customer, a strategic change around the value perceived by the customer is necessary within the firm (Zeithaml et al., 2001). Numbers of studies have recognized that value is an important antecedent of customer loyalty (Yang and Peterson, 2004).

Underpinning Theories

(i) Customer value hierarchy model acknowledges the value as the customers' access the products based on desired attribute, consequence, and goal structure (Woodruff and Gardial, 1996). However, customer values are different depending upon, time, place, and use (Miles, 1961) and it is the underlying motive for consumer behavior (Holbrook, 1994). In addition, Ravald and Gronroos (1996) suggested value should be created based on the relationship in order to understand what customers actually want. Indeed, many of researchers agree that relationship between buyer and supplier is crucial to understand the concept of value.

(ii) Expectancy value theory states that a person's behavior is an effect of individual wants (values) and considerations of oneself (beliefs) (Scheibe, 1970). As the values and beliefs differ from person to person, the relative importance which value people attach also varies and it determine the specific actions.

(iii) Social exchange theory regards many aspects of our lives can be viewed as a series of interactions in which people struggle to minimize costs and maximize rewards and as a result desirable outcomes will generate ([Thibaut and Kelley, 1959](#)). When these outcomes are perceived to be greater, customers

form the positive attitude that is equally satisfying and constantly commit in the relationship (Homans, 1961).

(iv) Relationship marketing theory identifies the key drivers that influence the important outcomes of the firm. It also describes the fundamental relations between the drivers and outcomes. Different approaches of marketing had been used to identify these drivers' and their impact on relational outcomes. Most of the old approaches emphasize on a sole antecedent driver (e.g., customer satisfaction) and examine its connection with relational outcomes. However, reviews of the current literature draw attention to the importance of success of relationships and add a new driver to the relationship quality which is based on the assumption that customer loyalty is largely determined by a limited number of constructs reflecting "the degree of appropriateness of a relationship" (Hennig-Thurau and Klee 1997).

Relational value- It is the foundational value that organizes and guides us in relationships (Paananen, and Seppanen, 2013) and improves the competitive capabilities of the partners (Lapierre, 2000). According to relationship theories, customer creates value together with the producer. Firms must observe all the interactions that create value in any given customer relationship (Grönroos, 2006) as the value of relationship is particularly remarkable in service sector for number of reasons. Firstly customer perceptions of quality service depend on quality of relationship the service provider builds with the customer. Secondly, a strong healthy relationship between customer and service providers develop the trust that it is crucial for the customer to commit to the service. Thirdly, the production of services requires a high degree of interaction. For all these reasons, relationship values are critical for the firm success (Claycomb and Martin, 2001). The main disagreement is fundamental interest in the concept of relationship, usually service provider perceived the customer look for the value in terms of product/service; however actually customers are searching for additional value which is through the relationship (Lindgreen and Wynstra 2005). Based on the past researchers recommendations, relational value is proposed to compose of reputation, managing conflict, continuous communication, total interdependence, trust and solidarity. These are the six elements of relational value proposed in this research.

(i) Reputation – It is described as collective judgment of a company's ability to offer value outcomes to a group of stakeholders (Fombrun et al., 2000). It can be a distinguish indicator for both existing and potential buyers especially when service attributes are difficult to evaluate (Zabala et. al., 2005). In addition, reputation is a significant element of value (Hansen et al., 2008) and sustains the relationship between sellers and buyers (Compés López and Poole, 1998). Studies have suggested that for most service companies, reputation impacts on customer satisfaction (Davies et al., 2003) and also retaining or attracting customer (Andreassen and Bodil, 1998).

(ii) Conflict - Conflict is a hinder behavioral in a relationship that dishearten the parties involved from pursuing an activity for their progress (Anderson and Narus, 1990). Conflict is usually expressed in terms of tension, disagreements, and frustration between sellers and buyers. Marketing studies have theorized conflict handling as one of the key foundation of relationship marketing (Ndubisi et al., 2004). In the banking sector, proactive and reactive ways of handling conflicts will help banks in developing quality relationship with the customers (Ndubisi et al., 2007).

iii) Communication: it is the exchange of information between customer and supplier to attain a mutual understanding (Duncan and Moriarty, 1998). The importance of communication is emphasized through information trade in both traditional and relational selling (Dwyer et al., 1987). Communication flow is essential to the development of strong relationships; it builds trust and manages their expectations (Sharma and Patterson, 1999). In the financial context, the content of communication describes the role that each participant should perform in the service delivery process and then slowly build the service relationships and therefore a more loyal customer base (Auh et al., 2007).

iv) Interdependence - When both parties depend to each other, overall amount of resources exchanged and the total interdependence exist (Kim and Hsieh, 2003). Particularly in commercial banking, there is a need to build and maintain harmonious relationships. In order to build the relationship, dependence becomes a critical factor in determining the relationship between a customer and a bank (Zineldin, 2005). Dash et al. (2006) stated that interdependence play a vital role in relationship quality in a bank-client relationship.

(v) Trust - is a essential aspect of the relationship climate and it describes the uniqueness of relationships (Sirdeshmukh et al., 2002). Trust has been presented as a essential attribute in relationship process in a variety of exchange contexts (Sirdeshmukh et al., 2002). Although many banks are aware of the importance of customer relations, many organizations failed to effectively establish trust. Some of the private banks nowadays are trying their best to manage trust (Kearney, 2003). Marketing and related literatures suggested that trust is reasonably a critical variable in long-term orientation and also explain loyalty (Afsar et al., 2010)

vi) Solidarity – It describes the unity that arises from common responsibilities and interest dominates an exchange relationship (Gundlach et al., 1995). It can be expressed through behaviors which contribute directly to relationship maintenance and represent assets of tremendous value (Heide and John, 1992). Medlin and Quester (2002) claimed that solidarity is associated with relationship commitment and it is an important contributing key indicator of long-term relationship. Besides, Dampérat and Jolibert (2009) also proved that solidarity improves customer satisfaction and long term-orientation.

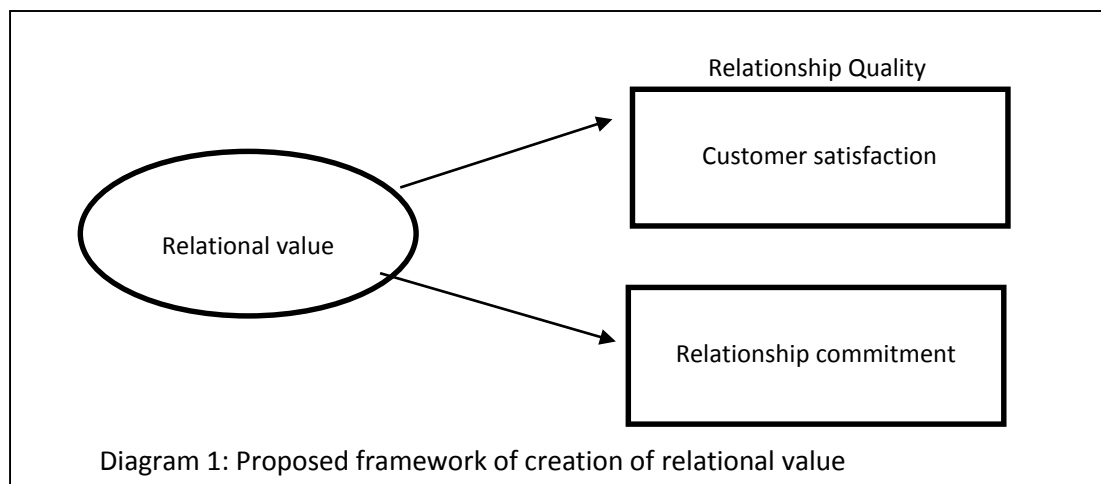
Relationship Quality - Affective component was integrated as a key element in formation of attitudes (Ajzen, 2001). Hennig-Thurau et al., (2002) argued that a basic aspect of development attitude towards behavior is relationship quality. It comprises of three dimensions; satisfaction, trust and commitment (Dwyer et al., 1987). Several studies have the same opinion on the key variables of relationship quality (Sánchez-García et al., 2006) and connect the relationship quality (satisfaction, trust, commitment) with behavior and profit (De Canniere et al., 2010). Whereas other literatures that referred to social exchange theory focuses the components of relationship quality as satisfaction and relationship commitment (Cater and Zabkar, 2008). Researchers such as McDonald (1981) disputed the fact that trust should be considered as an additional component of attitude in relationship development (Scanzoni, 1979). However, researchers such as Hennig-Thurau, (2002); William and John, (2003) counter argued that trust is less important compare to satisfaction and commitment affecting customer behavior, predominantly in high regulating service industry like banking sector (Helen, 2001). Hence, relationship quality is proposed to compose of satisfaction and relationship commitment.

(i) Satisfaction - It has been conceptualized as a purchased act or a series of consumption experiences (Yi, 1990). However, when it comes to service, satisfaction is defined as the customers' cognitive and affective evaluation on individual experience with the firm (Storbacka et al., 1994). It is also the overall assessment of service that form future interaction (Crosby et al., 1990) and most important role of perceived service quality (Parasuraman et al., 1988). Since services are intangible, customer satisfaction is to what extent firm has ability to manage the individual service encounters (Shamdasani and Balakrishnan, 2000).

(ii) Relationship Commitment - Commitment is defined as a partner's desire to build up a stable relationship and a readiness to make short-term sacrifices to uphold it (Jap and Ganesan, 2000). It is also one of the key element of successful relationships (Morgan and Hunt, 1994). It can be further enlightened as a customer's long-term direction toward a business relationship (Geysken et al., 1996) and persuade customers to develop positive intentions towards new categories of products of existing brand and reduce negative information about the brand (Ahluwalia, Unnava and Burnkrant, 2001).

Proposed Framework for Creation of Relational Value

Diagram 1 illustrates the author's proposed framework of creation of relational value. A firm's relational value offering is organized into the six categories which are reputation, conflict, communication, interdependence, trust, and solidarity. Using the value offerings, firms must create the relational value that builds the relationship quality.



Research Methodology

Targeted population of this study refers to those individuals who are current users of local banks in Malaysia, particularly those located in the Klang Valley, Malaysia. The reason for selecting Klang Valley as the representative geographical area is that most of the local banks' headquarters are located in that area and large population of bank users are concentrated in that area. According to previous studies (for instance: Al-Hawari and Ward, 2006; Roig et al. 2009), convenience sampling method is widely used in areas of banking research. Total of 472 responses were received and attained a response rate of 78 percent.

Findings

Relational value construct which consists of 6 dimensions (trust, solidarity, communication, conflict, reputation, interdependence) were measured by 22 items as attached in appendix. An inspection from factor analysis revealed that the relational value (RV) is divided into two factors labeled as relational confidence and relational communication. The first factor extracted with 62.77 percent, measured by six items reflects the extent to which customer has confidence in the way bank solves the problems/ carry out the transactions and thus it is termed as relational confidence. The results are shown in Table 1.

Table 1. Relational Confidence Factor Analysis Results

Relational confidence (RCOF)	loading	Communalities	Cronbach's Alpha	Average variance
COF1	.756	.571		
COF3	.786	.618		
TR1	.830	.690	0.880	62.77
TR2	.783	.614		
TR3	.824	.679		
TR4	.772	.595		

The second factor extracted with 65.05 percent, measured by four items, focuses on the extent to which bank has ability to communicate through personal service/constantly inform and thus it is termed as relational communication. The results are shown in Table 2. Hence, the study concludes that relational value has 2 dimensions which are relational confidence and relational communication.

Table 2. Relational Communication Factor Analysis Results

Relational communication (RCOM)	loading	Communalities	Cronbach's Alpha	Average variance
COM1	.776	.602	0.810	65.05
COM2	.832	.693		
COM3	.818	.669		
COM4	.798	.637		

Six items were used to measure the customer satisfaction and factor analysis stated the presence of one component with eigenvalue exceeding one with factor explain 67.39 percent. In the same manner, the set of seven items to measure relationship commitment was analyzed and finding revealed the presence of one component with eigenvalue exceeding one with the factor explained 67.26 percent. From the findings, study suggests that satisfaction and commitment are the two dimensions of relationship quality.

Further analysis was carried out to investigate the impact of dimensions of relational value (i.e. relational confidence and relational communication) on dimensions of relationship quality (i.e. satisfaction and commitment). The results of the study indicates that relational communication ($\beta = 0.66$, $t=7.62$, $P< 0.001$) have positive and significant effect on customer satisfaction. Whereas relational confidence ($\beta=0.25$ $t = 2.43$, $p<0.05$), and relational communication ($\beta=0.29$, $t = 2.66$, $P< 0.01$) have positive and significant effect on relationship commitment.

Discussion and Managerial Implications

The results of the study suggest bank customers evaluate the relational value in terms of relational confidence and communication. These findings endow with the empirical evidence to previous researchers' interest in detail analysis of concept of relational value. On the other hand, finding of the study confirms that not all types of relational values but only certain types of value build the relationship quality. In this case relational value of confidence does not improve customer satisfaction but improves relationship commitment. However relational value of communication improves the customer satisfaction and also the relationship commitment. This study concludes that bank customer tends to appraise relational value in terms of confidence and communication in building relationship commitment to the bank. Thus, bank should position the uniqueness of service in the form personal communication when it target to transaction type customers and emphasized on value of confidence and personal communication when it target to relationship type customers.

Overall this study recommends the bank managers to consider the practical implications of multidimensional nature of relational value because these dimensions can be fundamental factors in increasing customers' satisfaction with banks' services/ products and improving customers' relationship commitment with the bank. Therefore, to be able to satisfy the customers, bank must provide relational value of communication by constantly informing and providing personal service and advice to the customers. . An improvement of relational value of communication is critical to banks because present study shows that perception of relational value of communication have significant effect on both customer satisfaction and relationship commitment. Overall, banks as service providers need to emphasize on certain value attributes in their promotions depending on type of customer either transaction type i.e. satisfaction or relationship type i.e. relationship commitment.

References

- Afsar, B., Ur Rehman, Z, Qureshi, J.A., and Shahjehan, A. (2010). Determinants of customer loyalty in the banking sector: the case of Pakistan. *African Journal of Business Management*, 4(6), 1040-1047.
- Ajzen, I. (2001). Nature and operation of attitudes. *Annual review of psychology*, 52(1), 27-58.
- Ahluwalia, R., Unnava, R., and Burnkrant, R. (2001). The moderating role of commitment on the spillover effect of marketing communications. *Journal of Marketing Research*, 38(4), 458-70.

- Al Hawari, M., and Ward, T. (2006). The Effects of automated service quality on Australian Banks financial performance and the mediating role of customer satisfaction. *Marketing Intelligence and Planning*, 24(2), 127-147.
- Assael, H. (1995). *Consumer behavior and marketing action*. (5th ed.), South Western College Publishing, Cincinnati OH.
- Andreassen, T. W., and Bodil, L. (1998). The effect of corporate image in the formation of customer loyalty. *Journal of Service Research*, 1(1), 82-92.
- Anderson, J.C., and Narus, J.A. (1990). A model of distributor firm and manufacturer firm working partnerships. *Journal of Marketing*, 54(1), 42-58.
- Auh, S., Bell, S. J., McLeod, C. S., & Shih, E. (2007). Co-production and customer loyalty in financial services. *Journal of Retailing*, 83(3), 359-370.
- Baumann, C., Burton, S., and Elliott, G. (2005). Determinants of customer loyalty and share of wallet in retail banking. *Journal of Financial Services Marketing*, 9(3), 231-48.
- Bjirk, S. (2015). Corporate customer loyalty within the banking Sector: The case of SEB. Bachelor Thesis in Business Administration, Jonkoping University, International Business School.
- Caroline, M. and Elizabeth, M (2014). Determinants of Customer Retention in Commercial Banks in Tanzania. *Journal of Finance and Bank Management*, 2 (1), 09-30.
- Cater, B., & Zabkar, V. (2008). Antecedents and consequences of commitment in marketing research services: The client's Perspective. *Industrial Marketing Management*, 38 (7), 785-797.
- Claycomb, C., and Martin C.L (2001). Building customer relationships: an inventory of service providers' objectives and practices. *Marketing Intelligence Planning*, 19(6), 385-399.
- Compés López, R., and Poole, N. (1998). Quality assurance in the maritime port logistics chain: the case of Valencia. *Supply Chain Management. An International Journal*, 3 (1), 33-44.
- Cronin, J.J., and Taylor, S.A. (1992). Measuring service quality: a reexamination and extension. *Journal of Marketing*, Vol. 56(3), pp. 55-68.
- Crosby, L.A., Kenneth, R.E., and Deborah, C. (1990). Relationship Quality in Services Selling: An Interpersonal Influence Perspective. *Journal of Marketing*. 54(3), 61-81.
- Dampe´rat, M., and Jolibert, A. (2009). A dialectical model of buyer-seller relationships. *Journal of Business and Industrial Marketing*, 24/3/4 (2009) 207–217.
- Dash, S., Bruning, E., and Guin.K.K (2006). The Moderating Effect of Power Distance on Perceived Interdependence and Relationship Quality in Commercial Banking: A Cross-cultural Comparison. *International Journal of Bank Marketing*, 24, (5), 307-326.
- Davies, G., Chun, R., Da Silva, R., and Roper, S. (2003). *Corporate Reputation and Competitiveness*. Routledge, New York, NY.
- De Canniere, M.H; De Pelsmacker, L., and Geuens, M. (2010). Relationship Quality and Purchase Intention and Behavior: The Moderating Impact of Relationship Strength. [*Journal of Business and Psychology*, 25\(1\), 87-98.](#)
- Duncan, T., and Moriarty, S.E. (1998). `A communication-based marketing model for managing relationships. *Journal of Marketing*, 56(2), 1-13.
- Dwyer, R.F., Schurr, P. H., and Oh, S. (1987). Developing buyer–seller relationships. *Journal of Marketing*, 51(2), 11-27.
- Fombrun, C.J., Gardberg, N., and Sever, J. (2000). The Reputation Quotient. *Journal of Brand Management*, 7(4), 241-255.
- Fullerton, G. (2005). How commitment both enables and undermines marketing relationships, *European Journal of Marketing*, Vol. 39 No.11-12, pp.1372-88.
- Geysken, I., Steenkamp, J.-B.E.M., Scheer, L.K., & Kumar, N. (1996). The effects of trust and interdependence on relationship commitment; a Trans-Atlantic study. *International Journal of Research in Marketing*, 13(4) 303-317.
- Grönroos, C. (2006). Adopting a service logic for marketing. *Marketing Theory*, 6(3), 317-33.
- Gundlach, G., Achrol, R.S., and Mentzer, J.T. (1995). The structure of commitment in exchange. *Journal of Marketing*, 59(1), 78-92.
- Hansen, H., Samuelsen, B.M., & Silseth, P.R. (2008). Customer Perceived Value in B-t-B Service Relationships: Investigating the Importance of Corporate Reputation. *Industrial Marketing Management*, 37(2), 206-217.

- Heide, J., & John, G. (1992). Do norms matter in marketing relationships? *Journal of Marketing*, 56(2), 32-44.
- Helen, N. (2001). Securing Trust Online: Wisdom or Oxymoron? *Boston University Law Review*, 81(2), 101–131.
- Hennig-Thurau, T., and Alexander, K. (1997). The Impact of Customer Satisfaction and Relationship Quality on Customer Retention—A Critical Reassessment and Model Development. *Psychology & Marketing*, 14 (4), 737-65.
- Hennig-Thurau, T, Gwinner, K.P., and Gremler, D.D. (2002). Understanding relationship marketing outcomes: an integration of relational benefits and relationship quality. *Journal of Service Research*. 4(3), 230–247.
- Homans, G. C. (1961). *Social Behavior: Its Elementary Forms*. New York: Harcourt, Brace and World.
- Huber F., Herrmann A., & Henneberg S.C. (2007). Measuring customer value and satisfaction in services transactions, scale development, validation and cross cultural comparison. *International Journal of Consumer Studies*, 31(6), 554-564.
- Jap, M.S., and Ganesan, S. (2000). Control mechanisms and the relationship life cycle: Implications for safeguarding specific investments and developing commitment. *Journal of Marketing Research*, 27(2), 227–245.
- Khare, A., and Khare, A. (2008). Managing customer relationships using CRM technology in India's financial sector. *Banks and Bank Systems*, 3(1), 239-264.
- Kim, S. K., and Hsieh, P-H. (2003). Interdependence and its consequences in distributor–supplier relationships: A distributor perspective through response surface approach. *Journal of Marketing Research*, 40(1), 101– 112.
- Lapierre, J. (2000). Customer-perceived value in industrial context. *Journal of Business & Industrial Marketing*, 15(2/3), 122–140.
- Lindgreen.A., and Wynstra.F (2005). Value in business markets: What do we know? Where are we going? *Industrial Marketing Management*, 34(7), 732–748.
- Markus, H.R. (1977). Self-schemata and processing information about the self, *Journal of Personality and Social Psychology*, 35(2), 63–78.
- McDonald, G. W. (1981). Structural Exchange and Marital Interaction. *Journal of Marriage and the Family*, 43(4), 825-839.
- Medlin, C.J., and Quester, P. (2002). *Inter-firm trust: two theoretical dimensions versus a global measure*. Proceedings of the 18th IMP Conference, Perth.
- Melnick, E.L., Nayyar, P.R., Pinedo, M.L., and Seshadri, S. (2000). *Creating value in financial services*. In: E.L. Melnick, P.R. Nayyar, M.L. Pinedo and S. Seshadri, Editors, *Creating Value in Financial Services: Strategies, Operations and Technologies*, Kluwer Academic Publishers, Norwell, MA.
- Miles, L. (1961). *Techniques of value analysis and engineering*. McGraw Hill, New York.
- Ndubisi, N.O. (2004). Understanding the salience of cultural dimensions on relationship marketing, its underpinnings and aftermaths. *Cross Cultural Management*, 11(3), 70-89.
- Ndubisi, N.O. (2007). Relationship marketing and customer loyalty. *Marketing Intelligence and planning*, 25(1), 98-106.
- Paananen, A. and Seppanen, M. (2013). Reviewing customer value literature: Comparing and contrasting customer values perspectives. *Intangible Capital*, 9(3): 708-729.
- Parasuraman, A., Zeithaml, V.A., and Berry, L.L. (1988). SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service. *Journal of Retailing*, 64(1), 12–40.
- [Parasuraman, A. \(1997\)](#). Reflections on gaining competitive advantage through customer value. *Journal of the Academy of Marketing Science*, 25(4), 332–342.
- Parasuraman, A. and Grewal, D. (2000), The impact of technology on the quality-value-loyalty chain: a research agenda. *Journal of the Academy of Marketing Science*, 28(1), 168-74.
- Payne, A., Holt, S., and Frow, P. (2001). Relationship value management: exploring the integration of employee, customer, and shareholder value and enterprise performance models. *Journal of Marketing Management*, 17(7/8), 785-817.
- Portolan, A. (2015). “Perceived added value as source of competitive advantage in urban tourism destination”. EKON. MISAO I PRAKSA DBK. GOD XXIV. (2015.) BR. 2. (471-488).

- Ravald, A., and Gronroos, C. (1996). The value concept and relationship marketing. *European Journal of Marketing*, 30(2), 19–30.
- Reichheld, F. F., Sasser, Jr., and Earl, W. (1990). Zero defections: Quality comes to service. *Harvard Business Review*, 68 (5), 105-111.
- Roig, J.C.F., Gracia, J.S., Tena, M.A. M., and Monzonis, J. L (2006). Customer Perceived Value in Banking Services. *International Journal of Bank Marketing*, 24(5), 266-283.
- Rootman, C., Tait, M and Sharp, G. (2011). Relationship marketing and customer retention lessons for South African banks. *Southern African Business Review Volume*, 15 (3), 184-206.
- Sanchez-Garcia, J., Callarisa-Fiol, L.L.J., Rodri'guez-Artola, R.M., & Moliner-Tena, M.A. (2006). Perceived value of the purchase of a tourism product. *Tourism Management*, 27(3), 394–409.
- Scanzoni, J. (1979). *Social exchange and behavioral interdependence*. In: R.L. Burgess and T.L. Houston, Editors, *Social exchange in developing relationships*, Academic Press, New York (1979), pp. 61–98.
- Scheibe, K. E. (1970). *Beliefs and values*. New York: Holt, Rinehart, & Winston.
- Shamdasani, P.N., and Balakrishnan, A.A. (2000). Determinants of relationship quality and loyalty in personalized services. *Asia Pacific Journal of Management*, 17(3), 399–422.
- Shaon, S. M.K.I and, Rahman, H. (2015). A theoretical review of CRM effects on customer satisfaction and loyalty. *Central European Business Review*. 4(1). 23-35.
- Sharma, N., and Patterson, P.G. (1999). The Impact of Communication Effectiveness and Service Quality on Relationship Commitment in Consumer, Professional Services. *The Journal of Services Marketing*, 13 (2), 151-170.
- Sheth, J.N., and Parvatiyar, A. (2002). [Evolving Relationship Marketing into a Discipline](#). *Journal of Relationship Marketing*. 1(1), 3-16.
- Sirdeshmukh, D., Singh, J. and Sabol, B. (2002). Consumer trust, value, and loyalty in relational exchanges. *Journal of Marketing*, 66(1), 15–37.
- Storbacka, K., Strandvik, T. and Gronroos, C. (1994). Managing customer relationships for profit. *International Journal of Service Industry Management*, 5(5), 21-28.
- Thibaut, J. W. and Kelley, H. H. (1959). *The Social Psychology of Groups*. New York: John Wiley & Sons.
- Thusyanthy, V and Senthilnathan, S. (2012). “Customer Satisfaction in Terms of Physical Evidence and Employee Interaction”. *IUP Journal of Marketing Management*, 11(3).
- Tyler, K., and Stanley, E. (1999). Marketing financial services in business markets: a critical review and research agenda. *International Journal of Bank Marketing*, 17(3), 98-115.
- William, J. M., and John, H. F (2003). Customer Satisfaction Doesn't Count”, *Gallup Management Journal*, The Gallup Organization, Princeton (Retrieved from <http://gmj.gallup.com>),
- Woodruff, R.B. and Gardial, F.S. (1996). *Know Your Customer: New Approaches to Understanding Customer Value and Satisfaction*. Blackwell Publishers, Cambridge.
- Yang, Z., and Peterson, R. T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology and Marketing*, 1(10), 799-822.
- Yi, Y. (1990). *A critical review of customer satisfaction*. In Zeithaml VA (Ed.). *Review of marketing 1990* (American Marketing Association, Chicago), 68–123.
- Zabala, I., Panadero, G., Gallardo, L.M., Amate, C.M., Saanchez—Galindo, M., Tena, I., & Villalba, I. (2005). Corporate Reputation in Professional Services Firms: Reputation Management Based on Intellectual Capital Management. *Corporate Reputation Review*, 8(1), 59-71.
- Zeithaml, V.A. (1988). Consumer perceptions of price, quality and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22.
- Zeithaml, V.A., Rust, R.T., and Lemon, K.N. (2001). The customer pyramid: creating and serving profitable customers. *California Management Review*, 43(4), 118-42.
- Zineldin, M.(2005). Quality and customer relationship management (CRM) as competitive strategy in the Swedish banking industry. *The TQM Magazine*, 17(4), 329 – 344.

Appendix

Initial Relational value of conceptual factors and measurement items

Factor/construct		Coding	Items
Relational value (RV)	Conflict	COF1	The bank's employees are good at solving disputes before they create problems in our working relationship.
		COF2	The bank's employees make sure that problems do not arise in our working relationship
		COF3	The bank's employees have the ability to openly discuss solutions when problems arise.
	Trust	TR1	I have confidence that the bank is telling the truth, even when the bank gives me a rather unlikely explanation.
		TR2	The bank provide accurate information
		TR3	The bank keeps its promises made to me.
		TR4	The bank treats me in honest way in every transaction
	Solidarity	SOL1	The bank provides help when I run into problems.
		SOL2	The bank shares the problems that arise in the course of the relationship with them.
		SOL3	The bank has full commitment to improve in overall relationship.
		SOL4	The bank is willing to meet my needs beyond the contract terms.
	Reputation	REP1	I believe that this bank does what it promises for its customers.
REP2		This bank has a good reputation in its industry.	
REP3		I believe that the reputation of this bank is better than the rest of the banks.	
Communication	COM1	I have an easy and satisfactory relationship with the bank.	
	COM2	The bank keeps me constantly informed of new products and services that could be of interest to me.	
	COM3	The bank provides personal service and advice	
	COM4	Clearness and transparency information provided by the bank.	
Interdependence	INT1	It would be difficult for me to replace the bank with other banks.	
	INT2	If the relationship with the bank was discontinued, I would have difficulty in using the bank services.	
	INT3	It would be difficult for the bank to replace us.	
	INT4	The bank is quite dependent on us.	

FOSTERING ENTREPRENEURSHIP OUTCOMES: AN EVALUATION OF FASHION ENTREPRENEURSHIP PROGRAM

¹Rahimah Jamaluddin, ²Mass Hareeza Ali@Hamid, ³Suhaida Abd. Kadir, ⁴Arasinah Kamis & ⁵Suriani Mohamed

^{1,3}Faculty of Educational Studies, Universiti Putra Malaysia

²Centre of Entrepreneurial Development and Graduate Marketability, Universiti Putra Malaysia

^{4,5}Faculty of Technical & Vocational, Sultan Idris Education University, Tanjung Malim,

[¹imah_upm@upm.edu.my](mailto:rahimah_upm@upm.edu.my), [²mass@upm.edu.my](mailto:mass@upm.edu.my), [³suhaida@upm.edu.my](mailto:suhaida@upm.edu.my),

[⁴arasinah@fptv.edu.my](mailto:arasinah@fptv.edu.my), [⁵suriani.mohamed@fptv.upsi.edu.my](mailto:suriani.mohamed@fptv.upsi.edu.my)

ABSTRACT

Entrepreneurship education has traditionally focused on formal education, but many initiatives have been taken currently parallel with the 21st century teaching and learning strategies by emphasizing learning by doing. The purpose of this paper was to examine the impact of entrepreneurship education on students' entrepreneurship interest, intentions and competencies by implementing fashion entrepreneurship program. Purposive sampling techniques which involved screening process were conducted to select 40 students as the participants of the program. This study was held at Universiti Putra Malaysia for a period of five months. This program emphasized mentor-mentees system which involved 10 fashion entrepreneurs from the community. Participants were exposed to entrepreneurship seminars, business and skills trainings, e-marketing workshops, and entrepreneurship carnival as well as evaluation sessions. The findings show that participants' perceptions towards their interest, intentions and competencies are high. Besides, it was found that a significant positive correlation exists between entrepreneurship interests with entrepreneurship intentions among the participants.

Keywords: Fashion Entrepreneurship, Learning by Doing, Entrepreneurship Education, Entrepreneurship Intentions, Entrepreneurship Outcomes.

Introduction

Malaysia has set the goal of becoming a high-income nation by 2020. To achieve this goal, country's economic growth engine has been devoted to entrepreneurship. According to the report of Entrepreneurship Strategic Plan 2013-2015 for Higher Learning Institution, it was found that the percentage of students who were exposed to entrepreneurship education increased from 16.7% in 2011 to 34.6% in year 2013 (Economic Planning Unit, 2016). Therefore, Entrepreneurship Action Plan for Higher Education Institutions (HEIs) 2016 to 2020 was launched to ensure the continuation of previous policies and plans. It still retains the ultimate goal of producing more job creators rather than job seekers among university graduates. However, unemployment among university graduates still occurs every year. National Education Statistics for Higher Education Sector 2013, indicated that 25% of graduates of Higher Education Institutions (HEIs) are unemployed and only 1.8% are self-employed in the year 2013 (Ministry of Education, 2014). The unemployment problem leads to wastage of manpower because the skills and knowledge possessed by the graduates cannot be used to contribute to national development. Only a fraction of graduates tend to become entrepreneurs after graduation. This indicates a lack of effectiveness of entrepreneurship education in universities towards producing more young entrepreneurs.

Most of the students do not aim to run a business even on a small scale because they are not exposed to business opportunities that may be available. Apart from lack of ideas, they are also worried about the inadequacy of skills, lack of experience, and lack of capital to start a business. In fact, there are students who think that they can only venture into business after their graduation and thus, they focus on their studies without having any second thoughts of starting a business during their undergraduate period. Students need support to equip themselves with various skills in developing the characteristics of an entrepreneur. Students do not have confidence in their ability to become an

entrepreneur. Most of them do not want to take risks in business and have a fixed mind-set that a business requires substantial capital. A study by Norashidah, Norasmah and Hariyaty (2009) have proved that the absence of courage to take risks, lack of believe in one's ability to make decisions and lack of self-confidence are obstacles faced by the students of National University of Malaysia to conduct small business on a part-time basis.

One way to address this incrementally, HEIs should provide the needed stimulus for students to apply the knowledge and practice entrepreneurial by providing a place for them to start a business. Students should be equipped with skills beyond their field of study besides engaging them with informal entrepreneurship programs. In addition to producing more entrepreneurs among students as a catalyst for the transformation of the economy and to achieve zero unemployment, characteristics of entrepreneurship need to be cultivated in them. Therefore, they are not too dependent on the availability of jobs out there that are becoming increasingly scarce.

Technological developments and the use of the Internet have boosted the fashion industry in Malaysia. Exposure of international fashion through the mass media has contributed to the development of the fashion industry that involves the use of fabrics and textiles. According to the report of 2015-2016 Outlook for the retail and consumer products sector in Asia, the growth of fashion and clothing in Asia will continue to rise to over 9.5% in 2018 (PwC, 2015). Parallel to this, it has become the latest trend where most of the university students have started their own business around the campus either online or offline. Social network medium that students normally use are Facebook and Instagram. Products that reach the highest demand among female students are the products that particularly related to fashion like clothing and accessories. Variety of scarves, maxi dresses, robes and others has raised students' interest to enter fashion industry even though they do not have the knowledge and skills in the field.

Entrepreneurship currently has become a compulsory subject in tertiary level. The exposure of this subject will increase students' knowledge and interest in becoming an entrepreneur once they complete their studies. Entrepreneurship education have been identified as determinants on entrepreneurship intentions and outcomes (Hussain & Norashidah, 2015; Matlay, 2008; Khuong & An, 2016; Døgan, 2015; Tshikovhi & Shambare, 2015; Chang & Rieple, 2013). In the context of Malaysia, few researches have been done to study the impact of entrepreneurship education, particularly related with hands-on and practical trainings in the areas of fashion. Zhang, Duyster and Cloodt, (2013) identified that limited studies have been conducted to analyze the impact of different components taught during entrepreneurial education courses and trainings on the entrepreneurial education and intentions.

In response to extremely high demand in the field of fashion industry in Malaysia, as well as to cultivate entrepreneurship interest among the female students in this field, this program is provided as a platform for them to gain experience by learning through doing. By participating in this program, students not only have the opportunity to have their own business and the products of their own but they will be better prepared in the fashion business as well as the knowledge and confidence to step up to a more challenging world of business. Thus, this paper focused on how universities can educate successful entrepreneurs by looking at activities that are more specifically aimed at training graduates to become future fashion entrepreneurs. The purpose of this paper was to investigate the impact of entrepreneurship education by implementing fashion entrepreneurship program on students' entrepreneurship interest, intentions and competencies.

Overview of Fashion Entrepreneurship Programs

In this study, we set up a program which aimed to nurture graduates to become a successful fashion entrepreneur. This program is named as “**Siswa@Fesyen**”. The focus of this program is in line with Entrepreneurship Development Policy of Higher Education Institute, which aims to create a model of high quality that have the characteristics and qualities of an entrepreneur and produce more entrepreneurs among graduates who will be a catalyst in the transformation towards a developed nation

with high income. This program was conducted in collaboration with the Faculty of Educational Studies, Universiti of Putra Malaysia. The program was operated entirely by the Unit of Home Economics Education under the Department of Science and Technical Education, Faculty of Education. This program involved 40 participants that consisted of bachelor students from various areas studying in UPM. This program lasted for five months which was from October 2016 until February 2017.

The participants of this program were given an intensive training to enable them to master the relevant skills and knowledge to become fashion entrepreneurs. This program was designed uniquely by considering the need to allow the participants to experience running a business through learning by doing. Another consideration made in this program was by having the mentor-mentee system. 10 fashion entrepreneurs were invited to contribute to the success of this program. Mentors were nearby community members who participated in this program voluntarily. Mentor-mentee system was applied in this program with the intention of providing continuous support to the participants with business knowledge, skills and current trends related to fashion industry. Indirectly, it was expected that through this program entrepreneur spirit can be cultivated among the participants. In this program, the participants were taught on business canvas models, on-line marketing as well as short courses in making dresses. Participants were then divided into 10 groups by randomly with one mentor for each group. This program consists of three phases as shown in Figure 1.

Phase 1: Business Model Generation

Activity 1: Entrepreneurship Seminar

A forum entitled "Together we build the UPM student entrepreneurs" was held for 3 hours. This forum involved three panelists who are entrepreneurs and currently practicing in the field of fashion. A slot on Business Model Canvas was given immediately after the forum. In the afternoon, a screening session was held to select the candidates who were really interested to participate in the program. The candidates were required to answer short writing test and practical test on using sewing machine. A total of 350 students attended the seminar but only 40 students were selected as participants who will continue into the next phase.

Phase 2: Practical Training

Activity 1: Business and Skills Training

In this phase, participants were given an intensive course on sewing skills for three days during the semester break. An orientation session was held to enable the participants to meet their mentors. Then a discussion was held to determine types of clothing that will be produced by their groups based on the themes given. Participants and mentors are free to meet in order for them to complete their dress project. In this phase, each group was given an amount of fund to enable them to buy fabric and other necessities.

Activity 2: E-Marketing workshop

An e-Marketing workshop have been held to provide participants and mentors the knowledge and skills on methods of making online marketing using social network such as Facebook. The workshop lasted for one day. At the end of the workshop, participants are required to produce an example of marketing on their own Facebook account.

Activity 3: Entrepreneurship Carnival @ 1 Malaysia

This activity required participants to carry out fashion business for two days. Each group was given capital loan of RM800 to run their business. This capital loan was given earlier during the first phase and this allowed them enough time to think and organize their business.

Phase 3: Evaluation Session and Closing Ceremony

Activity 1: Evaluation session

Evaluation session was held to evaluate the outcomes which were the clothing products (dress) designed by the participants. In this session, participants were required to make a presentation to describe the features of their design, fabrics and accessories that they used as well as marketing strategies that can be carried out to promote their products to customers. Evaluation session was judged by three judges who were comprised of a fashion designer, a representative of fashion industry and a fashion lecturer.

Activity 2: Closing Ceremony

A gala night was held with the theme of Arabic Night to celebrate the success of this program. A fashion show was held to showcase the work of the participants. Selected participants were given awards of entrepreneurial fashion model and received cash prizes. A total of seven prizes were given to the winners of individual categories, one prize for group category and one prize for category of versatile mentor. The closing ceremony was attended by 130 guests and it was launched by the vice-chancellor of Universiti of Putra Malaysia.

Literature Review

This project utilized the theoretical concepts of Entrepreneurship Intentions Model introduced by Ajzen (1991). Ajzen identified three elements responsible for encouraging entrepreneurial behavior which are entrepreneurship knowledge, personal attitudes, and entrepreneurship intentions. The model pre-supposes that the interaction of these three variables ultimately define individuals' proclivity towards entrepreneurship. Referring to the Model of Entrepreneurship Learning (Hynes, 1996) and Kolb Learning Model (1984), the formation of skills and behavior are influenced by how the learning process occurs. In consistent with that, Gibb (2011) clarified that the pedagogy used for entrepreneurship education should be carried out in various learning environments (Syed Zamberi, 2012; Ruskovaara & Pihkala, 2012) which involves an active role of students in the learning process (Cedefop, 2006).

Entrepreneurship Education

Jones and English (2004) defined entrepreneurship education as the process of providing individuals with the ability to recognize commercial opportunities and the insight, self-esteem, knowledge and skills to act on them. Entrepreneurship education may promote an awareness of self-employment as a career option; it is suggested that this awareness motivates young people to equip themselves with the skills, knowledge and experience required for effective business ownership (Norasmah, 2012). Hence it can be concluded that, teaching of entrepreneurship can provide students with an understanding of business - its purposes, its structure, its interrelationship with other segments of the economy and society (Klapper, 2004).

In order to encourage young generations to become entrepreneurs, it was suggested that entrepreneurship education be cultivated early in an individual's life (Kourilsky & Walstad, 1998). Waldmann (1997) clarified that entrepreneurship education at an early stage will impact on students' intentions to consider starting a business sometime after they complete their studies. Similarly, Matlay (2008) in his study found that students who participated in an entrepreneurship program were more likely to start their own business than other students. Knowing the importance of entrepreneurship, Malaysian education system emphasizes the development of entrepreneurship, by considering entrepreneurship into curricula starting from the primary until tertiary level. Development of entrepreneurship in Malaysia has been growing rapidly since the offering of entrepreneurship education in the mid-1990s (Mohd Khairuddin & Syed Azizi, 2002; Armanurah, Abdul Razak & Syahrina, 2005). This action initiated by the Ministry of Education Malaysia aimed to achieve the Eleventh Malaysian Plan (2016-2020) in producing job creators rather than job seekers in year 2020.

Entrepreneurship education can be taught whether in informal or formal education. Some researchers suggested that formal entrepreneurship education is capable to produce entrepreneurs among graduates (Hussain & Norashidah, 2015; Matlay, 2008; Khuong & An, 2016; Doğa*, 2015; Tshikovhi & Shambare, 2015; Chang & Rieple, 2013). Meanwhile Zainal Abidin, Golnaz, Amin and Ezhar (2011) found that informal entrepreneurship education seem to be more effective in influencing graduates to participate in entrepreneurship activities. In addition to that, Noorkartina, Hock-Eam, Norhafezah and Jan-Jan (2015) asserted that there are no differences in having entrepreneurship education either formally or informally because both significantly influence students' entrepreneurship intention. Therefore, it is suggested that both formal and informal entrepreneurship education should be implemented into the curriculum in order to cultivate entrepreneurial intentions to the students. In terms of pedagogy, it is suggested that entrepreneurship education requires a shift in pedagogy because there is a need for universities to improve teaching strategies if we wish to increase students' intentions to choose entrepreneurship as a career choice (Syed Zamberi, 2012; Zaidatol Akmaliah, 2009).

Formal entrepreneurship refers to organized and structured learning in an educational institution. According to Malaysian Education Blueprint 2013-2025 (KPM, 2012) entrepreneurship education was designed with the aims of enhancing and developing entrepreneurship awareness among the students and also to influence graduates' entrepreneurial mindset (Pittaway and Edwards, 2012). Delivering entrepreneurship education can be done in various ways. Previous studies have confirmed that learning by doing which involves self-experiences, acquiring independent learning skills and practices (Noorkartina et al., 2015) are an excellent strategy to enhance entrepreneurial intentions and competencies (Bird, 1998; Kolb, 1984; Lackeus, 2015). Among the recommended activities are as in live project (Chang & Rieple, 2013), enterprise or entrepreneurial project (Hussain & Norashidah, 2015; Tshikovhi & Shambare, 2015; Peterman, 2003) and action-based (Rasmussen & Sorheim, 2006). As such Linan, Rodriguez-Cohard and Rueda-Cantuche (2011) particularly explains that exposure to the business environment makes students more confident about their own abilities of becoming entrepreneurs.

Entrepreneurship Outcomes

Entrepreneurship outcomes can be measured from two perspectives; entrepreneurship competencies and entrepreneurship intentions. Competency is a broad concept that refers to a person's ability to use knowledge and other capabilities needed to get a better performance in the work done (Kaur & Bains, 2013). According to a study conducted by Mc Clelland and Mc Ber & Co. (1985) involving successful entrepreneurs in Malawi, India and Ecuador, they found out there were thirteen characteristics of personal entrepreneurial competencies which are initiatives, see and act on opportunities, persistence, information seeking, concern for high quality of work, committed to work contract, efficiency orientation, systematic planning, problem solving, self-confident, assertiveness, persuasion and use of influential strategies. All of these features are necessary for the entrepreneurs to be more efficient and competitive.

Bygrave (1989) defined entrepreneurship intention as the growing conscious state of mind that a person desires to start a new enterprise or create new core value in existing organization. With simple words entrepreneurship intention means an individual wants to start some entrepreneurship activities (Souitaris, 2007). Previous study indicated that the person who have a greater entrepreneurial characteristics tend to have higher intention to start their own business. Entrepreneurial intention is influenced by several characteristics such as age, gender, skills, interest, personalities, education, knowledge and prior experience (Noorkartina et al., 2015; Krueger & Carsrud, 1993; Matlay, 2008; Norhatta et al., 2015; Tshikovhi & Shambare, 2015). These characteristic have been proved as influencing factors of entrepreneurship intention (Fitzsimmons & Douglas, 2011) and entrepreneurship competencies (Krueger & Carsrud, 1993). In this study, participants were selected from those who have already attended entrepreneurship courses and have basic skills in sewing. Some of the participants had been involved in small business. As the participants met some of the features mentioned, it is important to study the entrepreneurial intention among the participants after they joined the program.

It was found that entrepreneurship education can significantly change the entrepreneurship intentions and outcomes of the participants. Matlay (2008) in his study found that entrepreneurship education had a positive impact upon entrepreneurial outcomes related to the career aspirations. Out of 64 graduates in the research sample, none of the graduates became unemployed or acquired employee status over the ten years period. He also found that there was a relatively speedy progression from self-employed status to micro-and small business ownership. In line with that, Hussain and Norashidah (2015) carried out their research on 499 final year undergraduate and graduate students of business studies in Pakistan. Result of their study confirmed that entrepreneurship education plays an important role in enhancing the entrepreneurial intentions. This finding supports the finding of Doğan* (2015) who reported a significant positive relation between entrepreneurship education and entrepreneurial intention.

Other than that, according to Rasmussen and Sørheim (2006) the success of an entrepreneurship program requires support of external resources and financial resources. External resources contribute with relevance and up-to-date real-life experience. These external people provide a network and access to other networks, thus helping the participants to build their own networks and relate to external contacts. Involvement of role-models through mentoring system can contribute significantly to move the project or start-up company forward. The second important resource is financial support from public or private funding. This funding is indispensable to enable a program to run smoothly in order to achieve the goals. In line with this, Chang and Rieple (2013) indicated that the development of entrepreneurial skills can be improved by providing a learning environment in which students interact with real business people in live projects. They also indicated that entrepreneurship education programs may be improved by scheduling skills training in a more structured and timely manner. Therefore, it is important to get the involvement of business community or entrepreneurs in order to facilitate the development and success of entrepreneurship programs among the students.

Methodology

This survey study was conducted at the University of Putra Malaysia. The instrument was administered to 40 undergraduate students who were in their first semester 2016/2017 and sampled using purposive sampling. In this study, three questionnaires were used; (1) personal entrepreneurship competencies questionnaires adapted from Mc Clelland and Mc Ber & Co (1985), (2) entrepreneurship intentions and interest questionnaires adapted from Hisyamudin Hassan (2007), (3) implementation of fashion entrepreneurship program developed by researcher team based on the activities carried out.

The entrepreneurship competencies instrument was divided into 13 constructs; initiative, see and act on opportunities, persistence, information seeking, concern for high quality of work, committed to work contract, efficiency orientation, systematic planning, problem solving, self-confident, assertiveness, persuasion and use of influential strategies. The 5-point Likert scale was used and scores were labeled; (1) Strongly disagree, (2) Disagree, (3) Somewhat agree, (4) Agree, and (5) Strongly agree. Meanwhile for entrepreneurship intentions, the scores were labeled; (1) Not capable, (2) Less capable, (3) Quite capable, (4) Capable, (5) Very capable. In order to measure students' level of entrepreneurship outcomes, the following interpretations were used; low (min of 1.00 to 2.33), moderate (min of 2.34 to 3.66) and high (min of 3.67 to 5.00).

The instrument showed high reliability with Alpha Cronbach value of 0.76-0.90 as shown in the Table 1, for all the constructs were more than acceptable Nunally (1993). The data was then analyzed using the IBM SPSS where the descriptive and inferential statistic were used to analyze all the research questions.

Table 1. Reliability of All Constructs

Construct	Number of Items	Cronbach's Alpha
Entrepreneurship intentions	5	.79
Entrepreneurship competencies	50	.87
Entrepreneurship interest	11	.76
Implementation of Fashion Entrepreneurship Program	25	.90

Research Finding

Respondents

The sample comprised a total of 40 undergraduate participants from various bachelor programs. The distribution of participants by gender is illustrated in Table 2. From the total number of participants, 36 (90%) were female and 4 (10%) were male participants.

Table 2. Gender of Respondents

	Frequency (n)	Percentage %
Male	4	10
Female	36	90

As shown in the column chart (Figure 1), 32 (80%) participants have attended entrepreneurship education and 30 (75%) participants have experienced entrepreneurship training previously. In terms of entrepreneurship experience, data shows that 21 (52.5%) of participants have experience in running a fashion-related business. The rest 19 (47.5%) participants had no experience in running a fashion-related business.

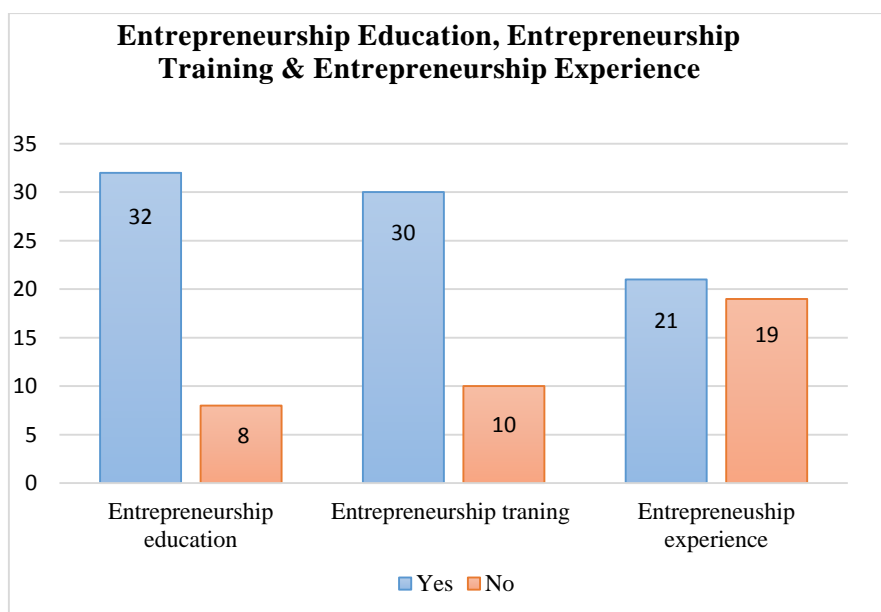


Figure 1: Distribution of entrepreneurship education, entrepreneurship training and entrepreneurial experience among participants.

Entrepreneurship Outcomes

Table 3 illustrates the mean and standard deviation of entrepreneurship intentions, entrepreneurship competencies, fashion entrepreneurship program and entrepreneurship interest. Based on the results, the entire constructs measured in this study indicated mean value above 3.0. It means that the participants have high perceptions of their entrepreneurship intentions (mean=3.62 and

std=0.59), entrepreneurship competencies (mean=3.82 and std=0.27), and entrepreneurship interest (mean=3.35 and std=0.34) throughout the period of the program. In addition, participants evaluate the fashion entrepreneurship program as good with the mean value of 4.01 and standard deviation value of 0.45.

Table 3. Mean and Standard Deviation of Entrepreneurship Intentions

Construct	Mean	Std. Deviation
Entrepreneurship intentions	3.62	0.59
Entrepreneurship competencies	3.82	0.27
Fashion Entrepreneurship Program	4.01	0.45
Entrepreneurship interest	3.35	0.34

As shown in Table 4, the mean value for all the 13 constructs of entrepreneurship competencies assessed are high and ranges from 3.47 to 4.12. Therefore, it can be conclude that participants are able to dominate all the construct of competencies after they finish the program.

Table 4. Mean and Standard Deviation of Entrepreneurship Competencies Constructs

Entrepreneurship competencies	Mean	Std. Deviation
Construct:		
Initiative	3.65	0.37
See and act on opportunities	3.94	0.42
Persistence	3.88	0.41
Information seeking	4.12	0.41
Concern for high quality of work	4.03	0.42
Committed to work contract	4.09	0.33
Efficiency orientation	4.10	0.39
Systematic planning	4.04	0.40
Problem solving	3.79	0.36
Self-confident	3.60	0.59
Assertiveness	3.62	0.46
Persuasion	3.47	0.47
Use of influential strategies	3.76	0.49

Pearson Correlation

Table 5. The Summary of Pearson Correlation Test between Entrepreneurship Interest, Entrepreneurship Intentions, Entrepreneurship Competencies, Business Skills and Fashion Entrepreneurship Program.

		Entrepreneurship Intentions	Entrepreneurship competencies
Entrepreneurship interest	Pearson Correlation	.374*	.217
	Sig. (2-tailed)	.018	.178
Fashion entrepreneurship program.	Pearson Correlation	.269	0.67
	Sig. (2-tailed)	0.93	.680

** Correlation is significant at 0.01 level (2-tailed)

* Correlation is significant at 0.05 level (2-tailed)

In this study, 0.05 significant level was set as an indicator. The above table illustrates the information of the result analyzed. Based on the result of entrepreneurship interest, the finding showed that the value of $r = 0.374$ and the p value is less than 0.05. It means that there is a significant relationship between entrepreneurship interests with entrepreneurship intentions. Therefore it can be concluded that there is a significant relationship between entrepreneurship interest and entrepreneurship intentions.

Discussions and Conclusions

This study examines entrepreneurship interest, intentions and competencies of undergraduate students who attended fashion entrepreneurship program. It was found that the participants' perceptions towards their interest, intentions and competencies are high. These findings indicate that the fashion entrepreneurship program has successfully cultivated entrepreneurship interest, intentions and competencies among the participants. This finding is consistent with Hussain and Norashidah (2015); Matlay (2008); Khuong and An (2016); Doğa* (2015); Tshikovhi and Shambare (2015) and Chang and Rieple (2013) who reported that entrepreneurship education contributes to entrepreneurship intentions. These findings also supported Kourilsky and Walstad (1998) who suggested that entrepreneurship education need to be taught at early stages because it not only cultivates students' entrepreneurship intentions but it also can influence students to choose entrepreneurship as their career upon the completion of their studies (Matlay, 2008; Waldmann, 1997).

In addition to that, analysis of Pearson correlation showed that there is a significant relationship between entrepreneurship interest and entrepreneurship intentions. This finding proved that entrepreneurial intention is influenced by an individual's characteristics. In this study, the students' interest on fashion entrepreneurship, prior experience in implementing fashion-related business and knowledge that they gained from previous courses and training has a great influence towards their intentions. This finding is in line with the previous research done by Noorkartina et al., (2015); Krueger and Carsrud (1993); Matlay (2008); Norhatta et al., (2015) and Tshikovhi and Shambare (2015).

Nevertheless, it was found that there is no significant relationship between fashion entrepreneurship program with entrepreneurship intentions and entrepreneurship competencies. This is due to several circumstances such as; (1) This program was carried out simultaneously during the first semester of 2016/2017 academic calendar, (2) participants of the program consisted of students from multidiscipline and faculties, and (3) participants need to work in groups. These circumstances have manifested as constraints for the participants to find a suitable time to meet with their group members and mentors. At the same time, they could not give full commitment since they have other more important commitment that they need to fulfill. These findings supported Chang and Rieple (2013) who stressed that entrepreneurship education programs need to be schedule in a more structured and timely manner. So it can be concluded that the time consideration plays an important role to ensure the implementation of a program can be achieved. At the same time, students can benefit from all the activities planned and apply this knowledge in the future.

Even though this research showed no significant relationship between entrepreneurship education with entrepreneurship intentions and entrepreneurship competencies of the participants but this study has provided tremendous benefits to the participants. Having skills or knowledge on entrepreneurship alone is not sufficient to drive the students to venture into entrepreneurship. Students need support in the form of practical activities or hands-on to enable them to acquire knowledge from their entrepreneurship environment. This coincided with Chang and Rieple (2013) who stated that the development of entrepreneurial skills can be improved by providing a learning environment in which students interact with real business people in live projects (Cedefop, 2006; Syed Zamberi, 2012). The main benefits gained by the participants from this program were they had the opportunity to work and receive extensive exposure, support and direct guidance from the mentors. Mentoring system indirectly helped to increase their interest to venture into fashion entrepreneurship. The more these future entrepreneurs know about the availability of these environmental driving forces, the higher the chances of them developing entrepreneurship intentions. (Khuong & An, 2016). Other than that, participants also gained countless benefits from the financial support provided by the organizer. Fund grants could provide the opportunity for the participants to perform various activities that require a financial to complete it.

In the context of Malaysia, very limited studies have been conducted to analyze the impact of entrepreneurship education on entrepreneurship outcomes. Hence this study has been conducted to see the impact of learning by doing activities through fashion entrepreneurship project known as

Siswa@Fesyen on students' entrepreneurship outcomes. Results of this study validated the Model of Entrepreneurship Learning and Entrepreneurship Intentions Model. The results of this study also demonstrated that prior entrepreneurship experiences was considered more significant and more positive compared to the other main factors on modeling students' future profession as well as developing entrepreneurship as the key breadwinner of the economy.

Siswa@Fesyen is a development program that focuses on nurturing graduates to become successful entrepreneurs. This program combined several important components in providing knowledge and training to students as preparation and platform to enable students to venture into business and entrepreneurship. This program supports the implementation of Entrepreneurship Development Policy Higher Education Institutions (HEIs) 2016 to 2020, which aims to create more job creators rather than job seekers among university graduates. This program can also be a precursor to the university to multiply such programs in order to increase the interest and the entrepreneurship among university students.

Limitations of the Study and Future Researches

First of all, the most important and practical implication that can be drawn from this research is the role of entrepreneurial education. In terms of economics and social, concentrate on the development of internship programs which provide more opportunities for youngsters to practice in real working conditions and professional environment.

Due to time constraints, the data are limited to a small size of samples at only one university in Malaysia. Findings of this study did not permit generalization and this study should be extended to other programs offered in tertiary education in Malaysia in order to obtain more accurate results. It is suggested that the program developed in this study to be applied at other universities. The variables that we discussed in this study are limited and did not cover the whole factors that may have an influence on entrepreneurial intentions and competencies. Thus, we recommend that future researches should look into other variables that have not been tested in this study.

Acknowledgements

The authors acknowledge the support of Entrepreneurship Division and Public-Private Research Network (PPRN), Ministry of Higher Education Malaysia through Centre of Entrepreneurial Development and Graduate Marketability (CEM) University of Putra Malaysia for the given research grant. We would also like to thank our respondents who contributed with their time and insight. Special thanks to the mentors, fashion experts and staffs for helping us execute the research successfully.

References

- Armanurah, M., Abdul Razak, A., & Syahrina, A. (2005). Kepentingan pendidikan keusahawanan kepada organisasi dan negara. *National Conference on Skills and Competencies in Education*, (pp. 101-106).
- Bygrave, W. D. (1989). The entrepreneurship paradigm: a philosophical look at research methodologies. *Entrepreneurship Theory and Practice*, 14(1), 7-26.
- Cedefop (2009). European guidelines for validating non-formal and informal learning. Luxembourg: Publications Office. Available from Internet http://www.cedefop.europa.eu/etv/Upload/Information_resources/Bookshop/553/4054_en.pdf
- Chang, J., & Rieple, A. (2013). Assessing students' entrepreneurial skills development in live projects. *Journal of Small Business and Enterprise Development*, 30(1), 225-241.
- Doğan*, E. (2015). The effect of entrepreneurship education on entrepreneurial intentions of university students in Turkey. *Ekonometri ve İstatistik Sayı*, 23, 79-93.
- Economic Planning Unit. (2015). *Eleventh Malaysia Plan 2016-2020 Anchoring growth on people*. Kuala Lumpur: Percetakan Nasional Malaysia Berhad.

- Hussain, A., & Norashidah. (2015). Impact of Entrepreneurial Education on Entrepreneurial Intentions of Pakistani Students. *Journal of Entrepreneurship and Business Innovation*, 2(1), 2332-8851.
- Izedonmi, Prince Famous, & Chinonye, O. (2010). The effect of entrepreneurship education on students entrepreneurial intentions. *Global Journal of Management and Business Research*, 10(6), 49-60.
- Khuong, M. N., & An, N. H. (2016). The factors affecting entrepreneurship intention of the students of Vietnam National University - A mediation analysis of perception toward entrepreneurship. *Journal of Economics, Business and Management*, 4(2), 104-111.
- Kourilsky, M. L., & Walstad, W. B. (1998). Entrepreneurship and female youth: Knowledge, attitudes, gender differences, and educational practices. *Journal of Business Venturing*, 13(1), 77-88.
- Krueger, N. F., & Carsrud, A. L. (1993). Entrepreneurial intentions: applying the Theory of Planned Behavior. *Entrepreneurship & Regional Development*, 5(4), 315-330.
- Lackeus, M. (2015). *Entrepreneurship in education what, why, when, how*. European Commission.
- Linan, F., Rodriguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: a role for education. *International Entrepreneurship and Management Journal*, 7(2), 195-218.
- Ministry of Education Malaysia. (2013). *Malaysian Education Blueprint 2013-2025 pre-school to post-secondary education*. Putrajaya: Ministry of Education Malaysia.
- Matlay, H. (2008). The impact of entrepreneurship education on entrepreneurial outcomes. *Journal of Small Business and Enterprise Development*, 15(2), 382-396.
- McClelland, D. C. (1985). *Human motivation*. Glenview, IL: Scott, Foresman.
- Mohd Khairuddin, H., & Syed Azizi, W. (2002). *Small and medium-sized enterprises in Malaysia: development issues*. Kuala Lumpur: Prentice Hall Pearson.
- Noorkartina, M., Hock-Eam, L., Norhafezah, Y., & Jan-Jan, S. (2015). Estimating the effect of entrepreneur education on graduates' intention to be entrepreneurs. *Education and Training*, 57(8/9), 874-890.
- Norashidah Hashim, Norasmah Othman, & Noraisah Buang. (2009). Konsep kesediaan keusahawanan berdasarkan kajian kes usahawan Industri Kecil dan Sederhana (IKS) di Malaysia. *Jurnal Pendidikan Malaysia*, 34(1), 187-203.
- Norasmah Othman, Norashidah Hashim, & Hariyaty Ab. Wahab. (2012). Readiness towards entrepreneurship education students and Malaysian universities. *Education + Training*, 54(8/9), 697-708.
- Peterman, N. E., & Kennedy, J. (2003). Enterprise education: Influencing students' perceptions of entrepreneurship. *Entrepreneurship theory and practice*, 28(2), 129-144.
- PricewaterhouseCoopers (PwC) (2015). *2015-2016 Outlook for the retail and consumer products sector in Asia*. Retrieved from <https://www.pwc.com/id/en/publications/assets/cips/2015-16-outlook-for-the-retail-and-consumer-products-sector-in-asia.pdf>
- Rasmussen, E. A., & Sørheim, R. (2006). Action-based entrepreneurship education. *Journal of Technovation*, 26, 185-194.
- Syed Zamberi, A. (2012). The need for inclusion of entrepreneurship education in Malaysia lower and higher learning institutions. *Education and Training*, 55(2), 191-203.
- Zhang, Y., Duysters, G., & Clodt, M. (2013). The role of entrepreneurship education as a predictor of university students' entrepreneurial intention. *International Entrepreneurship and Management Journal*.

IMPLEMENTATION OF A YOUTH-ADULT PARTNERSHIP IN MALAYSIAN UNIVERSITY-COMMUNITY COLLABORATIVE: MANAGING MULTIPLE HIERARCHIES FOR YOUTH DEVELOPMENT

Eugene Fransua Arokiasamy & Steven Eric Krauss
Institute of Social Science Studies, Universiti Putra Malaysia
eugenearokiasamy@yahoo.com, lateef@upm.edu.my

ABSTRACT

This paper focuses on a youth-adult partnership (Y-AP) based university-community collaborative called the Books for Peace Initiative 2017-2020. The article describes the development, implementation challenges and success of Y-AP-based not-for-profit, university community collaboration in Malaysia. Grounded in bioecological theory and development relationships as a key medium of facilitation for positive youth development with Y-AP as the recognised practice for implementation, achieving the project objectives. Although much of the previous research on Y-AP is qualitative in nature, case studies continue to be effective way of building a cross-cultural knowledge base point to different ways that Y AP can be used to develop young people and build effective youth-adult collaboration. This paper reports on a Y-AP university-community collaborative involving youth aged 20-25. Specifically we set out to describe the implementation of Y-AP in a non-Western setting. The case study focuses on the description of as well as strategies for overcoming three types of hierarchical barriers common within large, bureaucratic institutions in non-Western settings. Youth and Adult relational culture as well as the bureaucratic culture of the public university setting are dealt with and discusses. It is an inductive study which will include both qualitative and quantitatively based data, is envisaged to produce research findings that may lead to unique grounded theoretical perspectives from an Asian viewpoint. It also compares this Asian viewpoint with the Western viewpoint, which includes differing power-distance relationships, and levels of agency and empowerment of both youth and adults

Keywords: Youth-Adult Partnership, Positive Youth Development, Youth Inclusion, Youth Agency, Youth Empowerment, Youth Policy, Youth Project Design and Management, Orientalism.

Introduction

This pioneering research study on Y-AP is being conducted in Malaysia because of the recent developments in the country with reference to new youth development directions (Zeldin et.al, 2016, Krauss 2014). Two new inroads to the field of youth development in Malaysia are: a) The adoption of the Youth and Youth Societies Act 668, in 2007 reducing the youth age ceiling from 40 to 30 years of age (KBS website, 2017); b) The introduction of the Malaysian Youth Policy 2015 which adopts Positive Youth Development (PYD) theory as the guiding instrument for new approaches, principle and practice guides for youth development in the country over the next 30 years (KBS book, MYP 2015). The MYP 2015 with PYD as a guiding youth development philosophy has also brought about the Youth Transformational Programme 2015 which aims to re-engage “Youth-at-Risk”, and utilize youth-adult partnerships to promote inclusivity as a core objective in youth development (KBS book, MYP 2015). Inclusivity is an approach called by the new development strategy of the government of Malaysia in the 11th Malaysia Plan - the 1st Strategic Thrust for nation building, Inclusivity (ICU, 2014, EPU, 2015).

This paper begins with the examination of the concept of Y-AP within the framework of PYD and its role in development the agency of youth in the Collaborative being run as a partnership project led by a NGO with a public University and other partners. Universities in Malaysia, as they are in most Asian nations, by nature are bureaucratic, patriarchal in style and governed by direct and indirect

influences of cultural and religious conservatism. The University administration is adverse to rights based youth empowerment programmes on campus due to the Universities and Colleges Act 1971 which regulates all youth campus activities, despite the fact that the educational syllabus includes studies on rights based political, economic and social empowerment models used in other nations. Unlike Western nations, the Ministry of Higher Education has a significant direct influence on all matters concerning educational development in public universities in Malaysia. There are currently 20 public universities in Malaysia. (www.etawau.com/edu/IndexUniversityGovernment.htm).

The Case Study – The PSBM- UPM Book for Peace Initiative Y-AP Model: Overcoming barriers with appropriate processes. The Books for Peace Initiative 2017-2020 is a collaborative is a joint-venture, promoted by Persatuan Sahabat Buku Malaysia (A Book for A Friend Society Malaysia) a registered non-governmental organization, the Institute for Social Science Studies (IPSAS), Further learning Institute (JPPL) and the Office of the Deputy Vice Chancellor, Industry and Community relations (JINM) of Universiti Putra Malaysia. The aim of the initiative is to promote the „spirit of caring and sharing“ by inspiring the public to collect books and other reading materials for sharing with others in Malaysia and abroad who want to read, irrespective of economic status (PSBM, website 2017). It is a literacy and educational empowerment initiative that seeks in the short-term to encourage sharing of books for the reading habit enhancement and in the medium term to enable the realization of a global initiative to establish multi-purpose Blue Ocean Community Libraries and Peoples“ Learning Centres in Malaysia managed by some of the youth and adults who have been in the Y-AP process from conception of the initiative. In the long-term this project will be extended, as a model template around the world (MOSTI, Yayasan Inovasi, 2017).

As a project the PSBM leadership who are primarily adults, but not exclusively, have been committed to the Y-AP process for realizing the aims and objectives of the initiative from the outset. The project partners and youth have subscribe to and rallied behind in order to create a „level playing field“ between youth and adults (Minutes of the Planning meetings 1,2,3, 2017). A special youth committee was established by the President with the backing of the National Executive and on authority of the AGM (PSBM, ROS report, 2016). The youth committee operates with strict criteria of pluralism, and that aims to give the youth a „voice“ and decision-making powers to create their own implementation strategies in partnership with the national executive committee, national and international advisors and patrons, as intermediaries in the Y-AP process. Clear structures, roles and responsibilities of been put into place at the outset, and continuously evolve. The gender balanced Co-Chairpersons of the Youth Committee have the equivalent authorities of a National Vice Presidents in the society, and hold automatic seats in the National Executive Committee (National EXCO decree, 2017). The principle of gender equality and women“s empowerment is given a priority, as is race and religious diversity of committee members. Accessed for disable persons is highly assured, and participation persons of different sexual orientation is not hindered (Presidential Decree, 2017). The processes used enable a unique and ground-breaking approached that allows for multi-level partnerships between students, staff and management and between students and youth of different ages and backgrounds, thus encouraging youth to take ownership of tasks that they are familiar and comfortable with, at the same time challenging them beyond their „comfort zones“ as part of their agency and empowerment development.

Socio-Cultural Context in Malaysia

Malaysia was officially colonised for over five hundred years, by four main colonial powers - the Portuguese, Dutch, British and Japanese [the Japanese were Military occupier]. During these periods

of colonisation, and primarily during British colonisation period, the demographics of the nation were drastically changed by the introduction of migrant populations, most of who were incorporated as citizens at independence (Means, 1991; Wang G.W. 2001). Malaysia is a nation of „individually complex federation of states“ with a constructed „hybrid population“, in many way similar to that of the United States of America or Australia and Singapore (Means, 1991).

Malaysia unlike most other nations that were colonised has a significant mix of ethnicities in the demographic composition of the nation. Malaysia does not have the homogeneity of societal construct as in Nordic countries like Sweden where it is estimated that only 11% of the population is born out of the country (www.diversityjournal.com) or in Singapore with ethnic Chinese making up 74.2% of the population (www.indexmundi.com) or Senegal with 95% of the population being Muslim (<http://en.reingex.com/Muslim-population-countries.asp>).

At independence Malaysia, in comparison to neighbouring countries had a distinct individuality of its own (Zawawi, 2004). There are four main areas in which it differed substantially from its neighbouring and other nations: a) A Hybrid population with a multiracial composition -

Malaysia is the veritable model of a heterogeneous, multi-ethnic, or plural society (Snodgrass, 1995, Hirshman, 1986); b) Constitution which takes into account and specifies rights by ethnicity and religion; c) Economy which seeks equalize wealth distribution among ethnicities, with positive action programmes and a series of Malaysia Development plans (NEP, 1960; NEM, 2010; Malaysia Plans 1-11) and d) the nature of its government and political party system - which was shaped by its socio-multicultural and inter-faith composition of the nation (Means, 1991, Hirshman 1986). Malaya gained independence on the 31 August 1957. Malaya gained independence on the 31 August 1957. From 1948 to 1960 Malaya, was in a state of “emergency”, provoked by communist guerillas which lasted 12 years. In 1963 Malaysia’s population was made-up of the complex mixture of ethnic communities with 45.9% Malaya’s, 35.9% Chinese and 9.6% Indians, 6.6% non-Muslim natives and 2.2% representing „others“ of the population (Dept. of Statistics, 1965).

By 2010 the Malaysian population was estimated to be approximately 28.3 million, in which Malaysians make up around 91.8 per cent and the remaining 8.2 per cent are non-citizens. Malaysian citizens consist of Bumiputra ethnic groups (67.4%), Chinese (24.6%), Indians (7.3%), and others (0.7%). Malaysian citizens who profess Islam have recorded the highest percentage (61.3%), followed by Buddhists (19.8%), Christians (9.2%), Hindus (6.3%), and the remaining are from other religious groups (Census 2010, Department of Statistics Malaysia, 2011). In 2015, according to the ICU of the Prime Minister’s office, the population demography of 30.5 million residents changed to Malay (55.1%), Chinese (23.7%), Indian (7.2%) and others 14.0%). While the Economic status of Malaysia was represented by a 6.0% GDP growth rate, with a Per Capita Income of USD10,796 (2014), (ICU, JPM, 2015).

Review of Literature

This research case study is being undertaken to examine the opportunities and challenges in the development of Youth within the context of facilitating youth participation which is inclusive in the PSBM-UPM Books for Peace Initiative – the PSBM-UPM Collaborative. This research process takes into account primarily the concepts youth-adult partnerships, but not exclusively. It looks at the youth polices and youth development theories adopted in Malaysia generally that influence in order to enable youth participation in decision-making and project design, implementation and management.

What this research proposes is that on a policy level a new youth development model has been adopted in Malaysia over the past 10 years. However it has been rare that this new model is put into practice. Thus as the PSBM and UPM partners are keen to see the holistic development of youth at a local, national and international level this new model. The model has been adopted by PSBM-UPM Collaborative as the optimal practice model for use in inclusive organizational and programme development, and also for research on modeling for template development in the case of the need to replicate in other countries in the near future. The PSBM-UPM Collaborative model uses processes of direct consultation with youth and decision-making by youth, who are the primary target of youth development policy and recipients of youth development initiatives and programmes.

Traditionally the development process of youth in Malaysia has been mainly directed by the Ministry of Youth and Sport or other Adult institutions or agents, which is adult-led (UNESCAP, 1999, 2002). For instance in mainstream youth development it is the National Youth Consultative Council, the Malaysian Youth Council and youth organisations, which are mainly semi youth-led, - by the definition of youth in Malaysia, National Youth Development Policy (NYDP 1997, www.kbs.gov.my), 15 to 40 years and revised by the 2007 Youth and Youth Societies Act (www.kbs.gov.my) and the Malaysian Youth Policy 2015 (MYP, 2015) 15 to 30, enforceable in 2018 – that play a parallel role to the Ministry of Youth and Sports in youth development (UNESCAP, 1999, 2002). The change in policy began in Malaysia with the adoption of the Youth and Youth Societies Act, 2007 (www.kbs.gov.my), and more recently with the Malaysian Youth Policy 2015 (MYP, 2015). The new paradigm has also led to a new approach to the use of youth-adult partnerships (Y-AP) and the use of positive youth development (PYD) theory to develop the youth development agenda, namely policy and programmes, in Malaysia (KBS, 2017, www.kbs.gov).

The qualitative research by case study focuses on the PSBM-UPM Collaborative as one of the newly created youth-adult partnership projects which has been born as a result of the need to put into practice the call for the paradigm shift from adult-led to youth-led project for youth, and by youth, with the support of adults. It is thus also one of the most recent examples of this new youth-led Y-AP approach and modality.

The new Y-AP approach in the PSBM-UPM Collaborative aims to ensure that youth can be directed by youth as to what youth want – the youth „voice“; how youth can shape the process; and how youth lead in decision-making; how youth can develop their skills and abilities; and even how they react to such youth development policy initiatives and programmes, knowing that they have adult resource support (KBS, MYP booklet, 2015; Zeldin et.al., 2014; Mitra, 2009; Kirshner B, O'Donoghue J, McLaughling, M 2005). Thus, a complementary partnership of mutual benefit (Hamilton, 1980; National Taskforce on Citizen Education, 1977) between youth and adults in the realization of optimal youth programme design, development and implementation is now practiced in Malaysia. Some of the leading proponents of Y-AP, Zeldin, Krauss, Kim, Collura & Abdullah (2016, p.1638), in their recent empirical research article on Pathways to Youth Empowerment and Community Connectedness: A Study of Youth-Adult Partnership in Malaysian After-School, Co-Curricular Programs in the *Journal of Youth Adolescence*, acknowledge this new approach in Malaysia and posit that, “quality mannered organized youth programmes [in Malaysia] can...become influential settings for development because they provide opportunities for youth to have a voice in decision-making, to work on projects that have relevance to them, to take leadership on progressively challenging tasks from the initiation to completion of projects, and quite often, demand a sharing of power and reciprocity with adult staff and volunteers (Benson et. al. 2006; Zeldin et. al.2005).”

As a new mode of operation by the PSBM, the creation of the PSBM-UPM Collaborative is an example of this new type paradigm which is primarily „bottom-up“ in nature, thus designed and developed through consultation with youth in the Youth Committee and by the adults, in particular the PSBM National Executive Committee and staff of from the Universiti Putra Malaysia up to the levels of the Deputy Vice Chancellor (JINM) and Vice Chancellor of the University. It is also now formally enabling an understanding of the process of partnership adopted by the PSBM-UPM Collaborative to encourage youth-adult partnership, rather than the more commonly adopted process of adult-led youth development. This directly and indirectly allows for youth to become decision-makers of their own youth policies for their own development process (Zeldin et.al., 2016; Zelden, Christens & Powers , 2013; Akiva, Cortina, & Smith, 2014; Krauss et.al, 2014). As the PSBM-UPM Collaborative model facilitates processes that encourage youth to decide „what they want“ through a unique process of informal and formal dialogue. The underlining youth development theoretical framework used in the PSBM-UPM Collaborative is to encourage youth participation in this new youth-led approach is that of PYD, agency and empowerment. PYD is the guiding theory of the MYP, 2015 and Ministry of Youth and Sports (KBS, MYP booklet, 2015). The theory of PYD (Lerner, R.M., J.B., Lewin-Bizan, S., Bowers, R.P., Boyd, M.J., Mueller, M.K., Napolitano, C.M., 2011; Benson, Scales, Hamilton, Sesma, 2006; Damon, 2004) is used by the PSBM-UPM Collaborative as the theoretical guide on youth development to facilitate the creation of an environment that at a macro level enables agency (Alkira, 2005; Bandura, 1997) development and at the micro level youth empowerment (Zimmerman, 2000; Kabeer 2005; Wong, Zimmerman & Parker, 2010) over a short, medium and long-term.

Proposed Theoretical Framework

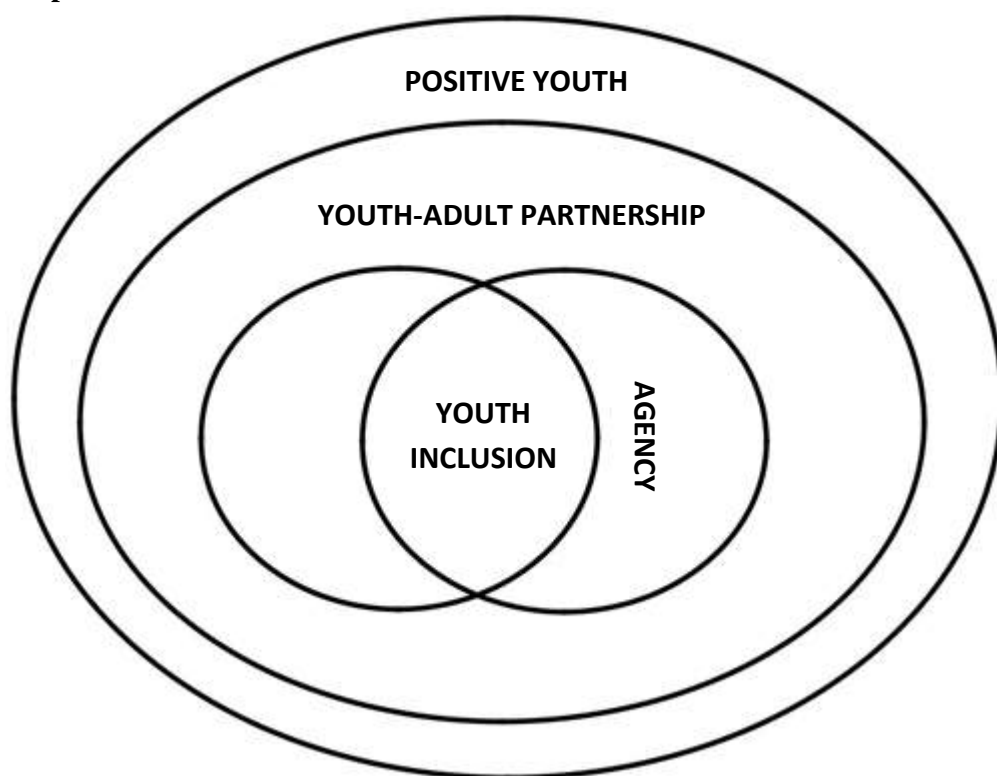


Diagram 1: PSBM-UPM Collaborative Theoretical framework

Methodology

The research examines and describes the barriers to the realization of Y-AP in Malaysia using the research method of triangulation - observations, interviews and data collection as a qualitative case study (Yin, 2014; Merriam & Tisdell, 2016). It is an inductive study which will include both qualitative and quantitatively based data, is envisaged to produce research findings that may lead to unique grounded theoretical perspectives from an Asian viewpoint. It also compares this Asian viewpoint, which includes differing power-distance relationships, and levels of agency and empowerment of both youth and adults. In doing so, the research case study investigates three phenomenon using the Bronfrenbrenner (1979, 2005) bioecological model approach, namely:

- i) Hierarchy 1 – Traditional youth and adult power relations and how culture hinders youth voices, shapes adult support through the assumptions and expectations that both have of the relationship;
- ii) Hierarchy 2 – University systems, bureaucracies and culture;
- iii) Hierarchy 3 – Traditional teacher-student relationships which exist within the university culture of traditional student-teacher relationships.

The use of the Bronfrenbrenner (1979, 2005) bioecological model for descriptive case study research on this subject matter is appropriate as it enable the understanding of the dynamic interrelations among various personal and environmental factors. UPM Campus ecology is taken to identify university campus ecology provides a multifaceted view of connection among the PSBM-UPM Collaborative project, learning, productivity and the campus structure. These factors are varied and by range from human characteristics such as ethnicity, gender, age; to physical settings of accessibility of venues; to the interrelationships between the students, non-students – acceptance and friendship; to the National Executive Committee members of PSBM and the academics and administrative staff and the youth/students - the power-distance relationship; to the organizational and/or social climate - intervening cultural, ethnic and religious influences and biases (Bronfrenbrenner, 2005).

References

- Akiva, T., Cortina, K.S., & Smith, C. (2014). Involving youth in program decision-making: how common and what might it do for youth? *Journal of Youth and Adolescence*, 43 (11), 1844-1860. doi: 10.1007/s10964-014-0183-y
- Alkira, S. (2005). Subjective quantitative studies of human agency. *Social Indicators Research*, 74, 217-260. Doi:10.1007/s11205-005-6525-0
- Bandura, A. (2008). Towards an agentic theory of theory of the self. In H. Marsh, R.G. Craven & D. M. McInerney (Eds.), *Advances in Self Research*, Vol. 3: Self-processes, learning and enabling human potential (pp.15-49). Charlotte, NC: Information Age Publishing. 14
- Benson P, Scales, Hamilton, Sesma . (2006) *Positive Youth Development: Theory, Research and Application*. Handbook on Child Psychology, Volume 1, Theoretical Models Of Human Development, Sixth Edition. Publisher: John Wiley & Sons. ISBN: 0-471-27287-6
- Bronfrenbrenner, U. (1979). *The ecology of human development: Experiment by nature and design*. Cambridge., MA. Harvard University Press.
- Bronfrenbrenner, U. (Ed.). (2005). *Making human beings human: Bioecological perspectives on human development*, Thousand Oaks, CA: Sage. Census 1965, Department of Statistics, Government of Malaysia, 1966 Census 2010, Department of Statistics, Government of Malaysia, 2011
- Damon, W. (2004). What is positive youth development? *Annals of the American Academy of Political and Social Science*, 591(1), 13–24.

- Economic Planning Unit (EPU) New Economic Policy (NEP, 1970), Prime Minister's Office, Government of Malaysia.
- Economic Planning Unit (EPU) New Economic Model (NEM 2010), Prime Minister's Office, Government of Malaysia, Chapter 1.
- Economic Planning Unit (EPU) Eleventh Malaysian Plan (11th Malaysia Plan, 2015), Prime Minister's Office, Government of Malaysia, Chapter 1.
- Hamilton, S. F., & Hamilton M. A. (Eds.). (2004). *The Youth Development Handbook: Coming of Age in American Communities* (pp.3-22) Thousand Oaks: Sage Publications. Inc.
- Hirschman, C. (1986). *The Making of Race in Colonial Malaya: Political Economy and Racial Ideology*. *Sociological Forum* 1 (2): 330-361. Spring 1986, Volume 1, Issue 2, *Sociological Forum* is published by Kluwer Academic Publishers, USA
- Implementation Coordination Unit, Prime Minister's Office, Government of Malaysia (ICU, JPM), 2015
- Kabeer, N. (2005). Gender equality and women's empowerment: a critical analysis of the third millennium development goal. *Gender and Development*, Vol, 13. pp 13-24.
- Kirshner B, O'Donoghue J, McLaughling, M. (2005). Youth-adult research collaborations: bringing youth voice to the research process In: I.Mahoney J, W.Larson R, S.Eccles J, eds. *Organized Activities, After-School and Community Programs..* Mahwah, NJ: Lawrence Erlbaum Associates, 2005;131-156.
- Krauss, S.E., Collura, J., Zeldin, S., Ortega, A., Abdullah, H., & Sulaiman, A.H. (2014). Youth Adult partnership: Exploring contribution to empowerment, agency and community connections in Malaysia youth programs. *Journal of Youth and Adolescence*, 43, 15501562. doi: 10.1007/s10964-013-0027-1
- Lerner, R.M., J.B., Lewin-Bizan, S., Bowers, R.P., Boyd, M.J., Mueller, M.K., Napolitano, C.M. (2011). Positive youth development: Processes, programs, and problematics. *Journal of Youth Development*, 6(3), 41-64.
- Malaysian Youth Policy Book 2015. Kementerian Belia dan Sukan, (Ministry of Youth and Sports), ISBN:
- Means G. (1991). *Malaysian Politics: The Second Generation*. Oxford University Press, UK ISBN0-19-5889988-6
- Merriam, S. B., & Tisdell, E.J. (2016). *Qualitative research: A Guide to design and implementation*. San Francisco, CA: Josset-Bass.
- Mitra (2009). Strengthening student voice initiatives in high schools: an examination of the support needs for school-based youth-adult partnerships. *Youth Soc.* 40:311-335
- National Youth Development Policy 1997, Kementerian Belia dan Sukan, (Ministry of Youth and Sports), www.kbs.gov.my
- Shariff, Z (2008). Competencies of Youth and Sports Officers in the Ministry of Youth and Sports Malaysia. *The Journal of Human Resources and Adult Learning*, Vol.4, Num.2, December 2008, University Putra Malaysia.
- Snodgrass, D. R. (1995). Successful economic development in a multi-ethnic society: the Malaysian case No. 503. Harvard Institute for International Development, Harvard University.
- UN Economic and Social Commission for Asia and the Pacific (UNESCAP), (1999). *Report on the Capacity-building in HRD policy for Youth in Asia and the Pacific*, United Nations Publications.

- United Nations Economic and Social Commission for Asia and Pacific (UNESCAP), (2002). YOUTH IN MALAYSIA: A Review of the Youth Situation and National Policies and Programmes, United Nations Publications.
- Wang Gung Wu. (2001). Continuities in Island Southeast Asia” in Jomo K.S, ed., *Reinventing Malaysia. Reflections on its past and Future*. Penerbit Universiti Kebangsaan Malaysia, 2001, 24-25.
- Wong NT, Zimmerman MA, Parker EA. (2010). A typology of youth participation and empowerment for child and adolescent health. *American Journal of Community Psychology*, 46.100-114.doi: 10.1007/s10464-010-9330-0
- Yin, R.K. (2014), *Case study research: Design and methods* (5th ed.). Thousand Oaks, C: Sage.
- Zawawi, I. (2004). GLOBALIZATION AND NATIONAL IDENTITY: Managing Ethnicity and Cultural Pluralism in Malaysia, Chapter 9, cited from *Growth and Governance in Asia* (2004) Published 2004 by the Asia-Pacific Center for Security Studies, Hawaii, USA.
- Zeldin, S., Krauss, S.E., Kim, T., Collura, J. & Abdullah, H. (2016) Pathways to youth empowerment and community connecteness: A study of youth-adult partnership in Malaysian after-school, co-curricular programs. *Journal of Youth and Adolescence*, 1 14. Doi:10.1007/s10964-015-0320-2
- Zeldin, S., Krauss, S.E., Collura, J., Lucchesi, M., & Sulaiman, A. H. (2014). Conceptualizing and measuring youth-adult partnership in community programs: A Cross national study. *American Journal of Community Psychology*, 54(3-4), 337-347. doi: 10.1007/s10464 014-9676-9
- Zelden, S., Christens B.D. & Powers, J.L. (2013). The psychology and practice of youth-adult partnership: bridging generations for youth development and community change. *American Journal of Community Psychology*, 51:385-397. doi: 10.1007/s10464-012 9558-y
- Zimmerman, M. (2000). Empowerment theory. In J.Pappaport & E Seidman (Eds.), *Handbook of Community Psychology* (pp.43-63). New York: Kluwer Academic/Plenum.

Website References

Diversity Journal: www.diversityjournal.com

Government Universities Index: www.etawau.com/edu/IndexUniversityGovernment.htm

Index Mundi: www.indexmundi.com

Ministry of Youth and Sport, Government of Malaysia (KBS): www.kbs.gov.my

Persatuan Sahabat Buku Malaysia (PSBM): www.sahabatbukumalaysia.org.my

POSITIVE YOUTH DEVELOPMENT: THE ROLE OF THE YOUTH-ADULT PARTNERSHIP AND HARDINESS

¹Katayoun M. Nouri & ²Steven Eric Krauss

¹Institute for Social Science Studies (IPSAS), Info port Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

²Faculty of Educational Studies, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

¹ mkataioon@yahoo.com, ² lateef@upm.edu.my

ABSTRACT

This article explores the relevant literature on youth-adult partnership and hardiness as important contributors to positive youth development. Despite a rich literature on the importance of youth-adult partnership in achieving positive youth development outcomes, the mechanisms through which this takes place are not yet fully understood, especially in non-Western cultural contexts. This study aims to extend this work by proposing the role of hardiness that is an interacting set of positive attitudes in youth as a potential moderator of relationships between youth-adult partnership and positive youth development. Hardiness has been shown to be an important contributor to positive youth development outcomes. This article depicts positive youth development as a practice in which youths play a central role in their own development. Specifically, the discussion centres on how youth-adult partnership, which is the relationships between youth and adults in community settings, can enhance the positive development of youths and how hardiness may play a role as a moderator in this relationships. This achieved by two main components of youth-adult partnership, which are youth voice in decision making and supportive adult relationships. Although much of the current debate revolves around youth-adult partnership affecting positive outcomes of youth, there are ambiguities in this area. This article is an attempt to address the gap in knowledge concerning the relationship between youth-adult partnership and positive youth development. More so, to date there has been a lack of research into the role of hardiness in promoting positive youth development. Thus, to portray the issue in terms of hardiness, this paper attempts to clarify hardiness as a moderator in this relationship. In conclusion, evidence suggests a strong relationship between youth-adult partnership and positive youth development outcomes, and the potential of hardiness to further enhance this relationship. Therefore, more empirical work is needed to test this relationship.

Keywords: Youth-Adult Partnership, Positive Youth Development, Hardiness, Secondary School, After-school Programme

Introduction

Positive youth development focuses on the process of development that results in positive behavioural outcomes for youth (Bowers et al., 2010) PYD is a strengths-based approach, which declares that the connections between youth and the environment appear to be critically important as such connectivity will shape the development of youths (Chan et al., 2013; Lerner et al., 2015). More so, PYD focuses on how youths and their connectivity to the family, peers, schools, and community form their development (Chan et al., 2013). PYD includes the “Five Cs” that are: Competence, Confidence, Connection, Character, and Caring (Lerner et al., 2015). These components can be employed to determine healthy development and specifications, which place youth on a life pathway indicated by useful connections of youth and context, which in turn, causes a “Sixth C” in the form of the Contribution to self, society, and community by youths (Lerner et al., 2015).

Recently, developmental research has provided ample support for the assertion that PYD takes place via an intentional procedure, which provides chance, selection, connection, and reinforcement essential for youths to attain their potential (Bowers et al., 2015; Lerner et al., 2015). Families, neighbourhoods, school programmes such as afterschool and community programmes are recognised as resources to elevate the positive development of youths. One of the most significant resources is the

relations of youths with caring and trusted adults (Bowers et al., 2015). Following the reasoning of Bronfenbrenner (1979) in the Bio Ecological Theory, youths play a role in their own development through relations with others by two primary assertions. First, developmental processes occur within embedded, interacting systems, and second, interaction between a youth's biology and the environment fuels development.

The social relations of youths with adults in the community have been the focus of a wealth of prior research (Seidman, 2011; Wong, Zimmerman, & Parker, 2010). As indicated in Christens and Peterson (2012) and Sullivan and Larson (2010), it is clear that the social development of youths is raised when their engagement in the community is coupled with a beneficial connection to adults. In the community context, youth-adult partnership (Y-AP) is an occurrence of special concern. Conceptualised as both a developmental process and form of community involvement, Y-AP includes youths and caring adults working together to realise the shared concerns (Zeldin et al., 2014).

Y-AP underlines that healthy communities are achieved through the measured involvement of all participants. As such, youth must be supported to find and understand their appropriate roles. Y-AP emphasises respectful relations between caring adults and youth, with a focus on sharing within the learning process (Camino, 2000). In Y-AP, both youths and adults are challenged to share their experiences to benefit the other. Accordingly, this can enhance community learning by both parties taking part in important discourse, skill-raising, and collective works (Linds, Goulet, & Samual, 2010).

There is evidence to suggest that social adjustment takes place when both youth and adults share experiences of their connections, which is important to increase the involvement of youth in the community (Wong et al., 2010). Developmentally, Li and Julian (2012) demonstrated that during the teenage years, mentors who display a high level of control often fail to involve youth, often leading to conflict and dissatisfaction. "Developmental relationships", specified by the equilibrium of power between youth and adults, have a greater chance of facilitating the development of youth by providing youth with opportunities and resources to develop a sense of belonging, competence, usefulness, and empowerment to build their contribution skills (Bowers et al., 2015) In this process, both youth and adults attain beneficial results such as leadership skills. Moreover, the participation of youth in communities may enhance the development of adults, and strengthen institutions and programmes as well (Sherrod, Torney-Purta & Flanagan, 2010; Youniss & Levine, 2009).

Despite the possible role of Y-AP to boost PYD and strengthen communities, there are still gaps in current efforts at building theory and practice. Even with the availability of much valuable research, Y-AP remains unknown to many. The conceptual challenges and the imbalance in explanation have restricted endeavours to combine existing knowledge. In spite of the fact that studies have increased during the prior decade, the deficiency of understanding of the main elements which underlie useful Y-AP, still remains (Wong et al., 2010; Zeldin et al., 2014). In an effort to advance the field of Y-AP and PYD, the aim of this study is to assist in filling this gap. This paper commences by tracing the way in which Y-AP has been of interest to researchers, policy makers, and practitioners over the past few decades. From this viewpoint, Y-AP is known as an effective part of PYD. Due to this fact, this study attempts to describe the construct in a manner that is consistent with prior studies.

Youth-Adult Partnership

The rapidly growing amount of literature concerning Y-AP indicates that Y-AP is becoming a core practice for the positive development of youths (Zeldin, Christens, & Powers, 2013). However, the involvement of youth in organizations as partners with adults remains only a general concept. Most surely, in Western culture the typical constructions are not ready to mobilise the possibility of the involvement of youths and a partnership in society. Any effort to involve youth in programs is often mistaken as Y-AP. One such example is the term "youth participation," which does not necessarily mirror the pluralistic developmental associations or the equilibrium of power between youths and adults found in Y-AP (Li & Julian, 2012).

Accordingly, the aim of this article is to examine Y-AP within the context of Malaysia. The main elements of Y-AP allow a positive effect on youths such that youths can attain better control in their setting when they have a voice and feel responsibility in the context specified by a mechanism of shared opinions, emotional support, a chance to play different roles, and finally, acceptance of the changes (Yohalem & Wilson-Ahlstrom, 2010). Briefly, Y-AP at the best level entirely includes the types of relationship that form the basis of youth development (Zeldin et al., 2013). A growing body of research indicates that when youth take on decision making within organization and communities, their positive development is enhanced (Sullivan & Larson, 2010; Christens & Peterson, 2012). Former studies have indicated that decision making is a main element of Y-AP. As an example, the chance to become involved in decision making in various community programmes has been discovered to attract and maintain minority youths who find their environment very challenging (Deschenes et al., 2010). Despite these associations, we still know little about what moderates this relationship in terms of youth, particularly youth in non-Western contexts. The aim of this study is to clarify hardiness as a potential moderator in this relationship.

Hardiness

Kobasa (1979), introduced the term 'hardiness' for the first time as a way of comprehending an individual's connection with other people, aims, and difficulties. Hardiness has been developed into a theoretical framework known as the hardiness construct that examines the reasons why some individuals, even under stressful conditions, are able to deal with problems (Maddi et al., 2012). Maddi and colleagues (2011) presented hardiness as a capability synthesised from three components: commitment, control, and challenge, which allow a person to manage difficulties in his/her life. Commitment is defined as an individual's participation in activities such as academic, sports, and work that are deemed worthwhile and interesting to him/her. Control reflects the belief that one's life is controllable and that one can make his/her own decisions. Finally, challenge is defined as how an individual comprehends the world. (Maddi et al., 2011). A hardy individual, when faced with a high degree of challenge, will use their power and ability attained from prior experiences to overcome the difficulties they face, rather than retreat from problematic situations (Abdollahi, Talib & Yaacob, 2014). According to Kobasa, (1979), two processes play a role to clarify the hardiness effect. First, a hardy person has a more positive perception of the environment and can appraise difficult situations as challengeable and controllable rather than threatening. Secondly, a hardy person tries to obtain experience from difficulties (Delahaij et al., 2010; Maddi et al., 2011).

To date, research has revealed that youth who have a high level of hardiness tend to portray more life enjoyment, happiness, and physical and mental health (Cunningham & De La Rosa, 2008; Delahaij, Gaillard, & van Dam, 2010). In contrast, studies illustrating people with a low level of hardiness have a greater tendency to show depression, stress, and anxiety disorders (Eschleman, Bowling & Alarcon, 2010). Maddi (2006) put forward that youth comprehend problematic conditions as challenging or threatening. Subsequently, the resources to challenge such difficulties in context are found to be sufficient and available, and then, youth behave appropriately in order to overcome the problem. A possible explanation for this finding is due to the aforementioned mechanisms, as Y-AP is essential to affect and enhance the strength of youths. Therefore, the aim of this study is to clarify hardiness in the context of minority Malaysian youth as minority youth usually experience alienation in their setting and feel disengagement in the community. It is plausible that these youths usually perceive their environment as challenging and stressful. This study aims to expand the hardiness theory in Malaysian secondary students. Our literature review highlights the importance of hardiness as an influencing factor for healthy development. Moreover, our literature review highlights the lack of research on youth-adult partnership, positive youth development, and hardiness that is considered to be essential for the positive development of youths in particular and society improvement.

Moreover, although some research has been carried out on hardiness (Maddi, 2006; Abdollahi et al., 2016; Maddi et al., 2011), no single study exists that investigates hardiness moderating the relationship between Y-AP and PYD in the Asian culture. In Asian culture, working with adults in partnership is something that most youth are not accustomed to, and might find it challenging due to

cultural assumptions about roles and power. However, youth that are higher in hardiness might be more likely to not only take on the challenge of youth-adult partnership but benefit from it more due to their acceptance and realization of the importance of challenge and new experience. The reason why youths with high levels of hardiness show high levels of positive youth development (5Cs) is ambiguous. Therefore, as to date most studies in the field of hardiness have only focused on perceived stress (Abdollahi et al., 2014), thus this article may be useful in clarifying the association between the youth-adult partnership and positive youth development by the moderating role of hardiness among a minority youth in Malaysian secondary schools in the context of an Asian culture.

Discussion

In Malaysia, youth policy is a major concern of protecting youths and preparing them for leading the future of the country (Kiadarbandsari et al., 2016). The perspective of positive youth development supports the notion that each youth has strengths and is capable of prosperous development (Lerner et al., 2015). The main aspect of this viewpoint is youth-adult partnership. Y-AP as a way of promoting PYD is an outcome of the PYD perspective, where it supplies accurate support and chances for evoking and encouraging the strengths of youths, which is when the best results can occur. Nurturing connections between youths and caring adults is necessary for effective, healthy development of youths. This can take place when caring relationships coupled with reliable opportunities for youths to make decision independently, behave based on those decisions, and feel ease to make and modify their errors (Li & Julian, 2012).

Additionally, hardiness enhances the capability of youths to tailor their actions under difficult situations (Kobasa, Maddi, & Kahn, 1982). As noted earlier, hardiness comprises of commitment, control, and challenge. Although hardiness does not only incorporate these three aspects to raise the stability of youths when faced with difficulties, it also acts as a barrier against the effects of stressful events and finally, contributes to positive development (Phillips, 2011; Zhang, 2011). Former researchers have realised that hardy people have a more positive attitude towards their environment and their own capabilities (Kobasa et al., 1982; Abdollahi et al., 2014). Conceptually, hardiness may affect the PYD components (5Cs), which pertain to exploration of the meaning and implementation of life. Prior research of hardiness in western European as an individualistic countries found that hardiness is useful to enhancement of healthy behaviours (Maddi et al., 2012). However, there is a need to replicate the study in Malaysia as a collectivistic culture in order to clarify how hardy youth will benefit from mutual relationship with adult in order to positive development.

References

- Abdollahi, A., Talib, M. A., Carlbring, P., Harvey, R., Yaacob, S. N., & Ismail, Z. (2016). Problem-solving skills and perceived stress among undergraduate students: The moderating role of hardiness. *Journal of Health Psychology*, 1359105316653265.
- Abdollahi, A., Talib, M. A., Yaacob, S.N., et al. (2014). Problem-solving skills and hardiness as protective factors against stress in Iranian nurses. *Issues in Mental Health Nursing*, 35(2), 100–107.
- Bowers, E. P., Li, Y., Kiely, M. K., Brittan, A., Lerner, J. V., & Lerner, R. M. (2010). The five Cs model of positive youth development: A longitudinal analysis of confirmatory factor structure and measurement invariance. *Journal of Youth and Adolescence*, 39(7), 720–735.
- Bowers, E.P., Waren, D.J.A., Johnson, S.K., Lerner, J. . (2015). youth- Adult Relationships and Positive Youth Development (pp. 97–120). https://doi.org/10.1007/978-3-319-17166.1_6
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by design and nature*. Cambridge, MA: Harvard University Press.
- Camino, L. (2000). Youth-adult partnership: Entering new territory in community work and research. *Applied Developmental Science*, 4, 11–20.
- Chan, C. S., Rhodes, J. E., Howard, W. J., Lowe, S. R., Schwartz, S. E. O., & Herrera, C. (2013). Pathways of influence in school-based mentoring: The mediating role of parent and teacher relationships. *Journal of School Psychology*, 51(1), 129–142.

- Christens, B. D., & Peterson, N. A. (2012). The role of empowerment in youth development: A study of sociopolitical control as mediator of ecological systems' influence on developmental outcomes. *Journal of Youth and Adolescence*, 41(5), 623–635.
- Cunningham, C. J. L., & De La Rosa, G. M. (2008). The interactive effects of proactive personality and work-family interference on well-being. *Journal of Occupational Health Psychology*, 13(3), 271.
- Delahaij, R., Gaillard, A. W. K., & van Dam, K. (2010). Hardiness and the response to stressful situations: Investigating mediating processes. *Personality and Individual Differences*, 49(5), 386–390.
- Deschenes, S., Arbretton, A., Little, P. M., Herrera, C., Grossman, J., & B., Weiss, H. B., & Lee, D. (2010). Engaging older youth: Program and city-level strategies to support sustained participation in out-of-school time. In *Cambridge, MA: Harvard Family Research Project*.
- Eschleman, K.J., Bowling, N.A., Alarcon, G. M. (2010). A meta-analytic examination of hardiness. *International Journal of Stress Management*, (17), 227. <https://doi.org/Doi: 10.1037/a0020476>.
- Kiadarbandsari, A., , Madon, Z., , Hamsan, H. H., And, & Mehdinezhad Nouri, K. (2016). Role of Parenting Style and Parents' Education in Positive Youth Development of Adolescents. *Pertanika Journal of Social Sciences & Humanities*, 24(4), 1465–1489.
- Kobasa, S. C. (1979). Stressful life events, personality, and health: an inquiry into hardiness. *Journal of Personality and Social Psychology*, 37(1), 1.
- Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: a prospective study. *Journal of Personality and Social Psychology*, 42(1), 168.
- Lerner, R. M., Lerner, J. V, P Bowers, E., & John Geldhof, G. (2015). Positive Youth Development and Relational-Developmental-Systems. *Handbook of Child Psychology and Developmental Science*.
- Li, J., & Julian, M. M. (2012). Developmental relationships as the active ingredient: A unifying working hypothesis of “what works” across intervention settings. *American Journal of Orthopsychiatry*, 82(2), 157.
- Linds, W., Goulet, L., & Samual, A. (Eds.). (2010). *Emancipatory practices: Adult/youth engagement for social and environmental justice*. Rotterham: Sense Publications.
- Maddi, S. R. (2006). Hardiness: The courage to grow from stresses. *The Journal of Positive Psychology*, 1(3), 160–168.
- Maddi, S. R., Harvey, R. H., Khoshaba, D. M., Fazel, M., & Resurreccion, N. (2012). The relationship of hardiness and some other relevant variables to college performance. *Journal of Humanistic Psychology*, 52(2), 190–205.
- Maddi, S. R., Khoshaba, D. M., Harvey, R. H., Fazel, M., & Resurreccion, N. (2011). The personality construct of hardiness, V: Relationships with the construction of existential meaning in life. *Journal of Humanistic Psychology*, 51(3), 369–388.
- Phillips, J. (2011). Hardiness as a defense against compassion fatigue and burnout. *Journal of Emergency Nursing*, 37(2), 125.
- Seidman, E. (2011). An emerging action science of social settings. *American Journal of Community Psychology*. <https://doi.org/:10.1007/ s10464-011-9469-3>.
- Sherrod, L. R., Torney-Purta, J., & Flanagan, C. A. (2010). *Research on the development of citizenship: A field comes of age*. (In L. R. S). . New Jersey: Wiley.
- Sullivan, P. J., & Larson, R. W. (2010). Connecting youth to highresource adults: Lessons from effective youth programs. *Journal of Adolescent Research*, 25(1), 99–123. <https://doi.org/10.1177/07435584 09350505>.
- Wong, N. T., Zimmerman, M. A., & Parker, E. A. (2010). A typology of youth participation and empowerment for child and adolescent health promotion. *American Journal of Community Psychology*, 46(1-2), 100–114.
- Yohalem, N., & Wilson-Ahlstrom, A. (2010). Inside the black box: Assessing and improving quality in youth programs. *American Journal of Community Psychology*, 45(4), 358–369.
- Youniss, J., & Levine, P. (2009). *A “younger Americans act”’: An old idea for a new era*. (In J. Youn). Nashville, TN: Vanderbilt University Press.

- Zeldin, S., Krauss, S. E., Collura, J., Lucchesi, M., & Sulaiman, A. H. (2014). Conceptualizing and measuring youth–adult partnership in community programs: A cross national study. *American Journal of Community Psychology*, *54*(3-4), 337–347.
- Zeldin, S., Christens, B. D., & Powers, J. L. (2013). The psychology and practice of youth-adult partnership: Bridging generations for youth development and community change. *Journal of Community Psychology*, *52*(3-4), 385–397.
- Zhang, L. (2011). Hardiness and the big five personality traits among Chinese university students. *Learning and Individual Differences*, *21*(1), 109–113. <https://doi.org/doi:10.1016/j.lindif.2010.05.006>

TECHNICAL EDUCATION AND NATIONAL DEVELOPMENT – A WAKEUP CALL

Sarafa Adebayo Raji
School of Business and Management Studies
Department of Insurance, Federal Polytechnic Offa, Kwara State, Nigeria.
rajisarafa94@yahoo.com

ABSTRACT

Development on national basis is imperative to the sustenance and growth of a nation. Critical to achievement of national development of a nation is technical education. The focus of the paper is the imperative of technical education to national development. The various development plans in Nigeria from First Development Plan (1962 – 1968) to the most recent of National Industrial Revolution Plan of 2014. Technical education as a strategy for National Development. The experience of countries such as Malaysia, South Korea, Australia and Japan among others as guide for Nigeria. Means of acquiring technical education was also explained. The challenges encountered by the provider of technical education, such peoples attitude to technical education, dearth of teachers and instructors on technical education, funding among others. In conclusion, suggestion for improvement to enable technical education contribution positively to national development includes Government, training Institutions, Parent and Guardian, Development Partners and Employers as stake holders who must be ready to play a proactive role.

Keywords: Development, National, Technical Education.

Introduction

The quest for National development of a nation rest on the ability of the economy to be able to move from agrarian or primitive to mechanize or advancement in economy. Development is essential and critical to growth and sustenance of any country.

Conceptual Clarification

Development

Development as a concept does not lend itself to universal definitions. However, attempts have been made by erudite scholars to conceptualize development. Some of these definitions will be explored for the purpose of this study.

Gboyega (2003) posit that development as an idea that embodies all attempts to improve the conditions of human existence in all ramifications. It implies improvement in material well being of all citizens, not the most powerful and rich alone, in a sustainable way such that today's consumption does not imperil the future, it also demands that poverty and inequality of access to the good things of life be removed or drastically reduced. It seeks to improve personal physical security and livelihoods and expansion of life chances.

Naomi (1995) equally that development is usually taken to involve not only economic growth, but also some notion of equitable distribution, provision of health care, education, housing and other essential services all with a view to improving the individual and collective quality of life (Naomi, 1995).

Chrisman (1984) views reported that development as a process of societal advancement, where improvement in the well being of people are generated through strong partnerships between all sectors, corporate bodies and other groups in the society. It is reasonable to know that development is not only an economic exercise, but also involves both socio-economic and political issues and pervades all aspects of societal life.

National Development

National, according to Longman dictionary of contemporary English, refers to a phenomenon that embraces a whole nation. National development therefore can be described as the overall development or a collective socio-economic, political as well as religious advancement of a country or nation. This is best achieved through development planning, which can be described as the country's collection of strategies mapped out by the government.

National Development Plans in Nigeria

Nigeria as a nation has had series of development plans in Nigeria. Nigeria is permanently hunted by the spectre of development. Its fifty-five years of independence actually are rolling by daily in search of development. The myth of growth and development is so entrenched that the country's history passes for the history of development strategies and growth models from colonial times up to date. No term has been in constant flux as development. This seems the only country where virtually all notions and models of development have been experimented (Aremu, 2003).

Immediately after independence, Nigeria has had a number of developed plan. The first National Development Plan policy was formulated between 1962 and 1968 with the objectives of development opportunities in health, education and employment and improving access to these opportunities, etc. This plan failed because fifty percent of resources needed to finance the plan was to come from external sources, and only fourteen percent of the external finance was received (Ogwumike, 1995). Collapse of the first Republic and the commencement of civil war also disrupted the plan. After the civil war in 1970, the second national development plan 1970 to 1974 was launched, the plan priorities were in agriculture, industry, transport, manpower, defence, electricity, communication and water supply and provision of social services (Ogwumike, 1995). The third plan, covering the period of 1975 to 1980 was considered more ambitious than the second plan. Emphasis was placed on rural development and efforts to revamp agricultural sector. The fourth plan 1981 to 1985 recognized the role of social services, health services, etc. The plan was aimed at bringing about improvement in the living conditions of the people. The specific objectives were: an increase in the real income of the average citizen, more even distribution of income among individuals and socio-economic groups, increased dependence on the country's material and human resources, a reduction in the level of unemployment and underemployment (Ogwumike, 1995).

In the recent past, various strategies for development have also been tried with little or no result; among these were the structural adjustment programme (SAP), Vision 2010, national economic empowerment and development strategy (NEEDS), creation of development centre, etc. currently, seven point agenda of the present administration with vision 2020 without any clear methodological approach towards achieving them. It is obvious that the current results so far are not what development connotes. Also **Manufacturers Association on Nigeria (MAN) 4 years strategic plan** is to attain efficient production level in the manufacturing sector which hopefully will stimulate increased manufacturing sector contribution to GDP, Employment generation, Wealth Creation and Poverty eradication. **The 7 point Agenda**, The focus of the Agenda is to put in place policy options and initiatives that would resolve the Infrastructural, Financial and Competitiveness issues facing manufacturers, be it small scale, large scale or even medium scale.

National industrial revolution plan is the latest national roadmap for industrialization in Nigeria with a five year plan. It is hoped that this will accelerate industrial capacity expansions and reform. The main objective of National Industrial Revolution Plan (NIRP) is to move Nigeria beyond been a raw material selling nation into a more value added manufacturing activities nation. The goals of the NIRP among others are; Addition of about N5trillion to annual manufacturing revenues in the next three to five years. Creation of Jobs. Generation of additional National Wealth. Diversification of our economy. Substitution of import. To boost Export. Broaden the nation's tax base.

National industrial development cannot be imported. It must come from within. It is a known fact that we become knowledgeable by learning from others, but we only become wise by understanding

ourselves. The NIRP is a five year plan to rapidly build up Industrial Capacity and improve competitiveness in Nigeria.

The plan has identify detail groupings such as Agro-Allied and Agro-Processing, Metals and Solid Materials Processing, Oil and Gas related industries, Construction, Light Manufacturing and other services.

The overriding philosophy of the NIRP starts with the acknowledgment that National Industrializations must be driven by long run competitiveness. This is evidenced by the fact that industries succeed when they are competitive both locally and globally.

What a robust plan, well thought out, well laid out; but one major factor which is key to implementation of the previous plan, and which is, for the current NIRP is the technical and vocational skills. This is because no matter how sound and well thought of a policy plan is acquisition of the right technical and vocational skill to actualize the plan both in quantity and quality is very imperative. This is evidenced from the examples of countries such as Australia, Malaysia and Singapore.

Strategies for National Development

The beauty of any development plan is the faithful implementation of such plan, which its success lies with the implementers. Key to the success of national development of any nation is the development of strategies for National Development. The focus of this paper therefore is Technical Education and National Development – A WAKE UP CALL

Technical Education

Technical which includes Vocational Education and Training has been an integrated part of national development strategies in many countries of the world because of its impact on productivity and economic growth. A nation cannot develop without well-equipped technical and vocational institutions or centers for imparting and training youths and women on practical skills that will yield development in such nation.

According to UNESCO, technical education refers to all forms and levels of the educational process involving, in addition to general knowledge, the study of technologies and related sciences and the acquisition of practical skills, know-how, attitudes and understanding relating to occupations in the various sectors of economic and social life.

Also, the National Policy on Education (NPE) defined technical education and vocational education as a comprehensive term referring to those aspects of the educational process involving in addition to general education the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life (NPE, 1981).

Technical educational skill therefore refers to any formal training of persons as technicians in different occupations.

Uwaifo (2009) reported that technical education refers to the training of technically oriented personnel who will eventually be the initiators, facilitators and implementers of industrial revolution plan of a nation. He concluded that such training will afford the citizen of been technologically literate which will lead to self-reliance and sustainability. Technical educational skill includes, metal work technology, mechanical/automobile technology, electrical and electronic technology, building and woodwork technology, mechtronic technology. e.t.c. Ultimately, technical education will serve as change agents not only for technical systems but also for many other societal changes towards industrial National Development.

Experience of Other Countries

Perhaps, if successive government in Nigeria had adopted technical and vocational education as a vehicle for national development, the nation would have been better for it. The classic examples of the Asian Tiger viz South Korean, Malaysia, Singapore, Indonesia e.t.c not to mention the economic giants such as Taiwan, China and Japan that come to mind.

In **Malaysia**, Technical and vocational skills training are no longer seen as second-class education in Malaysia. Technical education centre (High Schools train students to acquire skills in various area, Technical schools are to train future engineers. There are 33 polytechnics and 86 community colleges under ministry of Higher Education.

Also in **South Korea**, Technical and Vocational high school in South Korea offer programmes in five fields; Agriculture, technology/engineering, commerce/business, maritime/fishery and home economics. Students in high school follow a common national curriculum. In the second and third year, they follow a course(s) relevant to their specialization. In some programmes, students may participate in work place training through co-operation between schools and local employers. Most vocational high school students continue into tertiary education.

Equally in **Australia**, Vocational and technical training is mostly post-secondary provided through registered training organization. Some senior schools do offer school-based apprenticeship and traineeships in other more service-oriented occupations. The training provides a combination of school based and work place training. Apprentices and trainees receive a wage which increases as they progress. Training packages are 60% funded by public funds and training curriculum are define by the need of the industry and not by government and training institutions.

And lastly in **Japan**, Technical and vocational training offer a 2 year school, to students after finishing high school though not compulsory. In the vocational and training school there are wide ranges of majors such as computer technology, fashion e.t.c.

Nigerian Case in Perspective

The quest for National development, Nigeria want to be a producer nation; that is, producing mainly secondary good rather than primary and crude raw materials. With industrialization, Nigerian wish to transform from a “Consumer Nation”. This is because a consumer nation in the emerging competitive world economy is a dying nation. A nation where the standard of living is comparable to the World Standard.

Obiefuna (1998) retortedly ask the following questions, do Nigerians need to wear clothes? Then we must have capability to produce some clothes we need to wear, not just raw cottons. Do we need to take good foods and drinks? Then, we must be willing and capable of producing finished goods. Do we need to drive cars? Then, we must not only mine and stockpile iron ore/steel at Itakpe and Ajaokuta, we must have the capability to transform this steel/iron ore into finished goods. It is not sufficient to assemble cars from completely knocked down parts but to manufacture them as is done in Japan, France, and Germany e.t.c

An industrialized Nigeria means, a Nigeria where the average citizens enjoys an appreciable standard of living and that we must produce most of what we consume with substantial leftovers to sell to foreign countries.

Importantly, we must note that general education cannot turn our hides and skins into shoes, or raw cottons into clothes. It is only the relevant technical and vocational skills that are only derived from vocational and technical skill training that will transform wood pulp into paper and our crude oil into a wide spectrum of petroleum consumer goods. Hence, technical and vocational skills acquisition training and not just “general education” are imperative for National development. For Technical and Vocational skills training to effectively support national development, skills training must be of high quality and

competence-based, incorporate the use of modern information and communication technologies, be relevant to the needs of industry, efficient and adaptive to the changing technological work environment.

The skills acquired in technical and vocational educational training is best embodied in the Chinese proverb *‘Give a man a fish and he will eat for a day, teach him how to fish and he will eat for a life time’* “TVE focused on the formation of skilled workers in technical fields which focus on the skills of the hand (hand-on-skill).

Means of Acquiring Technical and Vocational Skills and Training in Nigeria.

Nigeria is endowed, as the following institutions provide platform for acquiring the skills;

Owners	Polytechnic	Technical Colleges	College of Health Technology and Allied Institutions
Federal Owned	21	19	9
State Owned	38	10	40

Source: <http://www.nbte.gov.ng/institution.html>

Federal Universities of Technology and Other Universities

This gives a picture of the institutions in Nigeria of Technical Colleges which serves as the entry point for formal training in technical and vocational education while the polytechnics, College of health technology and allied institutions and Universities afforded further training.

The informal training is usually acquired from the artisan – the entrepreneurs, which is industry based training.

After all, the 1997 UNESCO International Standard Classification of Education, described Technical and Vocational Education and Training as education and training to acquire the practical skills, know-how and understanding necessary for employment in trade, group occupation or other industrial concerns.

Before the great industrial revolution (1750 to 1830), the home and the “apprenticeship system” constitute the major sources of technical and vocational education.

Without prejudice, the current preoccupation of university education in Nigeria reduces socio-economic opportunities of those who are more oriented towards work life or industry than academics.

In fact, not everyone needs a university education whilst not condemning the General Education. After all, many of the so-called “expatriate engineers” who are adored, well respected and are being paid huge sums of money in dollars to build the roads and bridges or even pilot our industries and other critical sectors in Nigeria are graduates of technical and vocational colleges, yet Nigeria is not taking the sector seriously.

Technical Education and National Development

This above highlights the importance of the acquisition of technical knowledge, skills and attitudes in any training, hence.

Technical education which includes Vocation is a training and education that relates to a specific trade in which the learner participates and directly develops the society in a particular group of techniques. It is an education that gives individuals the skills to live, learn and work as a productive citizen in a global society. It provides skills, knowledge, attitude and value needed for work place, and prepares learners for career, based on manual and practical activities. The importance of TVET to human development cannot be over-emphasised. Training and capacity building for both men and

women is a key for poverty reduction. Basically, if people lack in technical skills, knowledge and entrepreneurial skills, the natural resources will tend to remain unutilized and underutilized.

Technical Education offers skills aimed at rural development like farm related skills and knowledge, establishment and sustenance of small and medium enterprises directly related to rural needs and demand. This can go a long way in curbing rural-urban migration in Nigeria, as individuals would have skills to keep them occupied in the rural areas.

Technical Education also has the potential to curb high rate of unemployment, especially among the youth and women, as it offers the much needed skills to develop the informal sector in Nigeria. Through Technical Education, individuals are being positioned to develop self-employment, thus reducing pressure on the few available jobs in the formal sector.

Meanwhile, a well-developed TVET system in Nigeria will offer a chance to those students who are more comfortable with practical and will also be an alternative to those who drop out of the general academic cycle. In general, TVET gives individuals the skills to live, learn and work as productive citizens in a global society.

Challenges of Technical Education in National Development

The extent to which Technical Education plays its role in national development is, however, limited by a number of factors. These factors include: people's attitude to technical and vocational training, challenges of developing Nigerian TVET instructors, how to keep pace with technological advancement and poor funding of TVET centers, among others.

It has always been a challenge to change the mindset of parents, the community and industries about vocational education and training being second choice to academic education. Most parents want to see their children becoming engineers, doctors, lawyers etc just because they believe that this will give their children better job opportunities. This challenge is vital to development of TVET sector and it is apparently one of the major obstacles to improve the social status of TVET. Key community, professional and industrial leaders should, therefore, engage constantly in TVET, as this will lead to higher performance and productivity of TVET trained graduates and enhance wages and job opportunities.

There are also many challenges for TVET sector in Nigeria in terms of systematic professional development of instructors and teachers. TVET instructors and teachers are posed with problems on how to use new technology and keep up with teaching methods of various vocational educations. The assistance of analogical TVET teachers to understand and cope with the new digital generation calls for adequate resource investment.

TVET is also faced with the problem of how to establish technological infrastructure, how to upgrade existing materials and how to train resources available in TVET sector.

Another major constraint that TVET sector faces in Nigeria is inadequate or poor funding. Government's budget on TVET sector is always limited. This becomes the core issues as to why TVET centres in Nigeria are not able to employ trained trainers or support them in updating and upgrading their skills, and as well purchase most appropriate training facilities, aids and technology for practical on-the-job training.

Meanwhile, TVET system in Nigeria is not demand driven. Attachments and linkages to industry are fragile, poorly planned and inadequately supervised. The sector is characterised by outdated curriculum, a mismatch between skills taught and those demanded by the industries, inadequate quality assurance mechanism, inadequate physical and learning resources and low participation of private sector necessary to bridge the gap of school work.

In order to ensure a TVET system that truly contributes to national development or a system that is demand driven, it will be necessary to create a system that is flexible and have a high rate of participation of all concerned parties. This is necessary since the demand for skills is difficult to predict, as technology develops at an ever-increasing rate, and some skills accordingly become obsolete, and others in more demand.

There is need for increased funding toward TVET sector in Nigeria. The fund should be directed toward research and development, acquisition of appropriate and up-to-date equipment and tools, general maintenance and management of TVET institution.

Equal attention or more attention should be offered to TVET sector in Nigeria as that offered to the general education. More TVET institutions should be established in our rural areas with the emphasis on providing technical and vocational skills to meet the needs of the communities. This will reduce rural – urban migration.

In order that TVET is more market driven, it is necessary for the government to involve private organizations in the formulation of the curricular and in the certification of skills offered. Government should also encourage organizations to participate in providing on-the-job training by creating incentives for companies.

In this 21st century, Nigeria needs to be more inventive and innovative in a way she can develop solutions to her internal problems, especially unemployment. TVET offers such opportunity.

Suggestions for Improvement

Effective technical and vocational education and training for national development is only possible if all the relevant stakeholders play their part. (Afeti 2011). As further identify the stakeholders to include; Government, Training Institutions, Parents and Guardians, Development partners and Employers, all have important role to play.

Government

(i) Develop and support implementation of national TVET policies, (ii) Improve coherence of governance and management, (iii) Introduce policies and incentives that will support increased private sector participation in TVET delivery, (iv) Improve capital investment in TVET, (v) Establish TVET management information system for education and training, (vi) Create measures to reduce gender, economic and geographical inequities in TVET provision, (vii) Ensure sustainable financing scheme for TVET, (viii) Increase funding support for the sector, (ix) Mainstream TVET into the general system so that the vocational track is less dead-end, (x) Constantly monitor and periodically evaluate the performance of the system and apply corrective measures where need be.

Educational Institutions and Training Providers

(i) Provide training within national policy framework. (ii) Deliver a flexible and demand-driven training. (iii) Develop business plan to support training activities. (iv) Establish strong linkages and collaboration with employers and industry. (v) Mainstream gender in training activities and programmes. (vi) Introduce ICT in training. (vii) Institute bursary schemes for poor trainees (viii) Strengthen guidance and counseling services to trainees. (ix) Network and bench-mark with other training providers. (x) Involve community, parents and guardians in training activities. (xi) Training institutions should be encouraged to be profit oriented and to become active operators in the training market.

Parents and Guardians

(i) Support children and wards to follow a career in TVET track. (ii) Reject perception that vet is for the less academically endowed (iii) Lobby politicians in favor of tvet. (iv) Support activities of educational institutions and training providers.

Donors and Development Partners

(i) Support development and implementation of national tvet policies and strategies. (ii) Fund small business development research. (iii) Fund acquisition of training equipment. (iv) Support post-training employment support services for tvet graduates, including business start-ups. (v) Support capacity building in tvet sector – instructor training, management training, technical assistance e.t.c. (vi) Help in identifying and disseminating best practices in tvet. (vii) Support tvet advocacy initiatives, motivation campaigns and programmes.

Employers

(i) Deliver work place training to employees. (ii) Contribute financially to national training fund. (iii) Provide opportunities in industry for tvet teachers to regularly update their work place experience. (iv) Provide opportunities for industrial attachment and internships for trainees. (v) Contribute to the development of national skill standards

The achievement of improved and sustainable development through technical and vocational skills training demands policies and strategies that addresses the cross-cutting issues of quality and relevance of training, employability, collaboration between training institutions and employers, accreditation of training providers (in the formal, non-formal and informal sectors), assessment, certification, internal and external quality assurance of training programmes, funding, and instructor training.

This calls for a TVET system that is competent-based and employment led with proficiency testing of the learners and trainees as a proof of competence. TVET should also be seen and acknowledge by all the stakeholders as a valid passport to a well-paid job or self-employment or higher education which is highly essential for national industrial revolution and not as an alternative educational opportunity fit only for early school leavers, the less academically endowed or even the poor.

On a final note, it is essential to make the point clear that technical and vocational education and training is essential but not the only ingredient for achieving national industrial development. Good government policies that stimulate the economy and grow high-performance enterprises. For this to be achieved on a sustainable basis, TVET system must be labour-market relevant, equitable, efficient and of high quality.

Achieving improved and sustainable National development is quite possible if all the stakeholders pay desired attention to technical Education and training as obtained in the developed and developing nations of the world.

References

- Atchoarena D and Andre D (2002): “Revisiting Technical and Vocational Education in Sub-Saharan African” *IIEP - UNESCO*
- Afeti, G (2011): Technical and Vocational Education and Training for industrialization. <http://www.arrforum.org/publication/>
- Allen, J (2012): Technical Education and National Development, *The Tide News*.
- Aremu, I (2003). Development and Political Stability in Kwanashie (ed) Politics and Political Power Relations in Nigeria. Lagos. *Dat and Partners Logistic Ltd*, 12: 248-262.
- Chrisman J.J (1984): Manufacturing Techniques Small Companies Can Really Use. *Wisconsin Small Business Forum*, 3(1) 1 – 14.
- Federal Government of Nigeria (1981): National Policy on Education, *Federal Government Press Limited*, Lagos
- Gboyega A, (2003). Democracy and Development: The Imperative of Local Governance. *An Inaugural Lecture, University of Ibadan*, pp 6-7.
- Lawal T and Oluwatoyin A (2011) National Development in Nigeria: Issues, Challenges and Prospects, *Journal of Public Administration and Policy Research*. Vol. 3(9). Pp 237 – 241.

- Naomi O (1995): Towards an Integrated View of Human Hunger. *Tech. Net* 6(3) 6 – 7.
- Nasir, S.B (2012): Strategy to Revitalize Technical and Vocational Education and Training (TVET): Management perspectives, *Association of Research Society, U.S.A* pp 10-14
- Nigeria Industrial Revolution Plan, (2014): A Publication of the Federal Government of Nigeria Press.
- Obeifuna, C.D (1998): Industry-based Apprentice Training in Nigeria. *TRADEV – Journal of Training and Development, ICD*, 45 – 48.
- Ogwumike, F (1995). The Effects of Macrolevel Government Policies on Rural Development and Poverty Alleviation in Nigeria. *Ibadan J. Soc. Sci.*, 1(1): 85-101.
- Okafor E.C (2011): The Role of Vocational and Technical Education in Manpower Development and Job Creation in Nigeria. *Journal of Research and Development Vol. 2, No 1*. Pp 152 – 159.
- Raji S.A (2015): Technical and Vocational Skills Acquisition Training: An Imperative toward the Achievement of National Industrial Revolution plan, *Journal of Education and Social Science*. Pp 1 – 8.
- Wikipedia (2014): Technical and Vocational Education. www.wikipedia.or

PHONOLOGICAL LOOP AND VISUOSPATIAL SKETCHPAD OF WORKING MEMORY: COMPARISON BETWEEN WESTERN AND CHINESE MUSICAL INSTRUMENT BACKGROUND

Hue Chi Yin, Nor Aniza Ahmad
Faculty of Educational Studies, University Putra Malaysia
momoko_hue90@hotmail.com, nor_aniza@upm.edu.my

ABSTRACT

Working memory has been positively associated with musical instrument background however lack of research has been considered types of musical instrument background are a factor that contributes to the findings. The research focused on studied the difference on phonological loop of working memory and visuospatial sketchpad of working memory between Western and Chinese musical instrument background among undergraduates. Besides, it also studied the relationship between phonological loop of working memory and visuospatial sketchpad of working memory among undergraduates with musical instrument background. Stratified random sampling was used to select a total 109 respondents from UPM, UKM and UM Western and Chinese music society. Among the samples, 54 and 55 undergraduate represent group of Western and Chinese musical instrument background. In this quantitative research, respondents were required to answer a short demographic questionnaire and computerized digit span and matrix span test which measured phonological loop of working memory and visuospatial sketchpad of working memory. The interesting finding of this research was there was a significant differences on phonological loop of working memory between the Western ($M = 46.52$, $SD = 9.571$) and Chinese musical instrument groups ($M = 50.47$, $SD = 8.393$; $t(107) = -2.3$, $p = .02$, two tailed) while Chinese musical instrument group have better score compare with Western musical instrument group. This indicated that type of musical instrument background is a factor that should take into consideration in the future research especially in phonological loop of working memory related study.

Keywords: Phonological loop, Visuospatial Sketchpad, Working Memory, Western Musical Instrument Background, Chinese Musical Instrument Background, Undergraduates

Introduction

Working memory is one of the human cognitive ability which serves as temporary information storage system. It is parts of the information processing system on how human can decode and encode the information through dorsolateral prefrontal cortex (Sawaguchi & Goldman-Rakic, 1991). Human received a bulk of information almost 24 hours from the five sensory systems which are sight, hear, touch, taste and smell which the information will process by the information processing system. There are few components in the information processing system such as sensory system, short term memory, working memory and long term memory (Naveh-Benjamin, McKeachie & Lin, 1987).

Based on Baddeley's working memory model (1974), there are three isolating components in the working memory which are phonological loop of working memory, visuospatial sketchpad of working memory and central executive of working memory. The function of phonological loop of working memory is temporary store limited amount of verbal or speech based information while the function of visuospatial sketchpad of working memory is temporary store limited amount of visual based information. Phonological loop of working memory and visuospatial sketchpad of working memory are both specific memory storage system that only temporary hold the information without doing anything such as manipulate or processing the information (Baddeley & Hitch, 1974).

Working memory is slightly distinctive with short term memory in term of working memory has explained the temporary storage of limited information in details by having components that represent verbal and visual based information differently. In contrast, short term memory in information

processing model only focus in one system as a whole that explaining the temporary storage of information (Baddeley, 2003).

According to Baddeley and Hitch (1974), the human working memory capacity is vary with each other. Individual with better working memory capacity can store more information. Based on previous research, phonological loop of working memory and visuospatial sketchpad of working memory is related to vocabulary learning, acquisition of language and reading skills (Franssen, Vandierendonck & Van Hiel, 2006). Research has showed that learning musical instrument can enhance the cognitive skills including working memory. Musical instrument players need to practice music sight-reading and play the musical instrument simultaneously. Thus, it is very complex skills that involve accuracy, speed and discrimination of rhythmic patterns. It required quick visual scan and convey it into acoustical features of sound (Hayward & Gromko, 2009).

Over the past decade, most of the studies indicated about the benefits of musical instrument practice can enhance test performance (Črnčec, Wilson & Prior, 2006). Numbers of correlational studies found out the association of musical instrument practice, cognitive abilities and academic performance (Winner & Cooper, 2000). Numerous of studies indicated that individuals with musical instrument practice can foster general cognitive, academic and language abilities compare to those without musical instrument practice (Hannon & Trainor, 2007; Schellenberg, Peretz & Vieillard, 2008). The working memory model proposed by Baddeley and Hitch (1974) has been widely used in educational field which including the research between musical instrument practice and working memory.

Musical instrument practice can view as multimode presentation because musician need to react simultaneously from visual (sight reading the music notes), auditory (listening to the music produce) and kinesthetic (fingering movement) (Melvin & Cai, 2004). Different types of musical instrument practice may require different skills. Western musical instrument is varying from Chinese music instrument in term of musical notation. Western musical instrument use musical notation on slave whereas Chinese musical instrument use numbered musical notation. However, there is some similarity on these two groups of musical instrument which both have string families, percussion, brass and woodwind (Thrasher, 2000; Zemp, 1978).

The reason of choosing Chinese musical instrument as comparison with Western musical instrument is they share similarities and also differences. Chinese musical instrument such as Erhu always refer as the “Chinese violin” in western world. Besides, both types of musical instruments can form an orchestra which is Chinese orchestra and Western orchestra (Thrasher, 2000; Zemp, 1978). If the type of musical instrument is not a factor that attribute to the phonological loop of working memory and visuospatial sketchpad of working memory, then there should be no differences between the two musical instrument groups. However, if there is a difference which means that types of musical instrument background is a factor that needs to be considered in the future researches on phonological loop of working memory and visuospatial sketchpad of working memory related study.

Problem Statements

Based on the evidence above, the type of musical instrument was not considered as a factor that attribute to the findings on working memory in the past researches. In previous studies, researchers mostly were using musician and non-musician to study the differences on working memory and test performance. Besides, some of the studies were using variety of music related training such as listening to music, vocal or singing training, learning musical instrument and listening to different genre of music (Črnčec, Wilson & Prior, 2006; Hansen, Wallentin & Vuust, 2013; Roden, Grube, Bongard & Kreutz, 2014).

Based on prior researches, most of the respondents that represent music group are pianist and only few respondents play other musical instrument such as brass and woodwind instrument (Chan, Ho & Cheung, 1998; Cohen, Evans, Horowitz & Wolfe, 2011; Degé, Wehrum, Stark & Schwarzer, 2014; Gromko, 2004; Gromko & Poorman, 1998; Hansen, Wallentin & Vuust, 2013; Nutley, Darki &

Klingberg, 2013). Therefore, the number of respondents distribution in term of musical instrument are always unequal, however, the types of musical instrument usually being ignore as a factor. At this time point, lack of research focuses on the type of musical instrument as a variable that attribute the findings on working memory.

Through the present study, researcher would like to reduce the methodological gap on the selection of musical instrument which may attribute different findings on phonological loop of working memory and visuospatial sketchpad of working memory.

Research Objectives

1. To compare the phonological loop of working memory between Western and Chinese musical instrument background among undergraduates.
2. To compare the visuospatial sketchpad of working memory between Western and Chinese musical instrument background among undergraduates.
3. To determine the relationship between phonological loop of working memory and visuospatial sketchpad of working memory among undergraduates with musical instrument background.

Research Questions

1. Is there a difference on phonological loop of working memory between Western and Chinese musical instrument background among undergraduates?
2. Is there a difference on visuospatial sketchpad of working memory between Western and Chinese musical instrument background among undergraduates?
3. Is there a relationship between phonological loop of working memory and visuospatial sketchpad of working memory among undergraduates with musical instrument background?

Literature Review

Baddeley and Hitch (1974) proposed that the activation of different component of working memory is depended on the task. For instance, reading the newspaper, playing crossword games, singing, sitting for exam and other different tasks actually rely on different components of working memory. However, no matter which component of working memory is activated, the functions of the three components of working memory are remained the same. Working memory served as a very crucial cognitive part because almost every activities or tasks that human encountered daily required the activation of working memory especially during learning, reasoning, thinking and comprehension. Besides, Slavin and Davis (1997) believe that working memory capacity actually is equivalent to intelligence. Therefore, researcher suggests that enhancing the working memory can increase test performance.

According to Gardner (2011) multiple intelligence theory, intelligence can be separated to nine different categories and each of it has their own system. However, numerous of studies have found out that training focus in one area of intelligence may enhance performance in others (Gromko, 2004; Gromko & Poorman, 1998; Hetland, 2000; Rauscher et al., 1997). It somehow can be explained by near transfer theory (Salomon & Perkins, 1989). For instance, individual who play musical instrument (music intelligence) which involve skills of music sight reading, rhythm and also highly coordinate kinesthetic fingering movement may also develop in spatial and kinesthetic intelligence. The importance of near transfer effect in musical instrument practice is it can positively affect the cognitive development. A few researchers have support the visual spatial intelligence (Gardner, 2011; Salomon & Perkins, 1989). According to Hetland (2000) in a review of 15 studies on music and spatial measures, he concluded that there is a “reliable and strong” relationship and believed that music instruction can actually improve the performance on spatial temporal measures.

Ellis, Bruijn, Norton, Winner and Schlaug (2013) believe that the skills acquire through learning musical instrument are transferable to other domains. It is supported by numerous of studies that musical instrument practice can enhance cognitive development and affect the subdominants of cognitive functions (Leng & Shaw, 1991; Schellenberg, 2011). Playing a musical instrument require a

lot of sub-skills associated with cognitive functions for example sustained attention, goal-directed behavior, task switching, processing speed, working memory and cognitive flexibility. Numerous of studies indicated that individuals with musical instrument practice can foster general cognitive, academic and language abilities compare to those without musical instrument practice (Hannon & Trainor, 2007; Hille & Schupp, 2015; Schellenberg, Peretz & Vieillard, 2008).

The Baddeley's working memory model proposed by Baddeley and Hitch (1974) has been widely used in educational research. Numerous recent studies have found that there was a positive relationship between musical instrument practice and the phonological loop of working memory. The findings were consistent (Franssen, Vandierendonck & Van Hiel, 2006; Tierney, Bergeson-Dana & Pisoni, 2008; Wallentin, Nielsen, Friis-Olivarius, Vuust & Vuust, 2010). In contrary, the previous research findings between music and visuospatial sketchpad of working memory were inconsistent. Some findings showed that there was relationship between music and visuospatial sketchpad of working memory, whereas some had opposite findings (Chan, Ho & Cheung, 1998; Roden, Grube, Bongard & Kreutz, 2014). Thus, the relationship between music and visuospatial sketchpad of working memory is still in debate.

Roden and colleagues (2014) conducted a quasi-experimental longitudinal research about music training enhance working memory performance. There are 50 primary school-aged children are recruited as respondents. Half of the children participated in an extended music education program with 45 minutes of weekly instrumental music training while the other half received extended natural science training. Test related to working memory are given three times over a period of 18 months in the study. The findings showed that children with music training have perform better in phonological loop of working memory and central executive subtests compare to the group that received natural science training.

According to Cohen and colleagues (2011), musician sometimes exhibit better memory for auditory stimuli including familiar music, unfamiliar music and environmental sounds but not for visual stimuli compare with non-musician.

Besides, another research conducted by Chan and colleagues (1998) also found out that women with music training had better verbal memory than untrained women whereas visual memory was equivalent across groups. Based on the previous studies, music training is some sort associated positively with performance on phonological loop of working memory. Learning to play a musical instrument has positively related to working memory and subsequently enhances cognitive function. This hypothesis is consistent with evidence showing the influence of music training on different types of cognitive performance (Schellenberg, 2011).

In the other study conducted by Hansen and colleagues (2013) about the working memory and musical competence of musicians and non-musicians, the findings showed that musical ability has been found to be associated with an enhancement of verbal working memory. In this research, 60 adults are recruited and they are representing three different groups which are non-musicians, amateur musicians and expert musicians. The results showed that expert musicians significantly outperformed non-musicians on the assessment on phonological loop of working memory. However, there is no significant difference on visuospatial sketchpad of working memory between the comparisons of three groups.

In a study conducted by Gromko (2004) about the predictors of music sight-reading ability in high school wind players, the findings support the previous studies which music education, cognitive science and neuroscience that have shown that music reading draws on variety of cognitive skills that include reading comprehension and spatial-temporal reasoning. The study is used near-transfer theory to investigate the relationship among music sight reading and tonal rhythmic, visual field articulation, spatial orientation and visualization, and achievement in math concepts and reading comprehension. According to Gromko (2004), music sight reading involves audition of tonal and rhythmic patterns,

comprehension of a graphic notation system with both spatial and textual qualities and highly coordinated kinesthetic action in performance.

Music sight reading is arise issue which can be affected the cognitive development. According to Wolf (1976), reading comprehension is a basic component of most standardized tests of language arts literacy. Thus, music sight-reading is a critical component on music literacy and test of comprehension of the musical symbol system. Music sight-reading is the ability to read from a score without benefit of practice, it is considered to be a serious audition and subsequent training for musicians. Besides, Waters, Underwood and Findlay (1997) stated that music sight reading has been investigated by neuroscientist and cognitive psychologist as well as researchers in music education which considered music sight reading is a complex psychological activity involving a series of perceptual and motor processes.

In a previous study about the relationships between music sight reading and technical proficiency spatial visualization and aural discrimination conducted by Hayward and Gromko (2009), the regression analysis suggested that auditory, visual, spatial and kinesthetic activations occur in coordination when the wind players sight read music notation. In this study, 70 wind players are recruited in the concert bands at university in Midwest. Although the purpose of this study is to examine whether aural pattern discrimination, spatial-temporal reasoning or technical proficiency are the predictors of music sight reading ability, however, it also indicated that music sight reading was related to cognitive abilities. The respondents only recruited from the wind players, so the level of difficulties in music pieces may also vary from each another such as Western and Chinese musical instrument pieces.

Recently, music and cognitive related research are increasing tremendously and majority of the studies focuses on various aspects such as music experiences, number of hours for musical practice, ages of respondents and how it related to different kinds of cognitive abilities such as working memory, spatial temporal reasoning, processing, executive functioning and others. However, there is lack of research that considered type of musical instrument and cognitive abilities.

From the past studies, there were a lot of empirical evidence shows that music has positive significant relationship between cognitive abilities and academic performance (Almlund, Duckworth, Heckman & Kautz, 2011; Blair, Zelazo & Greenberg, 2005; Črnčec, Wilson & Prior, 2006; Degé, Wehrum, Stark & Schwarzer, 2014; Earhart, 1920; Gromko, 2004; Gromko & Poorman, 1998; Hetland, 2000; Lezak, 2004; Nutley, Darki & Klingberg, 2013; Owens, Stevenson, Norgate & Hadwin, 2008; Piro & Ortiz, 2009; Rauscher et al., 1997; Shaw & Bodner, 1999; Schellenberg, 2005; Winner & Cooper, 2000; Zuk, Benjamin, Kenyon & Gaab, 2014). However, the findings were varying in the studies and certain cognitive abilities such as visuospatial sketchpad of working memory relate to music practice still in debate.

Other than that, there is lack of studies about music and cognitive abilities conducted in Malaysia. Thus, all the empirical evidence studies are derived from other countries. Besides, from the observation and investigation from past research, those studies only recruited respondents who play Western musical instrument (Chan, Ho & Cheung, 1998; Cohen et al., 2011; Hansen, Wallentin & Vuust, 2013; Rauscher, Shaw & Ky, 1993; Roden, Grube, Bongard & Kreutz, 2014).

Methodology

The research design that utilized in this study was quantitative and ex-post facto research study. The independent variable of the research was type of musical instrument background. There were two groups of respondents from three public universities' Western and Chinese music society. The three public universities that involved in the research are University Putra Malaysia (UPM), University Kebangsaan Malaysia (UKM) and University Malaya (UM). This two groups of respondents were consists of undergraduates that know to play Western or Chinese musical instrument. The ages of respondents were between 18 to 25 years old.

Population and Sample

The population in this research was UPM, UKM and UM's Western and Chinese music society undergraduates. The population size was 151 undergraduates who joined the universities' Western and Chinese music society since academic year 2015/2016 2nd semester. The data collection was on academic year 2016/2017 1st semester which means respondents at least has 6 months musical instrument experience. The number of population from the Western and Chinese music society from each university was provided by the president or secretary from the particular society. Total 109 respondents were selected through stratified random sampling. By using the strata equation, the total sample sizes for Western and Chinese music society were 54 and 55.

Measure of Phonological Loop of Working Memory

Computerized working memory assessment digit span test (Stone & Towse, 2015) is used to measure phonological loop of working memory. It is a simple verbal working memory measure that involves the storage and recall of digits in correct serial position. It is used as capacity measures of immediate verbal or speech based memory. This is an assessment that consists of two phases which are presentation phase and recall phase. During the presentation phase, the computer screen will be shown digits that are randomly selected between 1 and 99, meaning that any presented digit can range from 1 to 99. For each trial, the digit will only appeared on the presentation phase for 1 second after that the digit will disappear then follow by other digit depends on the span size (n). After the end of the presentation phase it will follow by recall phase which requests the respondent to recall and input the digits one by one according to the sequence appeared in presentation phase.

There are total 18 trials and span size (n) between 2 to 7 in the digit span assessment, each span size consists of 3 trials. It means that span size (between 2 to 7) each consists of 3 trials. For example (span size 2), presentation phase will show 2 digits accordingly between 1 and 99 such as 17 and 53. After that, respondent will need to recall and input the digits in the recall phase. There is no time constraint in the recall phase which respondent can take their time to recall. Overall, it estimates will takes about 7 minutes to complete.

Digit span scores are calculated by using the total number of digit lists which total raw score is 81. The minimum score is 0 and the maximum score is 81. Each of the correctly recall digit will be taken as score and there is no deduction of score if recall the digit wrongly. In this study, the raw score of digit span test will used to do analyses. Basically, there is no level or scale to interpret the digit span's raw score. However, the higher raw score indicate the performance in digit span test is better compare to lower raw score (Pisoni, Kronenberger, Roman & Geers, 2011; Schuchardt, Maehler & Hasselhorn, 2008).

The digit span module file is developed by Stone and Towse (2015) and it is using computerized programming Tatoon to run the module file. Tatoon is using Java programming language and also a published open source based on the GNU Lesser General Public License. Tatoon is a programming that assists researchers in experiment, training and questionnaire study but the core concept is to assist psychological experiment and cognitive training (von Bastian, Locher & Rufin, 2013). The Cronbach's alpha was .85 which falls in the range of acceptable internal consistency.

Measure of Visuospatial Sketchpad of Working Memory

In order to measure visuospatial sketchpad of working memory, the computerized working memory assessment matrix span test (Stone & Towse, 2015) was used. Basically, the tests required respondents to memorize the grid locations according to the sequence. The test assesses the capacity of visual based information in working memory through the random visuospatial patterns showed on the screen. The grid used is a 4x4 grid. The matrix span test consists of two phases which are presentation phase and recall phase. First of all, the screen will showed a 4x4 grid in the presentation phase and lighted the grid randomly depends on the span load (n). For instance, the span load is 2, which means one of the grids will light up for 1 second then disappeared follow by light up the other grid. After presenting the pattern, automatically the screen will show recall phase. During the recall phase, the

screen will show the same 4x4 grid as in the presentation phase and respondent need to use mouse or laptop touchpad to click the grids in sequence based on what they seen in presentation phase. There is no time constraint in recall phase which respondents can take their time to recall.

There are total 18 trial span and the span load (n) is between 2 to 7 in the matrix span test. Each span load (n) consists of 3 trials. The complexity will be increasing from span load 2 up to maximum 7. It means a specific span load (n) consists of 3 trials. Therefore, there are total 6 span load (between 2 to 7) multiply by 3 trials each will get total 18 trial span in the test. For example (span load 2), presentation phase will present 2 grid locations one by one in the 4x4 grid. After that, recall phase will show on the screen and respondent need to click the grids according to the sequence based on what they can recall from the presentation phase. In overall, it estimates will take about 5 minutes to complete the test.

Matrix span scores are calculated by using the total number of trial span which total raw score is 18. The minimum score is 0 and the maximum score is 18. Each of the correctly recall trial span will be taken as score and there is no deduction of score if recall the answer wrongly. For instance, in order to get 1 score, respondent need to click the grid according to the sequence all correctly for that trial, otherwise, even a mistake was done during that particular trial, respondent would not get any score for that trial. In this study, the raw score of matrix span test will used to do analyses. Basically, there is no level or scale to interpret the matrix span's raw score. However, the higher raw score indicate that the performance in matrix span test is better compare to lower raw score (Pisoni et al., 2011; Schuchardt, Maehler & Hasselhorn, 2008).

The matrix span module file is developed by Stone and Towse (2015) and it is using computerized programming Tatoon to run the module file (von Bastian, Locher & Ruffin, 2013). The Cronbach's alpha was .75 which falls in the range of acceptable internal consistency.

Procedure of Data Collection

Respondents were required to fill up a short demographic background and computerize working memory assessment digit span and matrix span test. The data collection was during the weekly music practice for each music society. The duration of complete the assessment was about 15 minutes.

Result

IBM SPSS statistics 22 was used to analyze the research data. Kolmogorov-Smirnov test of normality was used to test the normality of data collected. Results showed that digit span tests score was normally distributed since $p > .05$. However, the matrix span test score was not normally distributed since $p < .05$. Therefore, parametric statistic as Independent t-test was used to analyze the data of digit span test, while non-parametric statistic as Spearman's rho and Mann-Whitney U Test were used to analyze data of matrix span test.

In this study, the minimum year of experience in playing musical instrument is 6 months while the maximum is 17 years. 48.7% respondents have year of experience in playing musical instrument between 6 months to 4 years. Another half of the respondents have between 5 years and 17 years of experience in playing musical instruments.

An Independent t-test was conducted to identify the first research question "Is there a difference on phonological loop of working memory between Western and Chinese musical instrument background among undergraduates?" There was a significant difference on phonological loop of working memory between Western ($M = 46.52$, $SD = 9.571$) and Chinese musical instrument background ($M = 50.47$, $SD = 8.393$; $t(107) = -2.294$, $p = .024$, two tailed) (Table 1).

Table 1: The Difference on Phonological Loop of Working Memory between Western and Chinese Musical Instrument Background among Undergraduates by using Independent t-test

Phonological Loop	Music Group	N	Mean	Std.Deviation	t	df	Sig. (2-tailed)
	Western	54	46.52	9.571	-2.294	107	.024
	Chinese	55	50.47	8.393			

Non-parametric statistic Mann-Whitney U Test was conducted to identify the second research question “Is there a difference on visuospatial sketchpad of working memory between Western and Chinese musical instrument background among undergraduates?” The result in Table 2 showed the z value was -.94 with significance level $p = .347$. The probability value was not less than or equal to .05, thus the result was not significant. There was no statistically significant difference on visuospatial sketchpad of working memory between Western and Chinese musical instrument background among undergraduates.

Table 2: The Difference on Visuospatial Sketchpad of Working Memory between Western and Chinese Musical Instrument Background among Undergraduates by using Mann-Whitney U Test

Visuospatial Sketchpad	Music Group	N	Mean Rank	Z	Asymp. Sig. (2-tailed)
	Western	54	52.15	-.94	.347
	Chinese	55	57.80		

Non-parametric statistic Spearman’s rho was used to analyze the data of the third research question “Is there a relationship between phonological loop of working memory and visuospatial sketchpad of working memory among undergraduates with musical instrument background?” There was a moderate, statistically significant positive correlation between phonological loop of working memory and visuospatial sketchpad of working memory, $r = .358$, $n = 109$, $p = .000$ (Table 3).

Table 3: The Relationship between Phonological Loop of Working Memory and Visuospatial Sketchpad of Working Memory among Undergraduates with Musical Instrument Background by using Spearman’s rho

		Visuospatial Sketchpad
Phonological Loop Spearman’s rho	Correlation Coefficient	.358**
	Sig. (2-tailed)	.000
	N	109

** Correlation is significant at the 0.01 level (2-tailed).

Discussion

The finding on first research question showed that there was a significant difference on phonological loop of working memory between Western and Chinese musical instrument background among undergraduates. This is a very interesting finding and the result has been supported by the researcher earlier suggestion which whether type of musical instrument background has attribute differently on phonological loop of working memory. There is no doubt that musician have better working memory compare to non-musician as it was supported by tremendous studies and the results were consistent all the time (Chan, Ho & Cheung, 1998; Cohen et al., 2011). From this present finding, researcher can conclude that practicing different type of musical instrument is one of the factors that need to be consider on phonological loop of working memory related study.

Additionally, the interesting part is that undergraduates with Chinese musical instrument have higher score in phonological loop of working memory compare to Western musical instrument background. From the previous studies, the respondents were Western musician who only play Western musical instrument. One of the reasons to explain this finding is the different process of learning and playing Western and Chinese musical instrument. The music score is different between the two musical groups. Western musical instrument group has the musical score with note on the stave while Chinese musical instrument group has musical score with only number (Melvin & Cai, 2004). Phonological loop of working memory is the component in the Baddeley's working memory model which holds verbal or speech based information such as number. Thus, it perhaps can explain that Chinese musical instrument group was outperformed Western musical instrument group.

The finding on second research question showed that there was no significant difference on visuospatial sketchpad of working memory between Western and Chinese musical instrument background among undergraduates. In other words, type of musical instrument is not a variable that related with the performance on visuospatial sketchpad of working memory.

This finding can consider as a new finding between visuospatial sketchpad of working memory and music as there is lack of research has been done on it. The reason to explain the finding is the learning and music practice process. Both group share some common similarities which musician need to read the music scores and play musical instrument simultaneously. Therefore, both groups are undergoing quite similar music training which may have the same impact on visuospatial sketchpad of working memory.

The result was somehow supported by a research conducted by Chan and colleagues (1998) which also study the phonological loop of working memory and visuospatial sketchpad of working memory between musician and non-musician. The result showed that there was only significant difference on phonological loop of working memory while there was no difference on visuospatial sketchpad of working memory. According to Chan and colleagues (1998), music training can enhance verbal based working memory more than visual based working memory because people commonly use visual based working memory in the daily life. Thus, there is not much difference between musician and non-musician on that visuospatial sketchpad of working memory.

The finding on third research question showed that there was significant positive relationship between phonological loop of working memory and visuospatial sketchpad of working memory. The result was aligned with the Baddeley's working memory model (Baddeley & Hitch, 1974). The result indicated that if the individual is good in phonological loop of working memory, then the individual also can perform well in visuospatial sketchpad of working memory and it is vice-versa if the individual perform badly in either phonological loop of working memory or visuospatial sketchpad of working memory.

Phonological loop of working memory and visuospatial sketchpad of working memory are both components in the Baddeley's working memory model. Both of it shared the similarities which function

as temporary holding limited amount of information and the information will decay if no rehearse within the few seconds (Baddeley & Hitch, 1974).

Conclusion

The findings somehow support the view of researcher which the type of musical instrument is a crucial variable that needs to be taken into consideration on the research related to working memory. This was a quantitative study which the result only can generalize in small population. Therefore, researcher suggests experimental design study can conduct in the future research.

From the findings, parents and undergraduates are aware of playing Western and Chinese musical instruments can have different outcomes that benefit the cognitive functions especially in phonological loop of working memory. Besides, it also creates the awareness that playing Chinese musical instrument can still benefit the students just like playing Western musical instrument.

As a conclusion, researcher would like to emphasize that the type of musical instrument is a variable that cannot be ignore in the future research especially study related to working memory.

References

- Almlund, M., Duckworth, A. L., Heckman, J. J., & Kautz, T. (2011). Personality psychology and economics. In E. A. Hanushek, S. Machin, & L. Woessmann (Eds.), *Handbook of the economics of education* (Vol. 4, pp. 1-181). Amsterdam: Elsevier.
- Baddeley, A. (2003). Working memory: looking back and looking forward. *Nature reviews neuroscience*, 4(10), 829-839.
- Baddeley, A. D., & Hitch, G. (1974). Working memory. *The psychology of learning and motivation*, 8, 47-89.
- Blair, C., Zelazo, P. D., & Greenberg, M. T. (2005). The measurement of executive function in early childhood. *Developmental neuropsychology*, 28(2), 561-571.
- Chan, A. S., Ho, Y. C., & Cheung, M. C. (1998). Music training improves verbal memory. *Nature*, 396(6707), 128-128.
- Cohen, M. A., Evans, K. K., Horowitz, T. S., & Wolfe, J. M. (2011). Auditory and visual memory in musicians and nonmusicians. *Psychonomic bulletin & review*, 18(3), 586-591
- Črnčec, R., Wilson, S. J., & Prior, M. (2006). The cognitive and academic benefits of music to children: Facts and fiction. *Educational Psychology*, 26 (4), 579-594.
- Degé, F., Wehrum, S., Stark, R., & Schwarzer, G. (2014). Music lessons and academic self concept in 12-to 14-year-old children. *Musicae Scientiae*, 18(2), 203-215.
- Earhart, W. (1920). The value of applied music as a school subject. In *Papers and Proceedings of the Music Teachers National Association Forty-First Annual Meeting* (Hartford: Music Teacher National Association, 1920) (pp. 163-70).
- Ellis, R. J., Bruijn, B., Norton, A. C., Winner, E., & Schlaug, G. (2013). Training mediated leftward asymmetries during music processing: a cross-sectional and longitudinal fMRI analysis. *NeuroImage*, 75, 97-107.
- Franssen, V., Vandierendonck, A., & Van Hiel, A. (2006). Duration estimation and the phonological loop: Articulatory suppression and irrelevant sounds. *Psychological research*, 70(4), 304-316.
- Gardner, H. (2011). *Frames of mind: The theory of multiple intelligences*. Basic books.
- Gromko, J. E. (2004). Predictors of music sight-reading ability in high school wind players. *Journal of research in music education*, 52(1), 6-15.
- Gromko, J. E., & Poorman, A. S. (1998). The effect of music training on preschoolers' spatial-temporal task performance. *Journal of Research in Music Education*, 46(2), 173-181.
- Hannon, E. E., & Trainor, L. J. (2007). Music acquisition: effects of enculturation and formal training on development. *Trends in cognitive sciences*, 11(11), 466-472.
- Hansen, M., Wallentin, M., & Vuust, P. (2013). Working memory and musical competence of musicians and non-musicians. *Psychology of Music*, 41(6), 779-793.

- Hayward, C. M., & Gromko, J. E. (2009). Relationships among music sight-reading and technical proficiency, spatial visualization, and aural discrimination. *Journal of Research in Music Education*, 57(1), 26-36.
- Hetland, L. (2000). Learning to make music enhances spatial reasoning. *Journal of Aesthetic Education*, 179-238.
- Hille, A., & Schupp, J. (2015). How learning a musical instrument affects the development of skills. *Economics of Education Review*, 44, 56-82.
- Leng, X., & Shaw, G. L. (1991). *Toward a neural theory of higher brain function using music as a window*. World Scientific Publishing Company.
- Lezak, M. D. (2004). *Neuropsychological assessment*. Oxford University Press, USA.
- Melvin, S., & Cai, J. (2004). *Rhapsody in Red: How Western Classical Music Became Chinese*. Algora Publishing.
- Naveh-Benjamin, M., McKeachie, W. J., & Lin, Y. G. (1987). Two types of test-anxious students: Support for an information processing model. *Journal of educational psychology*, 79(2), 131.
- Nutley, S. B., Darki, F., & Klingberg, T. (2013). Music practice is associated with development of working memory during childhood and adolescence. *Frontiers in human neuroscience*, 7.
- Owens, M., Stevenson, J., Norgate, R., & Hadwin, J. A. (2008). Processing efficiency theory in children: Working memory as a mediator between trait anxiety and academic performance. *Anxiety, Stress, & Coping*, 21(4), 417-430.
- Piro, J. M., & Ortiz, C. (2009). The effect of piano lessons on the vocabulary and verbal sequencing skills of primary grade students. *Psychology of Music*, 37(3), 325-347.
- Pisoni, D., Kronenberger, W., Roman, A., & Geers, A. (2011). Article 7: Measures of digit span and verbal rehearsal speed in deaf children following more than 10 years of cochlear implantation. *Ear and hearing*, 32(1), 60s.
- Rauscher, F. H., Shaw, G. L., & Ky, K. N. (1993). Music and spatial task performance. *Nature*, 365(6447), 611.
- Rauscher, F. H., Shaw, G. L., Levine, L. J., Wright, E. L., Dennis, W. R., & Newcomb, R. L. (1997). Music training causes long-term enhancement of preschool children's spatial-temporal reasoning. *Neurological research*, 19(1), 2-8.
- Roden, I., Grube, D., Bongard, S., & Kreutz, G. (2014). Does music training enhance working memory performance? Findings from a quasi-experimental longitudinal study. *Psychology of Music*, 42(2), 284-298.
- Salomon, G., & Perkins, D. N. (1989). Rocky roads to transfer: Rethinking mechanism of a neglected phenomenon. *Educational psychologist*, 24(2), 113-142.
- Sawaguchi, T., & Goldman-Rakic, P. S. (1991). D1 dopamine receptors in prefrontal cortex: involvement in working memory. *Science*, 251(4996), 947-950.
- Schellenberg, E. G. (2005). Music and cognitive abilities. *Current Directions in Psychological Science*, 14(6), 317-320.
- Schellenberg, E. G. (2011). Examining the association between music lessons and intelligence. *British Journal of Psychology*, 102(3), 283-302.
- Schellenberg, E. G., Peretz, I., & Vieillard, S. (2008). Liking for happy-and sad sounding music: Effects of exposure. *Cognition & Emotion*, 22(2), 218-237.
- Schuchardt, K., Maehler, C., & Hasselhorn, M. (2008). Working memory deficits in children with specific learning disorders. *Journal of Learning Disabilities*, 41(6), 514-523.
- Shaw, G. L., & Bodner, M. (1999). Music enhances spatial-temporal reasoning: towards a neurophysiological basis using EEG. *Clinical EEG and Neuroscience*, 30(4), 151-155.
- Slavin, R. E., & Davis, N. (1997). *Educational psychology: Theory and practice* (pp. 144-148). Needham Heights, MA: Allyn and Bacon.
- Stone, J., & Towse, J. (2015). A working memory test battery: Java-based collection of seven working memory tasks. *Journal of Open Research Software*, 3(1).
- Thrasher, A. R. (2000). *Chinese musical instruments*. Oxford University Press, USA.
- Tierney, A. T., Bergeson-Dana, T. R., & Pisoni, D. B. (2008). Effects of early musical experience on auditory sequence memory. *Empirical musicology review: EMR*, 3(4), 178.

- Von Bastian, C. C., Locher, A., & Ruflin, M. (2013). Tatoon: A Java-based open-source programming framework for psychological studies. *Behavior research methods*, 45(1), 108-115.
- Wallentin, M., Nielsen, A. H., Friis-Olivarius, M., Vuust, C., & Vuust, P. (2010). The Musical Ear Test, a new reliable test for measuring musical competence. *Learning and Individual Differences*, 20 (3), 188-196.
- Waters, A. J., Underwood, G., & Findlay, J. M. (1997). Studying expertise in music reading: Use of a pattern-matching paradigm. *Perception & psychophysics*, 59(4), 477-488.
- Winner, E., & Cooper, M. (2000). Mute those claims: No evidence (yet) for a causal link between arts study and academic achievement. *Journal of Aesthetic Education*, 34(3/4), 11-75.
- Wolf, T. (1976). A cognitive model of musical sight-reading. *Journal of Psycholinguistic Research*, 5(2), 143-171.
- Zemp, H. (1978). 'Are' are classification of musical types and instruments. *Ethnomusicology*, 22(1), 37-67.
- Zuk, J., Benjamin, C., Kenyon, A., & Gaab, N. (2014). Behavioral and neural correlates of executive functioning in musicians and non-musicians. *PloS one*, 9(6), e99868.

COLLECTIVE LEADERSHIP AND CULTURE IN PRIMARY SCHOOLS: A COMPARISON BETWEEN THE THREE TYPES OF SCHOOLS

Thiruchelvan Koundyannan, Suhaida Abdul Kadir, Ramli Basri & Ahmad Fauzi Mohd Ayub
Faculty of Educational Studies, Universiti Putra Malaysia
thiru.elvan@gmail.com, suhaida@upm.edu.my, ramlibasri@upm.edu.my,
afmy@upm.edu.my,

ABSTRACT

This study was conducted to identify the level of collective leadership and school culture in three types of schools - Sekolah Kebangsaan (SK), Sekolah Jenis Kebangsaan Cina (SJKC) and Sekolah Jenis Kebangsaan Tamil (SJKT). This study also determined the relationship between the school culture and collective leadership in primary schools and difference in collective leadership and school culture by type of schools. This is a quantitative research, involving three primary schools in Seremban, Negeri Sembilan which are SK, SJKC and SJKT. Three grade A schools located at Seremban city were chosen. A total of 90 teachers were selected as respondents - 30 teachers from each school. Data for this quantitative study was collected using the Collective Leadership Survey (Leithwood, 2008) and School Culture Survey (Gruenert, 1998) instruments. SPSS version 21 was used for the descriptive and inference data analysis. This study shows that there is high level of collective leadership and school culture prevalent in the primary schools based on SK, SJKC and SJKT school findings. The Pearson correlation analysis showed a significant correlation between collective leadership and school culture in the primary schools. The ANOVA test also showed a significant difference in collective leadership and school culture by type of schools. Collective leadership and school culture affects the effectiveness of the school and academic achievement in primary schools. The practice of collective leadership and a positive school culture can contribute to the success of a school.

Keywords: Collective Leadership, School Culture

Introduction

Schools are educational institutions that ensure the skills and knowledge imparted to children for a healthy and prosperous future. To understand how schools achieve and maintain success is an exploration of the world of education (Loke Heng Wang, Gurr & Drysdale, 2016). Successful schools are dependent on the leadership role of the leaders to implement it effectively. Staff leadership is a priority task for all managers in the organization, no matter what level they are operating in the hierarchy. Its performance is associated with both success and failure across organizations and their employees. It is clear that the success of managers in leading people is judged by results and performance of the team, created from their subordinates (Mohelska & Sokolova, 2015).

Objectives

The purpose of this study was to determine the level of collective leadership and school culture in three types of schools which is Sekolah Kebangsaan (SK), Sekolah Jenis Kebangsaan Cina (SJKC) and Sekolah Jenis Kebangsaan Tamil (SJKT). This study also determined the relationship between the school culture and collective leadership in the primary schools and difference in collective leadership and school culture by type of schools. This study will find answers to three research questions;
What is the relationship between collective leadership and school culture in primary schools?
What is the difference between collective leadership by type of schools?
What is the difference between school culture by type of schools?

Methodology

This is a quantitative research, which involves three primary schools in Seremban, Negeri Sembilan that is SK, SJKC and SJKT. Three grade A schools which are located at Seremban city were chosen. A total of 90 teachers were selected as respondents, making it 30 teachers from each school.

Data for this quantitative study were collected using the Collective Leadership Survey (Leithwood, 2008) and School Culture Survey (Gruenert, 1998) instruments. The instrument for collective leadership has four dimensions based on setting directions, developing people, designing organization and improving the instructional programmes. The school culture instrument has six dimensions of collaborative leadership, teacher's collaboration, professional development, collegial support, unity of purpose and learning partnership. The whole instrument has 55 items. SPSS version 21 was used for descriptive and inference data analysis. Data was analyzed using the SPSS version 21. Descriptive statistics using mean and standard deviation were used. The Pearson correlation method was used to examine the relationship between collective leadership and school culture. Differences in practice for collective leadership and school culture among the schools were tested using ANOVA.

Literature Review

Collective Leadership

The concept of leadership has undergone changes in recent times, compared to the traditional view in which the leader is considered a milestone or savior. The concept of leadership now is shaped in the form of collective joined forces, together or mutually dependent on another individual (Mason, Gerbasi & Lester, 2016). Collective leadership generally completes the task through a tangle of influence or relationship, contrary to previous concepts which would be achieved through the power hierarchy (Fletcher, 2004). This fact is also supported by Day, Gronn and Salas (2004) which explains leadership seen as the source of the entire system rather than individual ownership alone. The effectiveness of leadership will be more flattering to strengthen the relationship between all members in the system.

Collective leadership in this study views the collectivistic theory (Friedrich et al., 2009). This theory sees collective leadership as a dynamic process in which a leader role or task is delegated to them by the expertise according to the situation (Friedrich et al., 2014). Leithwood & Jantzi (2012) stated that collective organization is 'group'. And the collective leadership can be regarded as carrying out tasks in groups with their expertise in a particular field. Schools as an educational institution has a hierarchical system, but leaders rely on teachers to implement and complete the tasks in different specific areas of expertise. This assertion is supported by Yammarino et al. (2012) where the collective leadership by its very nature is a phenomenon resulting from the rise of the individuals in the group resulted in the distribution of leadership process.

School Culture

School culture is defined as the basic assumptions, norms and values, and cultural artifacts that are shared by members of the school which is affecting their function in school (Maslowski, 2001). School culture generally refers to the beliefs, perceptions, relationships, attitudes and no explicit written rules that shape and affect every aspect of the school. The term also includes the issues that stand out as physical and emotional safety of students, classroom discipline and space environment. In addition, school culture also refers to the extent to which schools receive and support the diversity of race, ethnicity, language, or culture (Sheeba, 2016).

Research Finding

Level of Collective Leadership and Level of School Culture

Table 1. Level of collective leadership and school culture

Type of Schools	Collective Leadership	Level	School Culture	Level
SK	4.19	High	4.19	High
SJKC	3.89	High	3.78	High
SJKT	3.76	High	3.84	High
Total	3.95	High	3.94	High

Table 1, shows the mean value of the overall level of collective leadership and school culture in SK, SJKC and SJKT. The level of collective leadership and the school culture in all three schools is high at between 3.76 to 4.19.

Pearson Correlation Relationship between Collective Leadership and School Culture

Table 2. Pearson Correlation Relationship between Collective Leadership and School Culture

		School Culture
Collective Leadership	Pearson Correlation	.662**
	Sig.(2-tailed)	.000
	N	90

***. Correlation is significant at the 0.01 level (2-tailed).*

Table 2, shows a Pearson product-moment correlation coefficient which was computed to assess the relationship between the collective leadership and school culture. There was a positive correlation between collective leadership ($M = 3.945$, $SD = 0.455$) and school culture ($M = 3.842$, $SD = 0.457$), $r = .662$, $p \leq .001$, $n = 90$.

Collective Leadership Difference by Type of School

Table 3. Collective Leadership Difference by Type of School

	Sum of Squares	Degree of freedom	Mean Square	F Value	Significant
Between Groups	2.942	2	1.471	8.239	.001*
Within Groups	15.536	87	.179		
Total	18.478	89			

**The mean difference is significant at the 0.05 level.*

Based on Table 3, the results of ANOVA analysis showed significant differences in the mean scores of the collective leadership by type of schools, $F(2, 87) = 8.239$, $p < 0.05$. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the SK ($M = 4.19$, $SD = 0.323$) was significantly different than the SJKC condition ($M = 3.89$, $SD = 0.374$) and SJKT condition ($M = 3.75$, $SD = 0.539$). The mean score for the SJKC ($M = 4.19$, $SD = 0.323$) was significantly different than the SJKT condition ($M = 3.75$, $SD = 0.539$).

School Culture Difference by Type of School

Table 4. School Culture Difference by Type Of School

	Sum of Squares	Degree of freedom	Mean Square	F Value	Significant
Between Groups	6.192	2	3.096	21.639	.000*
Within Groups	12.447	87	.143		
Total	18.639	89			

**The mean difference is significant at the 0.05 level.*

Based on Table 4, the results of ANOVA analysis showed significant differences in the mean scores of the school culture by type of schools, $F(2, 87) = 21.639$; $p < 0.05$. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the SK ($M = 4.19$, $SD = 0.331$) was significantly

different than the SJKC ($M = 3.78$, $SD = 0.388$) and SJKT ($M = 3.56$, $SD = 0.411$). However the mean score for the SJKC ($M = 3.78$, $SD = 0.388$) did not significantly differ from the SJKT ($M = 3.75$, $SD = 0.539$).

Discussion

This study was carried out to determine the level of collective leadership and school culture of three types of primary schools in Seremban, Negeri Sembilan. The study also determined the relationship between the collective leadership and school culture in the primary schools. The difference in collective leadership and school culture were also identified through this study.

This study showed that the level of the collective leadership of the three types of schools is high. The level of collective leadership in the SK is better than in SJKC and SJKT. The level of school culture is also found to be high in all three schools. However the level of school culture in SK is better than that found in SJKC and SJKT. This research shows a similarity with a study by Norlina et al. (2015) which found that leadership had the greatest influence towards quality culture.

The correlation test showed a significant correlation between collective leadership and school culture in the primary schools. The ANOVA test showed that there were significant differences in collective leadership and school culture by type of schools. Through post hoc tests it was revealed that the collective leadership of the three schools showed a difference. While the school culture of the SK is different than that of SJKC and SJKT, the school culture in SJKC and SJKT schools showed no difference.

References

- Friedrich, T. L., Vessey, W. B., Schuelke, M. J., Ruark, G. A., & Mumford, M. D. (2009). A framework for understanding collective leadership: The selective utilization of leader and team expertise within networks. *The Leadership Quarterly*, 20, 933–958.
- Leithwood, K., & Jantzi, D. (2012). Linking leadership to student learning: The contributions of leader efficacy. *Educational Administration Quarterly*, 44(4), 496–528.
- Norlina Ali, Rohani Jangga, Mazlina Ismail, Siti Nur-Ila Mat Kamal & Mohammad Nazri Ali. (2015). Influence of Leadership Styles in Creating Quality Work Culture. International Accounting and Business Conference 2015, IABC 2015. *Procedia Economics and Finance*, 3, 161 – 169.
- Ooi Chew Hong dan Aziah. (2015). Sokongan pihak pengurusan sekolah terhadap tekanan kerja guru di sekolah kebangsaan dan Sekolah Jenis Kebangsaan Cina. *Jurnal kepimpinan pendidikan*, 2(2), 42-57.
- Loke Heng Wang, Gurr, D. & Drysdale, L. (2016). Successful school leadership: case studies of four Singapore primary schools. *Journal of Educational Administration*, 54(3), 270 –287.
- Maslowski, R. (2001). *School culture and school performance: an explorative study into the organizational culture of secondary schools and their effects* (Unpublished doctoral's dissertations). University of Twente, Faculty of Educational Science and Technology, Department of Educational Administration, Enschede, The Netherlands.
- Mohd Faiz Mohd Yaakob, Jamal@Nordin Yunus & Hamidah Yusof. (2016). Model Pengukuran Budaya Sekolah: Kajian Di Sekolah Kebangsaan Di Malaysia. *Jurnal Kepimpinan Pendidikan*, 3(4), 58-71.
- Mason D.C., Gerbasi A. & Lester K.L.C., (2016). Predicting leadership relationships: The importance of collective identity. *The Leadership Quarterly*, 27, 298–311.
- Mohelska, H. & Sokolova, M. (2015). Organisational culture and leadership – joint vessels?. *Social and behavioral sciences*, 171, 1011 – 1016.
- Sheeba, K. (2016). School Culture: A Key Issue in Successful Reform Efforts. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 6, 34–35.
- Yaakob Daud & Yahya Don. (2012). Budaya sekolah, kepemimpinan Transformasional dan pencapaian akademik pelajar. *Malaysian journal of learning and instruction*, 9, 111-139.
- Yammarino, F. J., Salas, E., Serban, A., Shirreffs, K., & Shuffler, M. L. (2012). Collectivistic leadership approaches: Putting the “we” in leadership science and practice. *Industrial and Organizational Psychology*, 5(4), 382–402.

THE EFFECT OF VERBAL PROBLEM-SOLVING INSTRUCTION ON STUDENTS' STRUCTURING, ACQUISITION AND RETENTION OF KNOWLEDGE

Aliah Ahmed Shah, Samsilah Roslan, Zeinab Ghiami, Mohd Majid Konting & Rosini Abu
Faculty of Educational Studies, University Putra Malaysia
aliah@yahoo.com, samsilah@upm.edu.my, ghiami.z@gmail.com, mmk@upm.edu.my
rosini@educ.upm.edu.my

ABSTRACT

This study aimed to examine the effects of teaching verbal problem-solving instruction on students' structuring, acquisition and retention of knowledge in methods of cooking. The study has been carried out on 148 students from two classes each of catering technology (n=77) and food management (n=71). Each class was randomly assigned to an experimental and a control group. Ten treatments of teaching using verbal problem-solving were given for the duration of 40 minutes of classroom teaching for four weeks. Parallel achievement tests were used to demonstrate the amount of knowledge acquired and retained after the treatment. A concept mapping test was used to assess the knowledge structure before and after the treatment. A delayed post-test of retention of knowledge was given after nine weeks of lapse after the treatment. The findings have shown that verbal problem-solving teaching has significantly increased the students' structuring, acquisition and retention of knowledge.

Keywords: Meaningful Learning; Verbal Problem-solving; Structuring of Knowledge; Acquisition of Knowledge; Retention of Knowledge

Introduction

Meaningful learning occurs when students build the knowledge and cognitive processes needed for successful problem solving. Problem solving involves devising a way of achieving a goal that one has never previously achieved; that is, figuring out how to change a situation from its given state into a goal state (Mayer, 1992). Problem-solving strategy consists of two major components; (a) problem representation: in which individuals construct a mental representation of the problem, and (b) problem solution: in which individuals find and implement a way to solve the problem (Mayer, 1992).

According to Ausubel, Novak, and Hanesian (1968) and Klir (2013), problem-solving activities can help students to achieve meaningful learning. The importance of meaningful learning has been stressed by many educational psychologists such as (Mayer, 1979) and Cavallo (1996). Through meaningful learning, students can form stable knowledge structures and acquire knowledge. It has been proven that knowledge acquired through meaningful learning can be retained much longer in the cognitive structures (Ausubel, 2012). Researchers who have been using Assimilation Learning Theory (ALT) on problem-solving have shown that relevant background knowledge is a significant factor in solving problems (Lee & Fensham, 1996; Novak, 1977).

Alfeld, Charner, Johnson, and Watts (2013) emphasized that future workers mainly vocational and technical students not only need technical and academic skills but other skills such as cognitive process skills and problem-solving skills as well. For everyday life, verbal and practical problem-solving skills are required to solve common problems on a daily basis as well as work problems (Segal, Chipman, & Glaser, 2014). Considering that good problem solvers can be the good workers (Soden, 2013), and also the present vocational and technical students will become workers in the future, they should be equipped with problem solving skills. Similarly, Catering Technology and Food Management students need specific skills such as technical, academic as well as cognitive process skills. Catering Technology is a home economic subject in the Malaysian vocational curriculum. It consists of teaching, planning, organizing and reorganizing as well as the application of skills. Students are required to plan and solve structured and sometimes impromptu problems during practical lessons. Thus, problem-solving is not taught within the subject formally. Subjects such as Catering Technology

and Food Management require the students to organize relevant and available information as well as strategize and apply appropriate facts.

The statistics of Sijil Pelajaran Malaysia (SPM) reveals that students of Catering Technology are weak in answering higher order thinking questions which form 60% of the exam paper. The inability to answer higher order thinking questions has caused low percentage grades (Lembaga Peperiksaan 1993, 1994, 1995). Furthermore, the failure to perform higher-order thinking among students may also hinder the learning of other skills such as personal, social and economic decision-making skills (Barnett & Francis, 2012). Hence, it is vital that education is taught in a way to enable the students to make personal, social and economic decisions.

Awareness can be made among students regarding the benefits and strategies of problem-solving which could be observed and practiced by the students to help them in problem solving skill (Griffin, McGaw, & Care, 2012). It can also be taught in a teaching modular form for classroom activities.

This study aimed to examine the effect of treatment based on verbal problem-solving instruction on structuring, acquisition and retention in the methods of cooking.

Literature Review

Assimilation Learning Theory

The Assimilation Learning Theory (ALT) by Ausubel (1986) consists of six basic concepts for meaningful learning. The six basic concepts are subsumption, progressive differentiation, integrative reconciliation, oblitative subsumption, superordinate learning and advance organizer. Subsumption is a process whereby new knowledge is accreted from the cognitive structure of the learner. Accretion of new knowledge is facilitated by the availability of preacquired ideas in the cognitive structure. The presence of relevant, clear and stable preacquired ideas in the learner's cognitive structure facilitates meaningful learning. Current knowledge that interacts with the relevant background knowledge in the cognitive structure is assimilated to form new knowledge structure. The construction of new knowledge structures continues through the processes of meaningful learning. As new knowledge is acquired, concepts and propositions become more elaborate. The formation of interconnections of concepts and linkages between concepts take place in a manner of 'progressive differentiation'. As new linkages are formed, subordinate concepts acquire new meanings and 'superordinate learning' takes place. Superordinate learning involves modifications of previously learned concepts and/or propositions, which also results in progressive differentiation of cognitive structure. As superordinate learning occurs, concepts and propositions that are seen as discrete or in conflict may be integrated into new higher order concept meaning. This process is termed by Ausubel (1968; 2000) as 'integrative reconciliation'. Integrative reconciliation continues as learners gain more meanings and linkages to distinct concepts.

Knowledge gained through meaningful learning is subsumed in the cognitive structure. The new meaningful knowledge is retained much longer than knowledge that is rote learned. However, learning and forgetting in rote learning are not equivalent to learning and forgetting in meaningful learning. Ausubel (1968; 2000) coined the term 'oblitative subsumption' to represent forgetting in meaningful learning. By oblitative subsumption, a meaningfully gained knowledge is not forgotten entirely. Residual concepts remain after subordinate concepts and details are lost. The residual concepts form anchoring ideas in cognitive structure. These anchoring ideas will be useful to facilitate new relevant meaningful learning when required. Knowledge could be more easily linked to existing relevant concepts in cognitive structure by the use of 'advance organizer'. Ausubel emphasizes that advance organizers are different from overviews and summaries. Organizers act as a subsuming bridge between new learning material and existing related ideas. The function of an advance organizer is to connect what is 'known' to the 'unknown'. The process of using advance organizers allows students to reflect on what they know and assist students in comprehending the new knowledge.

ALT emphasizes on the importance of relevant background knowledge to promote meaningful learning (Novak, 1998). At the same time, ALT also perceives background knowledge as a basic requirement for problem solving. Thus, problem solving is an approach which enables the use of background knowledge to gain new knowledge (Ausubel, 1968). The process of solving a problem that involves a reorganization of what is available in the cognitive structure in order to fit the particular requirements of a current problem situation given in the classroom can lead to the acquisition of new meaning. The acquisition of new meaning is truly the actual meaningful learning. Problem solving skills, either verbal or practical, is one of the higher order thinking skills necessary for both school life and everyday life. For school life, verbal problem-solving activities in classroom can lead to meaningful learning (Novak, 1998). For everyday life, verbal and practical problem- solving skills are required to solve common everyday problems and work problems (Doornekamp, 2001). Since good problem solvers can be good workers (Clark, 1989; Johnson, 1991; Soden, 1994), future workers should be equipped with problem solving skills, As the present vocational and technical students will become workers in the future, problem solving is seen to be relevant to these students.

Structuring, Acquisition and Retention of Knowledge

Structuring of knowledge is very much related to acquisition of knowledge (Vosniadou & Brewer, 1987). In most learning theories, discussions were predominantly organized around the organization, acquisition and retention of knowledge. In Assimilation Learning Theory, a major chunk of the discussion was about structuring or organizing, acquisition and retention of knowledge. This was clearly stated in the key points, which formed the principles of Assimilation Learning Theory. Ausubel (2012) proposed four stages of acquisition and retention through them restructuring of knowledge is embedded.

Stage one is when meaningful learning or acquisition of subordinate learning takes place.. To explain further about stage one, Ausubel (2012) named two types of subsumption process by which new knowledge was structured and incorporated into the cognitive structure. He described the three phases of meaningful reception learning and retention. The first phase was the learning phase where students acquired new meanings. Potentially meaningful new information was incorporated into relevant subsuming ideas in the cognitive structure which gave rise to new knowledge structure with a certain amount of strength. At this phase, a fast learner learned more in a given unit time as compared to a slow learner.

The second phase was the retention phase where students experienced a gradual loss of dissociable strength of the newly formed cognitive structure through the process of obliterative assimilation. At this stage, modifications of the stored information were made. As a result, the recalled information reduced to the established ideas in the cognitive structure that assimilated them. According to Ausubel, fast learners remembered less because they forget at a slower rate but because they learn more. Therefore, they started with a greater mass of knowledge.

The third phase was the reproduction of the retained information. The amount of retained material depended on the residual level of availability of the subordinate concepts after some details were lost. The amount of retained information, on the other hand, depended on other cognitive and motivational factors which influenced the actual process of reconstructing the retained meanings in the cognitive structure and translating them into a verbal statement. This phase was crucial for students where they were expected to demonstrate the retention by reconstructing their knowledge during classroom tests and examinations.

Models of Problem-Solving

Models of problem solving helps to operationalize the approaches developed based on theories. Wallace (2000) suggested that although curriculum materials aiming to teach problem solving and thinking skills are vary, basic elements of gathering and organizing information, identifying task, evaluating outcome according to criteria and reflecting on what has been learned should be incorporated in the problem solving learning processes. Ausubel and Robinson (1971) proposed a Four Stage Model.

The first stage is presenting the problem to the solver. In the second stage the solver relates the problem to his cognitive structure to understand. In the next step the solver endeavors to fill the gap by generating possible solutions using background information at his rules of inference and in the fourth stage the solver checks the solution.

In the current study the proposed Five Stage Model of Verbal Problem Solving was developed based on the Model by Ausubel and Robinson by adding analyzing and identifying the cause of the problem as the second stage.

Structuring, Acquisition and Retention of Knowledge and Problem-solving

Acquiring knowledge structures is useful for problem-solving (Reimann & Schult, 1996). At the same time, problem-solving helps in knowledge structuring. It was proven earlier by Egan and Greeno (1973) who discovered that the outcome of rule version of problem-solving program instruction was an addition to new knowledge structure. The addition of new knowledge structures helped in knowledge acquisition.

Knowledge acquisition is synonymous with problem-solving. It was because problem-solving is the process that requires knowledge and at the same time leads to the acquisition of knowledge. As a prerequisite to problem-solving and meaningful solution to any problem, procedural and conceptual knowledge was found to be useful. It was proven by Stewart (1982), and Reimann and Schult (1996) who concluded that, for new students who were just being introduced to a discipline, a successful solution to what appeared to be a simple and routine problem might require a great deal of procedural knowledge.

Besides being a prerequisite to problem-solving, knowledge could be acquired through the problem-solving process. The problem-solving instruction is regarded as compatible with the acquisition of knowledge and higher cognitive thought. From the perspectives of Assimilation Learning Theory, knowledge provides 'raw material' for problem-solving (Ausubel et al., 1968). Acquired knowledge or background knowledge is something that is available for students (Vosniadou & Brewer, 1987). Acquired knowledge was reorganized to suit the specific requirements of a current problem condition during the process of problem-solving.

In the process of problem-solving teachers could encourage students to use acquired knowledge to solve a problem; and in doing so, enable a meaningful accretion of knowledge (Son & VanSickle, 1993).

Methodology

Participants

The study was carried out on 148 students from two courses each of catering technology (n=77) and food management (n=71). Taken as intact, students of each course were randomly assigned to experimental (n=37; n=35) and control (n=40; n=36) groups. The control groups used the traditional expository teaching of chalk and board method, and the experimental groups used the verbal problem-solving approach. However, allocation of control and experimental groups was based on randomization.

Instrumentation

The instruments used for the study consisted of two parts:

- (1) Teaching instruments- Verbal Problem-solving Instruction Guide to be used by the experiment groups and Traditional Expository Instruction Guide to be used by the control groups.
- (2) Test instruments - Achievement test instruments to assess the acquisition and retention of 'methods of cooking' knowledge and concept mapping test instrument to assess the structuring of knowledge.

Procedure

The experimental group underwent teaching and learning of 'methods of cooking' by using verbal problem-solving approach while the control group underwent teaching and learning of methods of cooking by using traditional expository approach. The treatment lasted approximately for four weeks

to complete the teaching and learning process including ten sessions with the contact hours of 40 minutes.

By the end of the treatment session both groups, experimental and control, went through all the ten methods consisting of boiling, blanching, steaming, stewing, deep-fat frying, sautéing, frying without oil, roasting, baking and grilling. At the end of the treatment session, both the control and experimental groups sat for two post-tests to assess the structuring and acquisition of knowledge. The participants and teachers resumed their routine class activity. After nine weeks of elapses, another test was conducted to assess the retention of knowledge in the methods of cooking.

Teaching and learning for the experimental groups involved reception and discovery learning, which took place successively when the students were presented with the problem and explanation were made by the teacher. After that, the students were asked to follow the processes of problem-solving according to the proposed five-stage model of the verbal problem. They were asked to solve it as stated in the instruction guidelines. When the students worked their way through the problems verbally using the advance organizer and other information, they were assured to relate and make connections between the information and the problem. The students were intentionally or deliberately asked to learn the subject in a meaningful way, therefore, meaningful discovery learning was said to take place. After solutions to the problems had been established, the teachers were asked to discuss and confirm it with the students. The discussion and confirmation of the correct solution by the teacher was another form of reception learning. The proposed five stage model of verbal problem-solving was developed based on the four stage model of problem-solving by (Ausubel & Robinson, 1971).

Data Analysis

The main purpose of this study was to examine the effect of one categorical independent variable on structuring, acquisition and retention of knowledge contained between (pre-test and post-test) and within subject (experimental and control). In order to confirm the effect of verbal problem-solving on students' meaningful learning, any extraneous influence on the pre-test scores was excluded from the post-test scores. For this purpose, an analysis of covariance (ANCOVA) was conducted. This analysis confirmed that the outcome in the post-test is not influenced by the scores of the pre-test. In this analysis, the fixed factor was the group (experimental or the control) and the dependent variable were the post-test scores of structuring, acquisition and retention of knowledge. Scores of participants in the pre-test for the structuring of knowledge and acquisition of knowledge before the treatment were taken as the covariates.

Results

In order to evaluate the effect of verbal problem-solving intervention on the vocational trainee students' structuring knowledge, one-way ANCOVA for the pre- and post-test of structuring of knowledge of two groups was used. Before conducting a one-way analysis of covariance, homogeneity of variance test was needed, in order to make sure if the data follows the basic hypothesis of ANCOVA. The result of Levene's test showed that there is no significance difference between groups in pretest $F(1, 74) = 3.6, p = .08$. The result of one-way ANCOVA is shown in Table 1. There is significance between experimental and control group of Catering Technology regarding structuring of knowledge $F(1, 74) = 33.41, p = .001$, although, this difference is not significant between experimental and control group for Food Management group regarding Structuring of Knowledge $F(1, 67) = .83, P = .36$.

Table 1. Test of between Subject Effects using ANCOVA on Dependent Variables for Both Groups

Variables	Between Groups Effect (Exp & Con)	df	MS	F	P-value	Partial Eta Squared
Structuring of knowledge	CT	1	3160	33.41	.01	.32
	FM	1	87.45	.85	.36	.01
Acquisition of knowledge	CT	1	595.75	5.59	.02	.07
	FM	1	1776.5	15.88	.01	.04

CT: Catering Technology; FM: Food Management; Exp: Experimental Group; Con: Control Group
 It means that structuring of knowledge of the vocational trainees is influenced by problem-solving teaching strategies in Catering Technology groups. The change of meaningful learning of the experimental group is more positive than the control group.

In order to compare the effect of the problem-solving intervention on the vocational trainee students' acquisition of knowledge, one-way ANCOVA for the pre- and a post-test score of the experimental and control groups was employed. Levene's test for equality of variances was found to be violated for the present analysis, $F(1, 15) = .83, p = .45$. The result of one-way ANCOVA for the students acquisition of knowledge showed a significant difference between experimental group and control group of catering technology, $F(1, 74) = 5.59, p = .02$, and food management $F(1, 67) = 15.87, P = .01$. It means that the vocational trainees' ability of acquisition of knowledge was influenced by problem-solving activities in both experimental groups. Moreover, the change in the treatment group was more positive than the control group.

To investigate the effect of verbal problem-solving instruction on students' retention of knowledge in methods of cooking and to verify that the outcome of the retention test is not influenced by the scores of the post-test of the structuring and acquisition of knowledge, ANCOVA was conducted. According to Palent (2001), since two covariates are used in the ANCOVA, the relationship between the covariates was determined. The distribution of the post-test scores and acquisition test scores using scatter plot and other preliminary assumptions were tested before ANCOVA is performed. Analysis of covariance on the retention test for Catering Technology group shows that there is no significant difference $F(1, 66) = .30, P = .01$ in the retention mean of knowledge between the experimental group ($M=49.41, SD=10.16$) and the control group ($M=44.13, SD=10.94$) for the Catering Technology students (Table 2).

Table 2. Test of between Subject Effects using ANCOVA Retention of Knowledge for Both Groups

Variables	Between Groups Effect (Exp & Con)	df	MS	F	P-value	Partial Eta Squared
Retention of Knowledge	CT	1	32.67	.30	.589	.00
	FM	1	143.98	1.56	.217	.03

CT: Catering Technology; FM: Food Management; Exp: Experimental Group; Con: Control Group
 A similar test was conducted on the Food Management students' scores in order to determine the effect of verbal problem-solving instruction on retention of knowledge among the Food Management students. From the analysis, it is found that there is no significant difference $F(1, 60) = 1.56, P = .21$ in the retention of knowledge in methods of cooking between the experimental group ($M=54.56, SD=5.68$) and the control group ($M=48.86, SD=9.08$) (Table 2).

According to the results of partial eta square, it can be seen that the effect size of Catering Technology compared to control group in the structuring of knowledge is 0.32 while the effect size for Food Management is only 0.01. For acquisition of knowledge also catering technology group had higher effect size (0.07) than Food Management group (0.04). It shows that catering technology group was more affected by problem-solving intervention as compared to FM in both structuring and acquisition of knowledge. Moreover, Catering Technology group has been more influenced by problem-solving intervention in the acquisition of knowledge as compared to Food Management group.

In summary, there is a significant loss of knowledge in methods of cooking after nine weeks of elapse for all the groups of Catering Technology and Food Management albeit experimental or control. However, the loss is even greater among the students from the traditional expository group. The students

who received verbal problem-solving instruction can retain the knowledge significantly better than the students who received the traditional expository instruction.

Discussion

The results of the study showed a significant difference in the structuring of knowledge between pre-test and post-test for experimental groups and the control groups of Catering, however this difference was not significant for Food Management students. The finding suggests that both of the treatments, using verbal problem-solving instruction and the traditional expository instruction, support structuring of knowledge. Teaching theories suggest that effective teaching leads to the attainment of an instructional goal set at the beginning of the teaching session (Lefrancois, 1997). In this study, the experimental groups and the control groups have common goals that were set in the instruction guide. The teaching process, which involved implementation of strategies that lead the students to the attainment of goals, differentiates between the experimental and the control groups. In the meantime, undergoing through teaching and learning process for both the experimental groups and the control groups have shown some changes in the structuring of knowledge. Jonassen and Grabowski (2012) have pointed that the different instructional methods might have produced structurally different learning outcomes. Therefore, in this study, among the verbal problem-solving method and the traditional expository method, there has to be some form of distinction in structures of knowledge produced by these students.

To explain this phenomenon from the Assimilation Learning Theory (ALT) perspective, it is understood that new learning involves the development of new knowledge structures that results from subsumption, progressive differentiations, integrative reconciliation and assimilation of the existing knowledge structure (Ausubel, 2012). In this study, by the process of problem-solving, students from the experimental classes were urged to use relevant background knowledge, assimilate and integrate it with the present knowledge and form new knowledge structures while solving the given problems at the same time. Whereas students from the control group, who were taught traditional expository approach were asked to learn the subject matter based on the explanations by the teacher in the classroom, and by their own reading of given notes, and from the textbooks.

Comparing the post-test results between the experimental and the control groups, structuring of knowledge in methods of cooking took place when they were given the notes before the lessons. A cognitive questioning strategy and a community of inquiry strategy were implemented to teach students to ask questions during the class. Results show that students in the cognitive questioning condition were more interactive, and they obtained higher reasoning and problem-solving scores in higher-level thinking and learning (Gillies, Nichols, Burgh, & Haynes, 2012).

It can be assumed that on the part of the students from the control groups, some effort takes place to relate the acquired background knowledge with the present knowledge during teaching and learning process. It is not impossible for the students from the control group to be engaged in a form of learning where they can form new knowledge structures quite similarly and strongly as the students from the experimental group. This outcome is similar to Nuthall and Alton-Lee (1993) who found that advance organizer can provide relevant background knowledge suitable for knowledge construction in expository teaching procedure. Feltham and Downs (2002); Kalyuga (2009); Valcke (2002) later confirmed that background knowledge is a significant factor in knowledge construction. Similarly, Valcke (2002) stressed over the contribution of prior knowledge in the construction of schemas that functions to reduce working memory load, thereby enhancing the understanding.

As in the case of students from the experimental group, who are applying an appropriate strategy during problem-solving, requires a substantial amount of domain knowledge. Learners who are in the early stage of learning might not have enough domain knowledge to be able to apply to problem-solving (Soden, 2013). Providing them with sufficient domain knowledge from the given notes has increased their knowledge level and by enabling them to use the knowledge for verbal problem-solving

has made the knowledge functional in the context of the structuring of knowledge. This strategy has worked for both Catering Technology and Food Management experimental groups.

The positive effects of both verbal problem-solving approach and traditional expository approach are almost compulsory since both groups fulfilled the requirement of a good teaching procedure. A common feature of the teaching procedure implemented in both of the groups, experimental and control are in the use of the advance organizer which provides students with the background knowledge.

Background knowledge has always been known for its relevance to knowledge acquisition (Ausubel, 2012). In this study, it could be seen that either by the use of expository teaching or the use of problem-solving, students successfully used background knowledge which help them to acquire new knowledge. This was reflected in the paired sample t-test results (Table 2). Activation of prior knowledge through questions and discussions at the beginning of the lessons during the induction setting has benefited the control and the experimental groups. This finding is inconsistent with Feltham and Downs (2002) who found that activation of prior knowledge through small-group discussion of a problem can be a successful instructional strategy for bridging the gap between the known and the new information to be learned.

Focusing on the difference in results obtained by the experimental and the control groups, they are inconsistent with the findings of other previous work of (Son & VanSickle, 1993). This was because acquisitions of knowledge for the experimental groups were gradual as in Hamel and Elshout (2000), but almost imposed on the students when they were required to solve the problem, based on the proposed five stage model of verbal problem-solving.

The findings confirmed that the students from the experimental groups have learned methods of cooking well enough to acquire the knowledge more than the students from the control groups. However, based on the findings, it is incorrect to deduce that the students from the experimental groups have rotely learned methods of cooking since it has been assured that students from the experimental groups were deliberately required to undergo meaningful learning processes (Novak, 1998).

Alternatively, the students from the control groups were exposed to a form of meaningful reception learning, which is also supported by Assimilation Learning Theory (ALT). It is because, during meaningful reception learning, students were allowed to experience the repetition of the learning process, which gave rise to the availability of the material during retrieval stage (Ausubel, 2012). Since the students from the control groups were also given similar notes on methods of cooking, they were exposed to available materials that they could use for a repetitive learning process. Availability of knowledge due to repetition can be an underlying phenomenon for students from the experimental and the control groups that attribute to a considerable amount of knowledge retained by the experimental groups as well as the control groups.

References

- Alfeld, C., Charner, I., Johnson, L., & Watts, E. (2013). *Work-based learning opportunities for high school students*. Washington, DC: University of Louisville.
- Ausubel, D. P. (2012). *The acquisition and retention of knowledge: A cognitive view*. Boston: Springer Science & Business Media.
- Ausubel, D. P., Novak, J. D., & Hanesian, H. (1968). *Educational psychology: A cognitive view*.
- Ausubel, D. P., & Robinson, F. G. (1971). *School learning*. New York: Holt, Rinehart and Winston.
- Barnett, J. E., & Francis, A. L. (2012). Using higher order thinking questions to foster critical thinking: A classroom study. *Educational Psychology*, 32(2), 201-211.
- Cavallo, A. M. L. (1996). Meaningful learning, reasoning ability, and students' understanding and problem solving of topics in genetics. *Journal of Research in Science Teaching*, 33(6), 625-656.

- Egan, D. E., & Greeno, J. G. (1973). Acquiring cognitive structure by discovery and rule learning. *Journal of Educational Psychology*, 64(1), 85-97.
- Feltham, N. F., & Downs, C. T. (2002). Three forms of assessment of prior knowledge, and improved performance following an enrichment programme, of English second language biology students within the context of a marine theme. *International Journal of Science Education*, 24(2), 157-184.
- Gillies, R. M., Nichols, K., Burgh, G., & Haynes, M. (2012). The effects of two strategic and meta-cognitive questioning approaches on children's explanatory behaviour, problem-solving, and learning during cooperative, inquiry-based science. *International Journal of Educational Research*, 53, 93-106.
- Griffin, P., McGaw, B., & Care, E. (Eds.). (2012). *Assessment and teaching of 21st century skills*. Melbourne: Springer.
- Hamel, R., & Elshout, J. J. (2000). On the development of knowledge during problem solving. *European Journal of Cognitive Psychology*, 12(3), 289-322.
- Jonassen, D. H., & Grabowski, B. L. (2012). *Handbook of individual differences, learning, and instruction*. Hillsdale, NJ: Routledge.
- Kalyuga, S. (2009). Knowledge elaboration: A cognitive load perspective. *Learning and Instruction*, 19(5), 402-410.
- Klir, G. (2013). *Architecture of systems problem solving*. New York: Springer Science & Business Media.
- Lee, K. W. L., & Fensham, P. J. (1996). A general strategy for solving high school electrochemistry problems. *International Journal of Science Education*, 18(5), 543-555.
- Lefrancois, G. R. (1997). *Psychology for teachers* (6 ed.). Belmont, CA: Wadsworth.
- Mayer, R. E. (1979). Can advance organizers influence meaningful learning? *Review of educational research*, 49(2), 371-383.
- Mayer, R. E. (1992). *Thinking, problem solving, cognition*. New York: Freeman.
- Novak, J. D. (1977). An alternative to Piagetian psychology for science and mathematics education. *Science Education*, 61(4), 453-477.
- Novak, J. D. (1998). *Learning, creating, and using knowledge*: Mahwah, NJ: Erlbaum.
- Nuthall, G., & Alton-Lee, A. (1993). Predicting learning from student experience of teaching: A theory of student knowledge construction in classrooms. *American Educational Research Journal*, 30(4), 799-840.
- Reimann, P., & Schult, T. J. (1996). Turning examples into cases: Acquiring knowledge structures for analogical problem solving. *Educational Psychologist*, 31(2), 123-132.
- Segal, J. W., Chipman, S. F., & Glaser, R. (Eds.). (2014). *Thinking and Learning Skills: Volume 1: Relating Instruction To Research*. Hillsdale, NJ: Routledge.
- Soden, R. (2013). *Teaching problem solving in vocational education*. New York: Routledge.
- Son, B., & VanSickle, R. L. (1993). Problem-Solving Instruction and Students' Acquisition, Retention and Structuring of Economics Knowledge. *Research and Development in Education*, 33(2), 95-107.
- Stewart, J. (1982). Two aspects of meaningful problem solving in science. *Science Education*, 66(5), 731-749.
- Valcke, M. (2002). Cognitive load: updating the theory? *Learning and Instruction*, 12(1), 147-154.
- Vosniadou, S., & Brewer, W. F. (1987). Theories of knowledge restructuring in development. *Review of educational research*, 57(1), 51-67.

CHARACTER TRAITS AND INVOLVEMENT IN IMMORAL ACTS AMONG MALAY ADULT PRISONERS

Jamaliah Laidin, Samsilah Roslan, Abdul Rahman Arof, Rahil Mahyiddin, Fatemeh Sabouripour & Zeinab Ghiami
Faculty of Educational Studies, University Putra Malaysia, Serdang, 43400, Malaysia
samsilah@gmail.com

ABSTRACT

This study aimed to examine the relationship between character traits and involvement in immoral acts among Malay adult prisoners. Despite increased involvement of Malay adult in immoral acts research on internal factors, such as, traits, which contribute to immoral acts involvement, is lacking. The study involved 801 respondents randomly selected from the Kajang Prison inmates in the Klang Valley. Pearson Product Moment Correlation Coefficient indicated a positive correlation between blameworthy traits and involvement in immoral acts. Moreover, the result showed a significant negative relationship between praiseworthy traits and immoral acts involvement. Multiple linear regression analysis showed that seven predictors of the Islamic character traits contribute significantly towards immoral acts involvement among Malay adult prisoners. The study focused on an overall relationship between the Malay adult prisoners' character traits and crimes committed without linking the character traits to specific crimes. The findings suggested that teaching ethics in Islamic studies should focus on the development of Islamic moral traits and character.

Keywords: Immoral acts involvement, Character traits, Blameworthy traits, Praiseworthy traits.

Introduction

Immorality is a concept commonly applied to persons or actions. In a broader sense, it can be applied to groups or corporate bodies, beliefs, religions, and works of art. In other words, acts that violate moral laws, norms or standards are immoral. Involvement in immoral acts refers to the indulgence in acts by individuals who are not in conformity with the stipulated moral code of conduct, principles or laws of acting or behaving imposed by society, or by divine. Past studies have found that traits, as internal factors, contribute to the involvement in immoral act. Eynseck (1971) believed that personality traits perspective is related to immoral acts. According to Eysenck (1992), aggressiveness is the common trait in people who indulge in immoral acts. Additionally, as Cattell and Kline (1977) described, inability to control one's emotion and impulses, as a personality trait, lead to immoral acts. Although personality traits perspectives give insights into a person's personality, they pay inadequate attention to individual development and change (Liebert & Liebert, 1998). Meanwhile, character traits perspective is seen as an alternative to personality traits perspective or theories used as basis for studies on immoral acts involvement. Character traits are concerned with the formation of good character and eradication of bad character (Arthur, 2003). Hence, traits and acts underlying the good or bad character are inevitably subject to judgments of morality. These judgments of morality or of right and wrong are against the stipulated code of ethics, principles or law imposed on the individuals by men or God, and they are manifested in the form of norms and values of the society. The judgments may be deontic, or they may reflect moral obligation if they pertain to acts that are obligatory. They may also be judgments of moral values if they refer to persons, motives, intentions, or traits of character. Terms such as virtuous or praiseworthy are used to describe the morally good acts or traits while terms such as vicious or blameworthy and the like are used to describe the morally bad acts or traits.

In this study, involvement in immoral acts refers to the indulgence in acts by Malay adults who do not conform to moral code of conduct stipulated by Islamic law written in Quran. Malay adults' involvement in immoral acts is a topic of great interest and concern for Malay parents, educators, psychologists, Muslim religious instructors, and Malay society. It is a part of the increasing social problems discussed by various media, with certain cases reaching an alarming level (Stapa, 2001).

Incest and physical and emotional abuse typically occur in Malay families (Syariah Court, 2000). Different form of crime include possessions of dangerous drugs, theft, robbery and rape, murder (Awnings Prison, 2002); breach of trust, fraud, and corruption (Investigation Department of the Police Report, 2000); close proximity, gambling and alcohol consumption (Enforcement of Sharia Court, 2002).

Despite an increasing number of Malay adults involved in immoral acts, there is lack of research on character traits and its relation with immoral acts involvement. Moreover, personality trait assessment scales of Western origin do not capture Islamic values. In this regard, this study focused on the relationship between character traits as internal factors, with Malays' involvement in immoral acts. Furthermore, quantitative studies of acts related to faith are rare, and there is a need to find common points between Islamic character traits and immoral acts in Islamic society (Mir, 2001). This study was the first attempt to use quantitative methods to study Islamic character traits involvement in immoral acts among Malay adult prisoners.

The objectives of the study were to investigate the relationship between praiseworthy, blameworthy character traits and involvement in immoral acts among Malays prisoners. Based on the above objective, the following research questions were posed: 1) What is the relationship between involvement in immoral acts and praiseworthy and blameworthy character traits? 2) What are the character traits that contribute to involvement in immoral acts?

To achieve the study objectives, the following research framework was established.

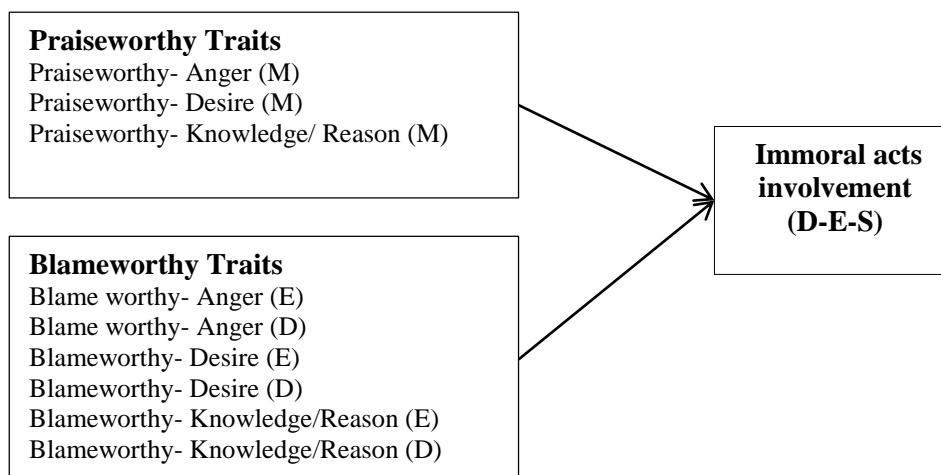


Figure 1 Conceptual framework of the study

Literature Review

Character is defined as all acts that point to manners and respect, which are parts of human nature (Van Eijck & Visser, 2012). According to the interconnection theory of Al-Ghazali, every act affects the soul when it is deliberately performed, and this effect causes the body to repeat the same act (Al-Ghazali & Yakub, 1988). This effect is added to the previous effect, which is now strengthened to form the quality of the soul. A quality that is established in the soul necessitates the relevant bodily actions, which are automatic and pleasurable. Willingness or to execute an act depends on the strength or weakness of the soul's quality. With this theory, Al-Ghazali was able to emphasize the need to consider committing immoral acts as acts that not only contribute to the development of more immoral character traits in the soul, but also prevent acts from achieving the moral aim in the Muslim's life, which is to be near God and avoid punishment in the Hereafter or the being in the Hereafter. Al-Ghazali defined the character in the most explicit way. He was definite and detailed in defining the character as well as good and praiseworthy traits and bad or blameworthy traits from an Islamic perspective. His definition provided also an explanation and not just a description of what character is and what good and bad characters are. According to the Al-Ghazali, character traits refer to the condition of the forces

in the soul that are not yet stable but are in the process of becoming stable, as indicated by the willingness to act that is not yet exuded in an automatic fashion or with ease (Al-Ghazali, 1995).

Praiseworthy character traits in the soul are traits that are in the process of forming the praiseworthy traits. They are brought about by the state of forces of the elements and faculties that are inclined toward the mean state of elements or sources of traits in the soul due to the efficient role played by reason. This state of soul is necessary for the survival of mankind in this world and the Hereafter (Al-Ghazali, 1995). If the established inclination or tendency brought about by reason is toward the mean state of divine, it will result in the praiseworthy traits of wisdom to be established in the soul. This state of the soul that can distinguish between true and false statements, between right and wrong beliefs, and between good and evil in actions. This state will manifest acts of moral quality related to those character traits. Such wisdom from divine or the true knowledge helps the growth of the divine elements in mankind that make it possible to realize the ideal (Umaruddin, 1996). If the established inclinations and tendencies brought about by justice tend towards the mean state of the faculty of anger, they will generate praiseworthy traits of courage (Al-Ghazali, 1995). Courage is the state of the soul where the faculty of anger always obeys the reason and courage. This state brings about related praiseworthy traits, such as liberalness, intrepidity, manliness, control, endurance, forbearance, fortitude, depressed anger, dignity, amiability, and the like. This state will manifest the related praiseworthy traits (Al-Ghazali, 1995). The mean state of the faculty of desire will generate praiseworthy traits of temperance. This state brings about praiseworthy traits of generosity, modesty, patience, remission, contentedness, piety, kindness, helpfulness, wit, and the like. This state will manifest the related moral acts (Al-Ghazali, 1995). Al-Ghazali also described the highest form of wisdom as the consequence of reason; the highest form of courage as the hardest of heart against unbelievers and compassion among themselves; the highest form of temperance as striving with own wealth in the way of god; and the highest form of justice as placing everything in its proper place. He also believed that those who are deprived of all praiseworthy traits resemble the devil, and they should be expelled from society (Al-Ghazali, 1995).

Blameworthy character traits are brought about by the state of forces of the elements and the faculties that are inclined toward the deviated states of “excess” or “deficiency” of the forces of the elements or sources of traits caused by the force of the diabolic elements. Al-Ghazali and Yakub (1988) explained that if the excess state leans toward divine, exceeding the boundaries of knowledge/reason of the divine element, it will result in immoral traits or vice of wickedness to fulfill wrong motives. This state produces blameworthy character traits of love of supremacy, despotism, or desire to appropriate everything for oneself, desire to appropriate or claim to special privileges, need to acquire the knowledge for oneself, joy when knowledge is ascribed to oneself, grief when ignorance is attributed to oneself, and desire to know of all sciences and the like. If knowledge/reason is at the deficiency state, the blameworthy traits, such as vice of stupidity, are generated in the soul. If the excess state leans toward the element of bestiality strengthened by the forces of the faculty of anger, the blameworthy traits, such as vice of rashness, appear in the soul (Al-Ghazali, 1995). This state can produce traits such as boastfulness, haughtiness, fury, pride, conceit, self-love, humiliation of others, and alike. If the excess leans toward the element of animal desire strengthened by the forces of the faculty of desire, it begets vice of greed and related bad habits such as shameful, extravagance, miserliness, ostentation, vanity, gluttony, and alike. The faculty of justice has no extremes. It has only an opposite, which is injustice. Injustice means that the power of justice fails to control the faculties of anger and desires to be in line with the reason and courage. It is overwhelmed by the power of diabolic element and the devil, which makes it unable to establish justice. When injustice prevails, it means that blameworthy traits are formed within the soul and immoral acts are manifested in behavior. Al-Ghazali recommends mankind to emulate God’s attributes such as loving, merciful, forgiving, and all character traits that God approves, such as patient, honest, god-fearing, ascetic, and sincere, to name a few. The source of all mankind’s goodness is pure spirit and closeness to God. The closeness to God can be obtained by the feeling that God is always watching and by indulging in the act of self-correction (Al-Ghazali & Yakub, 1988).

While Maltby (1998) found negative relationship between holding religious beliefs and psychoticism, Eysenck (1992) found traits of impatience and irritability to be associated with neurotics (Liebert & Liebert, 1998). Eysenck (1992) found inability to assess the consequences of actions to be a feature in the personality of psychopaths (Ryckman, 2012). Using Al-Ghazali's postulations, the blameworthy character traits of argumentativeness, noncompliance, aggressiveness, and irritability belong to the extreme domain of the anger faculty while impulsivity belongs to the extreme domain of the desire faculty (Al-Ghazali, 1995). Al-Ghazali looked upon acts as the automatic responses to character traits, after character (the state of readiness to act) is formed in the soul. Hence, in the context of morality, the involvement in immoral acts, from this perspective, refers to individuals (Muslim) who execute acts that are not in line with the moral code of conduct stipulated in the Quran (Book of Revelation) or the basis for judgments of morality and that underline the will of God. It involves acts of defiance, transgressions of duty and obligation to God and acts that are against Islamic moral values that pertain to persons, motives, intentions, and traits of character (Al-Ghazali, 1995).

Method

Participants

Participants in this study were 801 Malay adults (701 male and 100 female) prisoners in the Kajang prison. Simple random sampling used to select participants. The sample was recruited from the prisoners in the Kajang prison who were imprisoned between six months to two years for various crimes. Their names were taken from the prison register given by the prison officer. Every fourth name was selected from the list. To determine the sample size, for a one tailed test with a significance of $\alpha = .05$, power of .80, and small effect size, a minimum sample size of 783 participants was required (Cohen, 1977).

Instrument

Character Traits Inventory was used to measure the dependent and independent variables. The instrument is a self-administered questionnaire developed by the researchers, which contains 108 items measuring seven constructs pertaining to praiseworthy and blameworthy character traits related to immoral acts. Six constructs represent Islamic character traits under the respective faculties of praiseworthy-anger (M= mean state of anger faculty in the soul), blameworthy-anger (E-D= extreme and deficiency state of anger faculty in the soul), praiseworthy-desire (M= mean state of desire faculty in the soul), blameworthy-desire (E-D= extreme and deficiency state of desire faculty in the soul), and praiseworthy-knowledge/reason (M= mean state of knowledge/reason faculty in the soul), and blameworthy-knowledge/reason (E-D= extreme and deficiency state of knowledge/reason faculty in the soul) while one construct of diabolic element (E-D-S= extreme-deficiency-Satan or immoral acts manifestations) represents immoral act involvement. Factor analysis was carried out to examine the construct validity of the scales used in the newly constructed Character Traits Inventory (Gay, Mills, & Airasian, 2011). All questions were rated on a 5-point Likert-type scale ranging from 1(always) to 5 (never).

Research Design and Data Analysis

This study utilized a descriptive correlational design that aims to achieve the objectives and research questions of the study. All analysis was performed using SPSS (Statistical Package for the Social Sciences 13). The major types of descriptive statistic included the measures of means, standard deviations, frequencies, and percentages. For inferential statistics, Pearson's product moment correlation coefficient (r) was employed to obtain information regarding to the nature of linear relationship between dependent variable (immoral acts) and character traits (blameworthy and praiseworthy traits). Linear multiple regression analysis was used to further explore direction of relationship between dependent variable and independent variables.

Results

Table 1 presents the cumulative means and standard deviations for all the variables. The respondents rated their immoral acts involvement the highest ($M= 3.97$, $SD=.69$), followed by

praiseworthy-anger (M), praiseworthy-desire (M) (M= 3.33, 3.30, SD=.50, .62), and blameworthy-desire (E-D), blameworthy-anger (E-D) and blameworthy-knowledge/ reason (E-D) (M= 2.52, 2.34,1.99, SD= .66, .57, .69), and praiseworthy-knowledge/reason (M) (M=1.61, SD=.59).

The assumption was explored graphically using histogram, stem-and-leaf plot, normality probability plot, detrended normal plot, and box plot. The visual displays suggest that the data are forming a normal distribution. All scales with eigenvalues greater than 1.00 were accepted as latent root criterion based on recommendation by (Hair, Anderson, Tatham, & William, 1998). Moreover, as indicated by the correlation results, fall assumptions of normality, homoscedasticity, and linearity were met.

Table 1. Descriptive Statistic and Normality

Variables	M	SD
Immoral acts involvement (D-E-S)	3.97	.69
Praiseworthy- Anger (M)	3.33	.50
Praiseworthy- Desire (M)	3.30	.62
Praiseworthy - Knowledge/ Reason (M)	1.61	.59
Blameworthy- Anger (E-D)	2.34	.57
Blameworthy- Desire (E-D)	2.52	.66
Blameworthy- Knowledge/ Reason (E-D)	1.99	.69

The Pearson's correlations were used to investigate the relationships between character traits variables and immoral acts involvement (D-E-S). As detailed in Table 2, a small and negative significant relationship was found between Praiseworthy-Anger (M), praiseworthy-desire (M), Praiseworthy-Knowledge/Reason (M), and immoral acts involvement (S-E-S) ($r = -.11, p < .01, r = -.12, p < .01, r = -.09, p < .05$).

Moreover, according to the results, the relationships between Blame worthy-Anger (E-D), Blameworthy-Desire (E-D) and immoral acts involvement (D-E-S) ($r = .47, p < .01, r = .39, p < .01$) were significant and positive. Additionally, a significant relationships between Blameworthy-Knowledge/ Reason (E-D) and immoral acts involvement ($r = .10, p < .01$) emerged.

Table 2: Correlation Matrix of Factors Related to Immoral Acts Involvement

Variables	1	2	3	4	5	6	7
1- Immoral acts involvement (D-E-S)	0.91						
2- Praiseworthy- Anger (M)	-.11**	.88					
3- Blame worthy- Anger (E-D)	.47**	-.08*	.92				
4- Praiseworthy- Desire (M)	-.12**	.039**	-.15**	.80			
5- Blameworthy- Desire (E-D)	.39**	-.03	.54**	-.11**	.91		
6- Praiseworthy- Knowledge/ Reason (M)	-.09*	.02	-.07	.006	-.07	.89	
7- Blameworthy- Knowledge/ Reason (E-D)	.10**	.01	.12**	.21**	0.2	-.39	.85

Note: * $p < 0.05$ (2-tailed) ** $p < 0.01$ (2-tailed), diagonal line shows Cronbach Alpha values.

To determine the independent variables that contribute to the prediction of immoral acts involvement, standardized regression coefficients or beta weights (β) were examined. As shown in Table 3, the model was statistically significant and accounted for roughly 73% of the variance in immoral acts involvement ($F = 171.46, p < .01, R = .852, R^2 = 0.726$). According to the results, contribution of blame worthy-anger (E) with $\beta = .46$ ($p < .05$) was the highest, followed by blameworthy-desire (E) with $\beta = .20$ ($p < .05$), blame worthy- anger (D) with $\beta = .14$ ($p < .05$), and blameworthy- desire (D) with $\beta = .13$ ($p < .05$). The contributions of Blameworthy-knowledge/reason (D) and praiseworthy-anger (M) with $\beta = .12$ ($p < .05$) and $\beta = -.07$ ($p < .05$) respectively, was minimal. The two lowest beta weights emerged for blameworthy-knowledge/ reason (E) and praiseworthy-knowledge/reason (M),

with $\beta = .06$ ($p > .05$), $\beta = .05$ ($p > .05$), respectively. These could not significantly predict immoral acts involvement when controlling for other variables.

Table 3. Regression Analysis

Variables	B	(β)	R	R2	T	Sig.
Constant	.316		.85	.726		
Praiseworthy- Anger (M)	-.87	-.08			-2.662	.008
Blame worthy- Anger (E)	.369	.458			14.06	.000
Blame worthy- Anger (D)	.112	.136			5.339	.000
Praiseworthy- Desire (M)	.059	-.07			-2.167	.031
Blameworthy- Desire (E)	.167	.20			6.4	.000
Blameworthy- Desire (D)	.071	.133			5.583	.000
Praiseworthy- Knowledge/ Reason (M)	.053	.052			1.607	.109
Blameworthy- Knowledge/ Reason (E)	.046	.062			1.779	.076
Blameworthy- Knowledge/ Reason (D)	.101	.121			4.017	.000
F	171.46					
Sig.	.000					

Note: significant at 0.05 level

Discussion

This study examined the relationship between character traits and involvement in immoral acts among adult Malay prisoners.

To answer the first question, “What is the relationship between involvement in immoral acts and praiseworthy and blameworthy character traits?,” the results indicated a strong negative relationship between immoral acts involvement and praiseworthy-anger. This suggests that most of respondents are involved in immoral acts. In terms of teaching and intervention, it requires much more efforts to transfer blameworthy character traits to praiseworthy character traits which will eventually manifest in the soul. Moreover, the findings revealed a strong positive relationship between immoral acts involvement and blameworthy anger (E), revealing that the more respondents are involved in immoral acts, the stronger will be blameworthy character traits in their soul.

The force anger or passion in the soul emerged as the strongest motivational force in the soul. This condition in the soul can be utilized by changing the cycle of religious study programs to plan the participation of respondents that appeal to this motivational force. For example, they can be encouraged to participate in programs that contribute to society’s well-being. Such programmer will also be accompanied by encouraging words and holding prayer. The respondents’ appetite or impulse force of the desire faculty can also be guided. For example, they can be involved in singing sessions where they are encouraged to create lyrics for religious songs that center around the character change theme. Along with this, the teachers and trainers can give encouraging words and hold prayers. Moreover, there can be discussions on what the prisoners want in order to lead a better life and how to achieve it during their prison life and/or after they leave prison.

To answer the second research question, “What are the contributing character traits factors toward immoral acts involvement?,” the findings revealed that blameworthy character traits [blame worthy-anger (E), blame worthy-anger (D), blameworthy-desire (E), blameworthy-desire (D), blameworthy-knowledge/ reason (E), blameworthy-knowledge/ reason (D)] and two character traits of praiseworthy [praiseworthy-anger (M) and praiseworthy- desire (M)] predicted involvement in immoral acts among prisoners. The results helped identify the factors responsible for exuding praiseworthy and blameworthy character traits in the soul. The highlighted predictors help enhance the original conceptual framework. This finding can guide to prison officers to plan their intervention programs. The results confirmed that anger was the most important character trait, which need to be addressed. According to the theory of Al-Ghazali, anger is the root of blameworthy character traits and acts of

people. People can be overcome by deeper understanding of the Islamic religion. In line with the findings, some studies have shown that certain traits are highly associated with immoral actions. For example, according to Krueger et al. (1994), greater delinquent participation is linked with more aggression, greater alienation, more stress and anxiety, less self-control, and lowest traditionalism. Wiebe (2004) found that agreeableness and conscientiousness, as the components of trait personality, predict criminal behavior. Jolliffe (2013) revealed that burglars, drug dealers, and heavily armed individuals scored lower on Agreeableness, Conscientiousness, and Openness. In addition, Neuroticism predicted immoral actions (Heaven, 2007).

Theoretically, the results of this study are in line with the Al-Ghazali's ethical theory that provides an understanding of the concepts of character traits and their relationship with involvement in immoral acts, which is different from last studies. Practically, the results show that mostly blameworthy character traits lead to the involvement in immoral acts. Thus, increasing the level of praiseworthy character traits contributes to low level of immoral acts involvement. In this respect, to decline blameworthy character traits and improve the praiseworthy character traits among adults, authorities should adopt certain strategies. According to Al-Ghazali's theory, soul is educable and can be molded to achieve the moral aim of Muslim life with enhancement of praiseworthy traits. The theory suggests that method of self-training stems from two activities of austerity and jihad or struggle with the carnal self. Regarding self-training, from the pedagogical aspect, teachers, instructors, and trainers who have knowledge of the Quran, Sufism, moral philosophy and different religious schools of thought can be very helpful. They need to be creative, sincere and patient and make prayers and supplications so that their teaching will be blessed. This is difficult to accomplish and requires people who are serious, who believe in the right cause, and who are dedicated to this cause as this intervention needs close supervision. Besides, it is believed that implications that arise from this study can help identify major weaknesses in the religious education syllabus and its implementation in the classroom.

This study is limited to a specific geographical area because it was done in Klang valley. Therefore, the findings might not be generalizable to all Malay adult prisoners in Malaysia. Thus, further studies should collect the data from different areas. Additionally, they should include other populations outside the prison population, preferably the students, and finally consider other Islamic character traits that influence the involvement in immoral acts.

Reference

- Al-Ghazali, I. (1995). Ringkasan Ihya Ulumuddin. *Jakarta: Pustaka Amani*.
- Al-Ghazali, I., & Yakub, I. (1988). *Ihya Ulumiddin, The Revival of the Religious Sciences* Victory Ajensi.
- Arthur. (2003). *Education with Character*. London: Routledge Flamer.
- Awnings Prison. (2002). Prison Department of Malaysia Official Portal. from <http://www.prison.gov.my/>
- Cattell, R. B., & Kline, P. E. (1977). *The scientific analysis of personality and motivation*: Academic Press.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences (rev)*: Lawrence Erlbaum Associates, Inc.
- Enforcement of Sharia Court. (2002). from <http://www.jksnpp.gov.my/jksnpphq/index.php/en/18-penerbitan-mahkamah/91-recent-developments-in-shariah-law-in-malaysia/>
- Eynseck, H. (1971). The structure of human personality. *London: Methuen*.
- Eysenck, H. J. (1992). Four ways five factors are not basic. *Personality and individual differences*, 13(6), 667-673.
- Gay, L. R., Mills, G. E., & Airasian, P. W. (2011). *Educational research: Competencies for analysis and applications*: Pearson Higher Ed.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & William, C. (1998). *Black (1998), Multivariate data analysis*: Upper Saddle River, NJ: Prentice Hall.
- Heaven, P. (2007). Personality and self-reported delinquency: Analysis of the "Big Five" personality dimensions. *Personality and Individual Differences* 20, 47-54.

- Investigation Department of the Police Report. (2000). from http://www.ccid.my/en/annual_reports/
- Jolliffe, D. (2013). Exploring the relationship between the Five-Factor Model of personality, social factors and self-reported delinquency. *Personality and Individual Differences*, 55(1), 47-52.
- Krueger, R. F., Schmutte, P. S., Caspi, A., Moffitt, T. E., Campbell, K., & Silva, P. A. (1994). Personality traits are linked to crime among men and women: evidence from a birth cohort. *Journal of abnormal psychology*, 103(2), 328.
- Liebert, R. M., & Liebert, L. L. (1998). *Liebert & Spiegler's personality: Strategies and issues*: Thomson Brooks/Cole Publishing Co.
- Maltby, J. (1998). Religious orientation and Eysenck's personality dimensions: The use of the amended religious orientation scale to examine the relationship between religiosity, psychoticism, neuroticism and extraversion. *Personality and Individual Differences*, 26(1), 79-84.
- Mir, S. (2001). A pela for horizontal Ijtihad. *Aligarh Journal of Islamic Philosophy*(7), 78.
- Ryckman, R. M. (2012). *Theories of personality*: Cengage Learning.
- Stapa, Z. (2001). Akida dan Akhlak dalam kehidupan Muslim. *Utusan Publications & Distributors Sdn Bhd. Kuala Lumpur*.
- Syariah Court. (2000). Portal rasmi e-syariah. from <http://www.esyariah.gov.my/>
- Umaruddin, M. (1996). *The ethical philosophy of Al-Ghazzali*: Adam Publishers.
- Van Eijck, J., & Visser, A. (2012). Stanford Encyclopedia of Philosophy.
- Wiebe, R. (2004). Delinquent behaviour and the five factor model: Hiding in the adaptive landscape? . *Individual Differences Research* 2, 38-62.

A COST ANALYSIS STUDY FOR LIFELONG LEARNING PROGRAM ORGANIZED BY COMMUNITY COLLEGE

Noorul 'Ain Md Shariff, Suhaida Abdul Kadir, Khairuddin Idris & Ramli Basri
Faculty of Educational Studies, Universiti Putra Malaysia

ainshariff@gmail.com, suhaida@upm.edu.my, kidin@upm.edu.my, ramlibasri@upm.edu.my

ABSTRACT

This study aimed to compare cost of lifelong learning program particularly for *Kluster Jahitan dan Pakaian* at three community colleges that represent three zones in Malaysia. This study only discusses the cost of programs run by community colleges in 2014 until 2016. The cost-effectiveness analysis methods were used to achieve the objectives of the study. The results found that community colleges spend 56% of the total cost in personnel costs, 43% on the cost of equipment and only 1% of the cost of materials. The financial analysis cost showed that there is a difference among community colleges.

Keywords: cost analysis, cost-effectiveness

Introduction

There is a growing of literature that recognizes the importance of lifelong learning in giving its benefits to life. Sculler et al. (2001), categorize the benefits of lifelong learning into two distinct categories, first, non-economic benefits which are not measured directly in term of productivity incremental and second, benefits to the wider society. Previous studies have define lifelong learning as continues learning in a person's life involving variety of educational participation. As stated by Dorsett, Lui, & Weale (2010), lifelong learning is a participation in any form of educational programs that recognize specific qualifications after the age of 25 years, of age after a period of full-time education. According to Hwang & Seo (2012), lifelong learning is a continuous self-development throughout a person's life that is characterized by lifelong, voluntary and self-motivation to study whether for personal or professional reasons.

Malaysia defines lifelong learning as learning activities that occur in individuals aged 15 years or older unless they are enrolled full-time in college or university in order to obtain academic qualifications (Kementerian Pengajian Tinggi Malaysia, 2011). Some features of lifelong learning has been listed in the Action Plan Culture Lifelong Learning in Malaysia including; lifelong learning as a potential for self-improvement; efforts to achieve success through the acquisition of skills, knowledge and talents; learning process that takes place in a variety of modes or methods and including formal and non-formal; and social support systems that promote and assist the direction and control of individuals in lifelong learning. The community college is an educational institution under the Department of Community Colleges of Education, Ministry of Higher Education that emphasizes education and technical and vocational training (TVET) and lifelong learning program.

Plewis & Preston (2001) shows how, in the past, research on lifelong learning was mainly concerned with knowledge development, increase in the employment market, increase revenue opportunities, job readiness, and others. Meanwhile Boeren (2016), noted that studies on community participation in lifelong learning has been made in the various disciplines of study included the economy (such as cost-benefit), sociology (such as social class, gender, race, etc.) and psychological (such as motivation, desire and design, the theory of the life cycle and etc.).

However, there is very little published data on cost analysis in evaluating lifelong learning program. This can be seen, searching using keyword costs, cost-effectiveness and cost analysis through indexed Scopus journal related to lifelong learning such as Education & Training, Australian Journal of Adult Learning, International Journal of Lifelong Education, International Journal of Training and Journal of Vocational Education & Training, showed less than 10 articles with the keywords cost in the title of the article. This proves the statement by Levin dan Belfield (2014) which states, education field

lag behind in the studies that examined cost analysis compared to health that have tons of studies, that later enable researchers to refer, compare and to explore the previous studies on techniques and methodology and improvements can be carried out from time to time.

Cost analysis gives an overview of how costs incurred and distributed by several stakeholders including school or institution providing the service, other government agencies, the private sectors, volunteers, suppliers of goods and materials, and customer service. Studies show expenditure and institutions criteria can predict the efficiency and effectiveness of an institution (Powell, Gilleland, & Pearson, 2012). According Hollands et al. (2014), most studies report the implementation of the same program but implemented in several locations. Thus arises the question about which locations deliver the program more effectively and which location best to represent the cost effectiveness and how the researchers took into account a range of cost-effectiveness in all locations. Then, Hollands and colleagues proposed that estimated costs to be made in each location and compared with the effectiveness of the data in the same location. Therefore, this study investigate which community college serve the lifelong learning program in more cost-effective.

Cost Program

According to Oosterbeek (1998) most economists use theory of human capital to make the hypothesis in their study. In calculating the cost of human capital, the measurement of the cost involves direct costs such as books or tuition fees for education, and opportunity costs, i.e. costs in the form of a person's income that he or she might earn if they are not being a student (Benjamin, Gunderson, Lemieux, & Riddell, 2012). Creemers & Werf (2000) defines cost of program as the required resources to achieve the program objectives and is given in monetary value. Or cost is a sacrificed resources to achieve the objectives of the program implementation (Levin, 1985; Knight, 1993).

Tsang (2002) stated, two groups of costs in the cost of education, the institutional costs, which includes the cost of recurrent expenditure and capital costs that persist for more than a year; and second, private resources. Institutional cost refers to the cost that funded by educational institution in providing educational services. Recurrent expenditure costs are costs incurred in the last year as the cost of personnel and non-personnel items. While the example of the cost of capital is such as equipment, buildings and real estate. Private resources provided by other individual which provides support to educational services by the institution. Three classifications in the private cost; direct private cost which refers to the expenses to be borne by households such as fees, books, transportation, stationery and others; personal contributions whether in cash or in kind; and indirect private costs which refers to the opportunity cost to the participants.

Program Outcome

Program outcome can be measured by quantities approach such as the enrollment of students in schools, the attendance rate of students who graduate, or the award of graduation; and measuring quality such as cognitive development, academic achievement or non-cognitive skills (McEwan, 2012). Among other examples of results of the program were like, behavioral changes score in the reading program (Massoni & Vergnaud, 2012), the rate of students leaving school (Hollands et al., 2014) and the achievement of pupils in national tests (Fabrino et al., 2014 ; Isaranuwachai et al., 2014).

Methodology

Participants

Three Community College were randomly selected to represent the 3 zones, north, center and south. This study involved only one cluster of lifelong learning program, *Kluster Jahitan dan Pakaian*. Therefore the selected college must offered sewing and fashion programs since 2014 or earlier.

Cost Estimation

Many researcher have utilized Levin’s ingredient model to measure cost (such as Borman & Hewes, 2002; Creemers & Werf, 2000; Hollands et al., 2016; Sailors & Flores, 2014). This model guide researcher to identify and to determine the cost of the program. This model categorizes the cost into several categories including, personnel, material and equipment, facilities, participants input, and other inputs. The model involves three main steps to determine the exact measurement of the cost, namely; (1) identify and determine the ingredients needed to achieve program objective, (2) determine the costs and calculate the total cost of the program, and (3) the average cost per participant (Levin & Belfield, 2015).

Previous study shows the access to financial report of the program been studied. In this study, cost data were collected using interviews approach as there are some constraints in accessing cost data. As stated by Kivela, Haldre, Part, Ketting, & Baltussen (2014), in the absence of financial records, pricing of resources and the cost of implementation of the program is based on interviews. The data that been collected were from 2014 to 2016 only.

Program Outcome

Program’s participation rate for the studied cluster were used as the program outcome in this study. This data were given by the unit coordinator of lifelong learning program of community college. Participations are used as the program outcome is because participation rate are the key performance indicator for every college that shows program performance.

Result and Discussion

Financial Analysis Cost

The financial analysis cost showed that there is a difference among community colleges, with the highest total cost are from one of the community college in Center region that were RM 121133.16, followed by North region with RM56079.38 and South region RM 22388.91 (see Table 1). As can be seen from the table, community college bear the cost of personnel up to 56% of total cost followed by cost of equipment, 43% and lastly material cost with only took 1%.

Community college in North and Center region only provide handout as for material cost. Other material are borne by participants. Personnel cost includes only person-in-charge, instructor and facilitator. Meanwhile cost of equipment include, sewing machine, mannequin, iron and any equipment related to sewing activities that been described by the community college.

Table 1. Cost Estimation for Each Region (Financial Analysis)

Community College Region	Personnel	Equipment	Material	Total Cost
North	27378.32	28416.06	285.00	56079.38
Center	67984.49	52043.67	1105	121133.16
South	14270.56	7758.35	360	22388.91
Percentage %	56.23	43.76	1.01	100

Consistency between cost and effectiveness measurement is necessary and the cost per unit must be examined (Belfield and Levin, 2014). The cost per unit was calculated by dividing the total costs by the number of courses held in those three years (2014 to 2016) (refer Table 2).

Table 2: Cost per Unit

Community College Region	Total Courses	Cost per course
North	57	983.85
Center	221	548.11

Community College Region	Total Courses	Cost per course
South	22	1017.68

Cost-Effectiveness of Each Region

Cost-effectiveness ratio was derived by dividing cost per course by total number of participations from 2014 to 2016. Table 3 shows the cost-effectiveness in every region. These finding suggest that, college community in Center region organizing the program more cost effectively. The lowest cost-effectiveness ratio shows the most cost-effective program (Bemmel, 2008; Hollands et al., 2014).

Table 3. Cost Effectiveness Ratio for Each Region

Community College	Cost per course (RM)	Total participation	Cost-effectiveness ratio
Center	548.11	2370	0.23
North	983.85	843	1.17
South	1017.68	497	2.05

Conclusion

This study set out to better understand the cost of program that borne by the community college. The findings of this study are able to present important information regarding the differences of cost by each college as proposed by Hollands et al., 2014. This studies have methodological limitations, where some of other ingredients are not included for example, participants input, and other input. Further research should be under taken to explore factor that contribute to the cost-effectiveness ratio.

Acknowledgement

This study is under the funding of Geran Universiti Putra Malaysia (GP-IPS/2016/9506800).

References

- Benjamin, D., Gunderson, M., Lemieux, T., & Riddell, W. C. (2012). Human Capital Theory: Applications to Education and Training. In *Labor Market Economics* (7th ed., pp. 243–279). McGraw-Hill Ryerson.
- Boeren, E. (2016). *Lifelong learning participation in a changing policy context: An interdisciplinary theory*. United Kingdom: Palgrave Macmillan.
- Borman, G. D., & Hewes, G. M. (2002). The Long-Term Effects and Cost-Effectiveness of Success for All. *Educational Evaluation and Policy Analysis*, 24(4), 243–266. <https://doi.org/10.3102/01623737024004243>
- Creemers, B., & Werf, G. Van Der. (2000). Economic Viewpoints in Educational Effectiveness: Cost-effectiveness Analysis of an Educational Improvement Project, School Effectiveness and School Improvement. *An International Journal of Research, Policy and Practice*, 11(3), 361–384. [https://doi.org/10.1076/0924-3453\(200009\)11](https://doi.org/10.1076/0924-3453(200009)11)
- Dorsett, R., Lui, S., & Weale, M. (2010). *Economic Benefits of Lifelong Learning*. Retrieved from <http://www.llakes.org.uk>
- Fabrino, R. J. G., Siqueira Do Valle, B., & Gomes, R. C. (2014). The cost of educational effectiveness: Evidence from financing basic education in Brazil. *International Journal of Management Education*, 12(2), 151–166.
- Hollands, F. M., Kieffer, M. J., Shand, R., Pan, Y., Cheng, H., & Levin, H. M. (2016). Cost-Effectiveness Analysis of Early Reading Programs: A Demonstration With Recommendations for Future Research. *Journal of Research on Educational Effectiveness*, 9(1), 30–53. <https://doi.org/10.1080/19345747.2015.1055639>
- Hollands, F., Bowden, a B., Belfield, C., Levin, H. M., Cheng, H., Shand, R., ... Hanisch-Cerda, B. (2014). Cost-Effectiveness Analysis in Practice: Interventions to Improve High School Completion. *Educational Evaluation and Policy Analysis*, 36(3), 307–326.

- Hwang, H., & Seo, D. (2012). Policy Implication of Lifelong Learning Program of EU for Korea. *Procedia - Social and Behavioral Sciences*. <https://doi.org/10.1016/j.sbspro.2012.06.342>
- Isaranuwatthai, W., Brydges, R., Carnahan, H., Backstein, D., & Dubrowski, A. (2014a). Comparing the cost-effectiveness of simulation modalities: A case study of peripheral intravenous catheterization training. *Advances in Health Sciences Education*, 19(2), 219–232.
- Kementerian Pengajian Tinggi Malaysia. (2011). *Blueprint on Enculturation of Lifelong Learning for Malaysia 2011-2020*. Ministry of Higher Education Malaysia. Retrieved from <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:No+Title#0>
- Kivela, J., Haldre, K., Part, K., Ketting, E., & Baltussen, R. (2014). Impact and cost-effectiveness analysis of the national school-based sexuality education programme in Estonia. *Sex Education*, 14(1), 1–13. <https://doi.org/http://dx.doi.org/10.1080/14681811.2013.813386>
- Knight, B. A. (1993). *Financial management for schools: the thinking manager's guide*. Oxford: Heinemann Educational.
- Levin, H. M. (1995). Cost-effectiveness Analysis. In *International Encyclopedia of Economics of Education* (Vol. 2, pp. 381–386).
- Levin, H. M., & Belfield, C. (2014). Guiding the Development and Use of Cost-Effectiveness Analysis in Education. *Journal of Research on Educational Effectiveness*, 8(3), 400–418. <https://doi.org/10.1080/19345747.2014.915604>
- Levin, H. M., & Belfield, C. (2015). Guiding the Development and Use of Cost-Effectiveness Analysis in Education. *Journal of Research on Educational Effectiveness*, 8(3), 400–418. <https://doi.org/10.1080/19345747.2014.915604>
- Massoni, S., & Vergnaud, J. (2012a). Economics of Education Review How to improve pupils' literacy? A cost-effectiveness analysis of a French educational project. *Economics of Education Review*, 31(1), 84–91
- McEwan, P. J. (2012). Cost-effectiveness analysis of education and health interventions in developing countries. *Journal of Development Effectiveness*, 4(2), 189–213
- Oosterbeek, H. (1998). *Innovative Ways to Finance Education and Their Relation to Lifelong Learning*. *Education Economics* (Vol. 6). <https://doi.org/10.1080/09645299800000020>
- Plewis, I., & Preston, J. (2001). *Evaluating the benefits of lifelong learning: A framework*. London: Institute of Education.
- Powell, B. A. G., Gilleland, D. S., & Pearson, L. C. (2012). Expenditures, Efficiency, and Effectiveness in U.S. Undergraduate Higher Education: A National Benchmark Model. *The Journal of Higher Education*, 83(1), 102–127.
- Sailors, M., & Flores, M. (2014). Cost Effectiveness of a Complementary Reading Program. *Journal of Education and Human Development*, 3(4), 1–20. <https://doi.org/10.15640/jehd.v3n4a1>
- Schuller, T., Bynner, J., Green, A., Blackwell, L., Hammond, C., Preston, J., & Gough, M. (2001). *Modelling and measuring the wider benefits of learning: a synthesis*. London: Institute of Education, University of London.
- Tsang, M. C. (2002). Comparing the Costs of Public and Private Schools in Developing Countries. In H. Levin & P. McEwan (Eds.), *Yearbook of the American Education Finance Association*.

CONCEPTUALIZING THE ENHANCEMENT OF EMPLOYABILITY AMONG UNDERGRADUATES IN WORK-BASED LEARNING SETTINGS

Ilyana Anas & Siti Rabaah Hamzah
Faculty of Educational Studies, Universiti Putra Malaysia
ilyana.anas@student.upm.edu.my, sitirabaahhamzah@gmail.com

ABSTRACT

The ubiquity of employability issues is becoming crucial in human resource development perspectives worldwide. The 2u2i program is designed to fulfil the needs of the graduate by offering flexible education in higher education as well as employability enhancement. This paper proposes a conceptual model of factors that could enhance employability in work-based learning (WBL) settings. The conceptual model is based on an extensive review of past research on WBL and employability using the CareerEDGE model. To conduct the literature review, we used keywords such as employability, work-based learning, employability skills and internship. From the literature reviewed, six elements of employability have been identified which are career development learning, experience, degree subject knowledge, emotional intelligence, generic skills, and social support. The framework offers a number of propositions, which explain the proposed model of employability. The paper has adopted 5 elements from the CareerEDGE model and 1 element has been derived from literature review added to the model. Further research is suggested to test and validate the framework to provide empirical evidence. Upon model validation, the paper could offer practical interventions for HRD practitioners and academicians. **Keywords:** employability, undergraduates, work-based learning, higher education, CareerEDGE model.

Introduction

This study focuses on factors that could enhance employability among undergraduates in work-based learning settings. The ubiquity of employability issues is becoming crucial in human resource development perspectives worldwide. Similar to other developing countries, education in Malaysia has shifted from policy concerns to the economy and employment (Grapragasem, Krishnan, & Mansor, 2014; Organisation for Economic Co-operation and Development (OECD), 2013; Azman & Ahmad, 2006). Realizing that higher education institutions (HEI) play the key role in producing a knowledgeable and skilled workforce, the government has designed and introduced the Malaysia Education Blueprint 2015-2025 (Higher Education) as part of the country's strategic plan towards becoming a developed nation. In the blueprint, the government has outlined 10 shifts in Malaysia's higher education system. Below are the shifts to address key performance issues in the system:

- Shift 1 - producing holistic, entrepreneurial and balanced graduates.
- Shift 2 - talent excellence
- Shift 3 - focusing on a nation of life-long learners
- Shift 4 - focusing on quality TVET graduates
- Shift 5 - financial sustainability
- Shift 6 - empowered governance
- Shift 7 – innovation ecosystem
- Shift 8 – global prominence
- Shift 9 – globalized online learning
- Shift 10 – transformed HEI delivery

Focusing on the outcome of stakeholders in the HE system with regards to quality and efficiency

Shift 1 is focusing on producing holistic, entrepreneurial and balanced graduates due to a mismatch in supply and demand of graduates (Ministry of Higher Education, 2015). It is hoped that the graduates will have relevant skills and knowledge, attitudes, morals and ethics to contribute to the community by enhancing learning experiences, integrated CGPA and creating opportunities to acquire entrepreneurial skills.

Recently, the Malaysian government designed the 2u2i program (introduced in September 2016) which is an acronym for two (2) years in university and two (2) years in industry. It is a work-

based learning (WBL) program i.e. internship that is expected to enhance students' experience through experiential learning in which the actual experience can be provided by the respective industry upon graduation. Previously, an internship program included experiential learning for only 1 semester (4-8 months duration). The timeframe may not engage a student with adequate exposure to real experiences in the career world. With the longer timeframe (4 semesters) offered in the 2u2i program, students may learn more during the course. Therefore, the 2u2i program is designed to fulfill the needs of the graduate by offering flexible education in higher education as well as employability enhancement. This objective was prioritised in order to explore and determine the significant factors contributing to employability. There are a few selected universities with selected courses that will adopt the 2u2i program as pioneers, such as:

1. Universiti Putra Malaysia (BSc. in Plantation Management)
2. Universiti Teknologi Malaysia (BSc. in Computer Science – Data Engineering)
3. Universiti Malaysia Kelantan (Bac. of Entrepreneurship with Honours)
4. Universiti Kebangsaan Malaysia (BSc. (Hon) in Food Science with Business Administration)
5. Universiti Malaysia Terengganu (Bac. of Accountancy)
6. Universiti Sultan Zainal Abidin (BSc. (Hon) in Animal Production and Health)

First of all, it is imperative to understand what 'employability' means? Unfortunately, some people, or even researchers, might confuse the term 'employability' (Williams, Dodd, Steele, & Randall, 2015; Nilsson & Ellström, 2012) with 'entrepreneurship' (Dacre Pool & Sewell, 2007) and 'employment' (Yorke, 2004). In layman's terms, employability simply means getting hired by employers. Employability is conceptualized as having a set of skills, knowledge and personal attributes that makes a person choose and secure occupations which allow them to be satisfied and successful (Dacre Pool & Sewell, 2007). Hence, this study adopts this concept of employability in the context of undergraduates.

The greater part of the literature on employability focuses on employability skills (Tran, 2016; Feldmann, 2015; Jackson, 2015; Rateau, Broyles, Fowler, & Robinson, 2011; Pillai, 2009; Dacre Pool Sewell, 2007; Knight & Yorke, 2003), self-efficacy (Jain & Jain, 2013; Nauta, Vianen, Heijden, Dam, & Willemsen, 2009; Brown, Cober, Kane, Levy, & Shalhoop, 2006) and emotional intelligence (Finch, Peacock, Lazdowski, & Hwang, 2015; Dacre Pool & Qualter, 2012; Kirk, Schutte, & Hine, 2008). However, there are studies on employers' perspective that still highlight the same issues of skills deficiencies and personal attributes among graduates (Zwane, du Plessis, & Slabbert, 2014; Cai, 2013; Kleeman, 2011; Wickramasinghe & Perera, 2010). Previous studies have proposed a few employability models towards defining the concept of employability. However, there is limited empirical research to test the available models (Dacre Pool, Qualter, & Sewell, 2014). We found that not all models conceptualize broad perspectives on employability. For example, Hillage & Pollard (1998) corroborate that personal circumstances and external factors depend on employability skills development; but the model is only limited to job readiness or preparedness to work. Therefore, the author has infused some of the theme into the proposed model.

HEI are being placed under pressure as they play the key role in producing graduates with necessary skills and knowledge. The intention of designing the new curriculum by putting employability into university programs or courses is expected to enhance employability (Yorke, 2004). There has been significant growth in the engagement of higher education with human resource development, especially in the area of WBL (Lester & Costley, 2010). Work-based learning (WBL); also referred to as experiential learning, work-related learning, cooperative education and work-integrated learning, intertwines practical work experience with classroom learning (Jackson, 2016a). It is used to describe a class of university programs, that brings together universities and work organizations, to create new learning opportunities in a work environment (Boud, Solomon & Symes, 2001). How could this WBL

program potentially be a medium to enhance employability among undergraduates? Therefore, the objective of this study is to determine the extent to which HEI use the WBL program (setting) to equip undergraduates with necessary skills, knowledge and personal attributes that will enhance employability

in the context of human resource development among Malaysian undergraduates. The result of this conceptual analysis could serve as a guidance for other researchers to explore antecedents that contribute to employability in WBL settings. It is hoped that this article contributes to the body of knowledge in the context of employability.

In Context of Employability

Due to misunderstandings of the term employability, scholars have made an attempt to clarify the concept and come up with range of meanings (Boden & Nedeva, 2010; Dacre Pool & Sewell, 2007; McQuaid & Lindsay, 2005; Knight & Yorke, 2003; Mcgrath, 2000). Hillage & Pollard (1998) has developed a broad concept of employability in which it refers to individuals having a capability to gain initial employment, maintain employment and obtain new employment if required. They concurred that employability depends on the knowledge, skills and aptitudes they possess, the way they use those assets and present them to employers and the context of personal circumstances and labour market environment within which they seek work (Moreau & Leathwood, 2006; Hillage & Pollard, 1998). Based on the Hillage & Pollard (1998) definition, it clearly relates employability with employment focusing on 'readiness to work'. However, Hillage & Pollard (1998) realised that employability assets depend on personal circumstances and external factors; a context which is not offered by all the models.

Knight & Yorke (2003) have refined the definition and advocated that employability is "...a set of achievements - skills, understandings and personal attributes - that make individuals more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy". They also emphasized that employability 'does not rest when the first graduate job is achieved, but needs 'to be constantly renewed to be sustainable' (Watts, 2006). To further understand this concept, Knight and Yorke (2004) have proposed a model called USEM, an acronym for **U**nderstanding, **S**kills, **E**fficacy belief and **M**etacognition, which links to employability and good learning. The USEM model is widely used in scholarly work on employability especially related to curriculum design.

- Understanding (U) - Appropriate subject knowledge, apprehension and applicability
 - Skills (S) - Subject-specific and generic abilities
 - Efficacy beliefs (E) - Awareness and understanding of one's self and one's abilities
 - Metacognition (M) - The ability to reflect on and regulate one's own learning and behaviour
- (Source: Knight and Yorke (2004))

One of the earliest models of employability was developed by Law & Watts (1977) known as DOTS. It refers to:

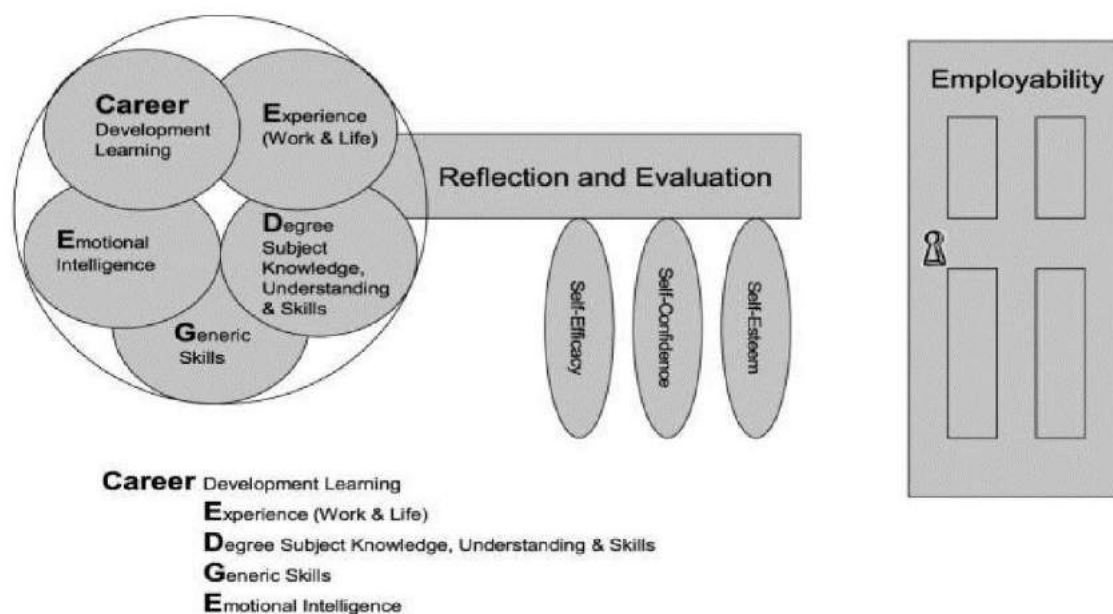
- **D**ecision learning - skills which students can acquire that will help them to make decisions in a manner more satisfactory to themselves.
 - **O**pportunity awareness – The help which is given to students to experience, explore and gain some understanding.
 - **T**ransition learning - helping them to acquire the skills and information they need to cope with the new situations that they will encounter.
 - **S**elf-awareness – Students will have the opportunity to develop their personality as a unique individual. It requires the students to reflect upon their personal strength and potential. This element will answer the questions of what kind of satisfactions are sought, what kind of interests are developing, what personal aspirations are being formulated, and what is most valued in one's experience of the world?
- (Source: Law & Watts, 2003)

The DOTS model is simple to understand for individuals dealing with the complexity of career development learning, but some scholars have argued that the simplicity of the model has delayed the adoption of innovative theory and the development of creative new frameworks (McCash, 2006). Dacre Pool & Sewell (2007) have argued that the model has shortcomings when it is applied beyond the career education to broader concepts of employability (Dacre Pool & Sewell, 2007).

Realizing that there is a loophole in employability concepts, Dacre Pool & Sewell (2007) have articulated a new definition of employability. They suggested that, Employability as set of skills, knowledge, understanding and personal attributes that makes a person more likely to choose and secure occupations in which they can be satisfied and successful... (Dacre Pool & Sewell, 2007)

The definition has been used as a starting point for them to develop a new theoretical and practical framework for employability named CareerEDGE. This model represents 5 elements which are: (1) Career development learning, (2) Experience of work and life, (3) Degree subject knowledge, understanding and skills, (4) Generic skills, and (5) Emotional intelligence, on the lower level of the model. They assumed that the lower level refers to opportunities for students to access and develop everything need (Dacre Pool & Sewell, 2007). The second level is Reflection and Evaluation; in which students reflect and evaluate what they have acquired in the lower level. The third level refers to self-efficacy, self-confidence and self-esteem. Below is the metaphoric diagram of the CareerEDGE model conceived by Dacre Pool & Sewell (2007) as the key to employability:

CareerEDGE – The Key to Employability



(Source: Dacre Pool & Sewell, 2007)

Students' Employability in WBL Setting

In the context of the 2u2i program, the student will be given 2 years in university to learn about the subjects' theory and understanding the subject discipline, which will then be applied during their 2 year enrolment in WBL and after graduation. Based on the CareerEDGE and DOTS models, the student should understand the purpose of learning (self-awareness) by observing, direct 'hands-on' and transferring of knowledge onto the work environment (Jackson, 2016a; Feldmann & Sprafke, 2015; Ross & Elechi, 2002).

- 1) *Career Development Learning* – It is essential for undergraduates to receive some education in career development learning (Dacre Pool & Sewell, 2007). Understanding the demands of the

labour market will also be an added advantage to the undergraduates in order for them to stay competitive (Tomlinson, 2012). According to Hillage & Pollard (1998), presentation of the graduates plays an important role in securing occupations. Without knowing what to expect in the career world, students would not have ideas on how to create a CV, how to search for jobs, etc. Career guidance can be obtained through services and activities that can assist individuals (in any situation throughout their lives) to choose education, training and occupation and to manage their careers (Smith et al., 2009). In the historical study conducted by Law & Watts (1977), career development learning helps individuals develop their self-awareness, opportunity awareness and career management skills. In the context of WBL, the students could learn about the career world, and the process of learning represents the development of necessary skills (Smith et al., 2009; McMahon, Patton, & Tatham, 2002). Therefore, we also find that these elements are important and propose the following:

P1: Career development learning is significant for students in enhancing employability.

- 2) *Experience* – Working or employment experience is crucial for employers. Employers value the work experience and how students are able to apply their study onto the career world, develop their confidence as well as enhance their employability skills and attributes (David J. Finch; Melanie Peacock; Nadege Levallet; William Foster, 2016; Jackson, 2016a, 2016b; Cole

& Tibby, 2013). In a study by Cranmer (2006), she concluded that there is no evidence that skills development in HEI contribute to student employability, but structured work experience in employment-based training showed positive effects to skills development (Cranmer, 2006). Qenani, MacDougall, & Sexton (2014) reported that a student's internship experience resulted in an increase of self-confidence with respect to their employability. Employer perception is vital in order to get employment (Trede & McEwen, 2015; Fern, 2012; Pillai, 2009) and WBL programs provide employers an opportunity to engage in pre-recruitment and to evaluate the interns without having pressures of the hiring process and market competition (Smith et al., 2009). During WBL, not only does working experience matter but life experiences are also taken into consideration. According to Dacre pool & Sewell (2007), there is a need for students to be given opportunities and guidance through life and career related experiences as part of the course program, voluntary work or part-time work, to enhance their employability. Therefore, we propose that:

P2: Work and life experiences have positive contributions towards employability.

- 3) *Degree Subject Knowledge, understanding and skills* - The real motivation for students to pursue their studies in HEI is due to the subject-specific courses or specific discipline, to gain academic qualification and finally, to get a good job. Academic qualification is the first preference that employers will consider when judging the job applicant (Dacre Pool & Sewell, 2007). During WBL, the application of subject knowledge onto practicum or internship will benefit students in enhancing their technical skill. Past studies have concurred that skills acquisition related to internship is significant (Jackling & Natoli, 2015; Silva et al., 2015; Galloway, Marks, & Chillias, 2014; Renganathan, Karim, & Li, 2012; Watts, 2006; Moreland

& ESECT, 2005). In a study of Boahin & Hofman (2013), the finding obtained a significant relationship between subject disciplines and internship with acquisition of employability skills. According to Jackson (2016),

... Students use the experience to make sense of their intended profession through observing, questioning and interacting with seasoned professionals. Appraising and reflecting on their experience, through learning activities and assessment, are highlighted as important elements of placement design and critical for students to question and make sense of what they observed and learned... (Jackson, 2016a) being hired based solely on their

academic qualification or direct relevance to their degree. However, although subject-specific knowledge and skills are extremely important, the graduates' perception of satisfaction and success in securing occupation should not be neglected. We somewhat agree with the above statement. However, choosing the right course program may enhance their competitiveness in their chosen occupation. Therefore, we propose:

P3: Degree subject knowledge has significant relationship with enhancing employability.

- 4) *Generic skills* – The term generic skills represents the skills which can support the study of any field and are transferable to a range of contexts in higher education and the workplace (Bennett et al. 1999). In a study of Harvey (2005), employers prefer the graduates with well-developed generic skills in certain areas. Activities such as learning about one's self, planning on how to accomplish a given learning task, monitoring self-comprehension and evaluating metacognitive in nature are significant in helping student to enhance their generic skills (Moreland & ESECT, 2005). From the employer's perspective, it is favourable if the applicant can demonstrate practical skills and commercial understanding gained during WBL or work placement (Mason, Williams, & Cranmer, 2009). Helyer (2015) has advocated that the "light-bulb moment" does not regularly occur and is hard to be realized during the learning process due to its ongoing nature (especially in the workplace). This gradual learning process actually develops students' skills but it is being neglected and reflection is a good practice for personal development (Helyer, 2015). Finch et al. (2015) also argued that reflecting upon everyday experiences to enhance knowledge is a practice done by majority of the people to establish generic skills. The most common skills deficiency in the Malaysian context is communication, especially language barriers (Grapragasem et al., 2014; Pillai, Khan, Ibrahim, & Raphael, 2012). Dacre Pool & Sewell (2007) have listed out several generic skills such as willingness to learn, creativity, adaptability, communication, teamwork, etc. Therefore, we propose:

P4: Generic skills have positive impact on enhancement of employability.

- 5) *Emotional intelligence* – Emotional intelligence was popularized and has been defined by Goleman (1998) as,

...the capacity to recognize our own feelings and those of others for motivating ourselves and for managing emotions well in ourselves and relationships...

Managing emotions is one aspect that should not be undervalued as it represents the maturity of an individual in handling situations (Paadi, 2014; Huq & Gilbert, 2013). On the other hand, being able to handle anger, conflict and negative emotions will positively affect healthy well-being (Finch et al., 2015). During work placement, the undergraduate may encounter various emotions and the employer views these competencies as personal qualities (Knight & Yorke, 2003). Emotional intelligence is not only applicable to students for employment but also for life in shaping one's understanding and actions (Paadi, 2014; Armour, 2012). Efficacy beliefs in one's emotional functioning capabilities, legitimate self-confidence, life interest, and career orientation have recently been shown to be important in relation to a graduate's employability (Dacre Pool & Qualter, 2012; Moreland & ESECT, 2005). Therefore, we propose:

P5: Emotional intelligence has significant relationship with employability

- 6) *Social support* - Social support was not included as an element to the CareerEDGE model. However, we believe that this factor contributes to the employability of the students. According to Fabio & Kenny (2015), social support represents a contextual factor that is associated with progress in education and career development. Supportive relationships between peer, family and teacher will offer benefits for all parties i.e. students and employer as well as HEI. Normally, students rely on adults and friends for guidance in choosing their college as well as

career (Fabio & Kenny, 2015). In a study of Jones, Torezani, & Luca (2012), support from HEI and peer support in the learning environment play important roles in guiding students to gain valuable skills and encourage them to realize their potential. WBL offers a collaboration between three parties i.e. student, HEI and employer. During the internship, work assignments will be given to the interns and an assertion to provide the resources needed. Here, social support from peer and supervisor could enlarge perceived impact on work assignment outcome (Feldmann, 2015). Hillage and Pollard (1998) have concurred that external factors such as social support (relationship with others) contribute to enhancing their employability asset. Therefore, we propose:

P6: Social support has positive relationship with contributing toward employability.

Proposed Conceptual Framework

Based on the above discussion, we have developed a conceptual framework as depicted in Figure 2.

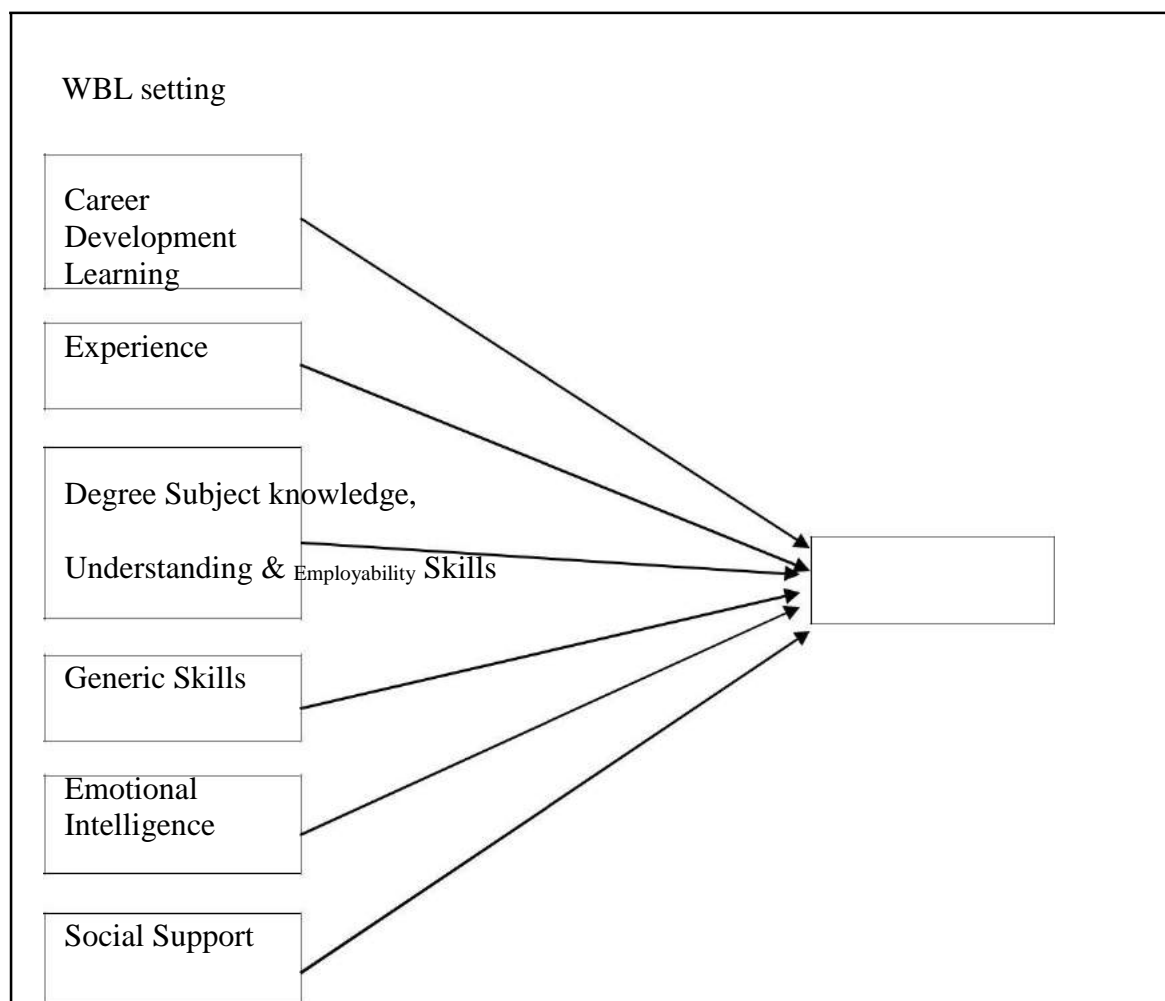


Figure 2: The authors' proposed conceptual framework

Concluding Remarks and HRD implication

Employability is a continuous issue and is likely to be revisited over many times. It is a lifelong process and it applies to all students whatever their situation, course or mode of study (Jackson, 2015; Cole & Tibby, 2013). The labour market is changing over time due to the emergence of technologies, economic crises and industries' demand. Traditionally, knowledge and skills development produced through HEI and industry have tended to be flexible and open-ended (Tomlinson, 2012). The adoption

of employability into curriculum design and/or implementation has become an educational objective for HEI to stay competitive and an intention to enhance students' knowledge and skills (Jackson, 2016a; Yorke, 2004). However, the relevancy of the curriculum should be discussed among academicians and industry in order to fit the demand of the recent labour market. The collaboration between HEI and industry could provide deeper understanding between supply and demand of labour market marginalization (Feldmann, 2016; Rajibussalim, Sahama, & Pillay, 2016; Tran, 2016; McQuaid & Lindsay, 2005; Moreland & ESECT, 2005). By understanding the value of students' employability and adaptability to the labour demand, redesigning HEI curriculum would become fruitful with the support of all stakeholders.

References

- Azman, N. & Ahmad, A.R. 2006. History, trends and significant development of adult education in Malaysia. *Journal of Historical Studies*, VII(2), 66-82.
- Armour, W. (2012). Emotional Intelligence and Learning & Teaching in Higher Education: implications for bioscience education. *Investigations in University Teaching and Learning*, 8, 4–10.
- Bennett, N., Dunne, E.J. & Carré, C. (1999) Patterns of core and generic skill provision in higher education. *Higher Education*, 37, 71-93
- Boahin, P., & Hofman, A. (2013). A disciplinary perspective of competency-based training on the acquisition of employability skills. *Journal of Vocational Education & Training*, 65(February 2015), 385–401. <http://doi.org/10.1080/13636820.2013.834954>
- Boden, R., & Nedeva, M. (2010). Employing discourse: universities and graduate “employability.” *Journal of Education Policy*, 25(1), 37–54. <http://doi.org/10.1080/02680930903349489>
- Boud, D. & Solomon, N. (Eds) (2001) *Work-based learning: a new higher education* (Buckingham, SRHE).
- Brown, D. J., Cober, R. T., Kane, K., Levy, P. E., & Shalhoop, J. (2006). Proactive personality and the successful job search: A field investigation with college graduates. *Journal of Applied Psychology*, 91(3), 717–726. <http://doi.org/10.1037/0021-9010.91.3.717>
- Cai, Y. (2013). Graduate employability: A conceptual framework for understanding employers' perceptions. *Higher Education*, 65(4), 457–469. <http://doi.org/10.1007/s10734-012-9556-x>
- Cole, D., & Tibby, M. (2013). *HEA Employability Framework - Defining and developing your approach to employability*. York.
- Cranmer, S. (2006). Enhancing graduate employability: best intentions and mixed outcomes. *Studies in Higher Education*, 31(2), 169–184. <http://doi.org/10.1080/03075070600572041>
- Dacre Pool, L., & Qualter, P. (2012). Improving emotional intelligence and emotional self-efficacy through a teaching intervention for university students. *Learning and Individual Differences*, 22(3), 306–312. <http://doi.org/10.1016/j.lindif.2012.01.010>
- Dacre Pool, L., Qualter, P., & Sewell, P. J. (2014). Exploring the factor structure of the CareerEDGE employability development profile. *Education + Training*, 56(4), 303– 313. <http://doi.org/10.1108/ET-01-2013-0009>
- Dacre Pool, L., & Sewell, P. (2007). The key to employability: developing a practical model of graduate employability. *Education + Training*, 49(4), 277–289. <http://doi.org/10.1108/00400910710754435>
- David J. Finch; Melanie Peacock; Nadege Levallet; William Foster. (2016). A dynamic capabilities view of employability: Exploring the drivers of competitive advantage for university graduates. *Education + Training*, 58(1), 61–81. <http://doi.org/10.1108/00400910610710010>
- Fabio, A. Di, & Kenny, M. E. (2015). The Contributions of Emotional Intelligence and Social Support for Adaptive Career Progress among Italian Youth. *Journal of Career Development*, 42(1), 48–59. <http://doi.org/10.1177/0894845314533420>
- Feldmann, L. (2015). Preparing Students for Changing Work Demands through Empowering Internships – a Longitudinal Study. *TIKM Journal of Education*, 1(1), 1–15. <http://doi.org/10.17501/je.2448-9336.1.1101>

- Feldmann, L. (2016). Considerations in the design of WBL settings to enhance students' employability: A synthesis of individual and contextual perspectives. *Higher Education, Skills and Work-Based Learning*, 6(2), 131–145. <http://doi.org/10.1108/HESWBL-09-2014-0044>
- Feldmann, L., & Sprafke, N. (2015). How to Design Empowering Work-based Learning Settings to Foster Students' Competence Development. *International Journal for Cross-Disciplinary Subjects in Education (IJCDSE)*, 6(1), 2081–2089.
- Fern, S. (2012). *Graduate employability: Teaching staff, employer and graduate perceptions*. Retrieved from http://acen.edu.au/2012conference/wp-content/uploads/2012/11/84_Graduate-employability.pdf
- Finch, D., Peacock, M., Lazdowski, D., & Hwang, M. (2015). Managing emotions: A case study exploring the relationship between experiential learning, emotions, and student performance. *International Journal of Management Education*, 13(1), 23–36. <http://doi.org/10.1016/j.ijme.2014.12.001>
- Galloway, L., Marks, A., & Chillias, S. (2014). The use of internships to foster employability, enterprise and entrepreneurship in the IT sector. *Journal of Small Business and Enterprise Development*, 21(4), 653–667. <http://doi.org/10.1108/JSBED-09-2014-0150>
- Goleman, D. (1998). *Working with Emotional Intelligence*. London: Bloomsbury.
- Grapragasem, S., Krishnan, A., & Mansor, A. N. (2014). Current Trends in Malaysian Higher Education and the Effect on Education Policy and Practice: An Overview. *International Journal of Higher Education*, 3(1), 85–93. <http://doi.org/10.5430/ijhe.v3n1p85>
- Harvey, L. (2005). Embedding and integrating employability. *New Directions for Institutional Research*, 2005(128), 13–28. <http://doi.org/10.1002/ir.160>
- Helyer, R. (2015). Learning through reflection: the critical role of reflection in work-based learning (WBL). *Journal of Work-Applied Management*, 7(1), 15–27. <http://doi.org/10.1108/JWAM-10-2015-003>
- Hillage, J., & Pollard, E. (1998). *Employability: Developing a framework for policy analysis*. London.
- Huq, A., & Gilbert, D. H. (2013). Enhancing graduate employability through work-based learning in social entrepreneurship: A case study. *Education + Training*, 55(6), 550–572. <http://doi.org/10.1108/ET-04-2012-0047>
- Jackling, B., & Natoli, R. (2015). Employability skills of international accounting graduates Internship providers' perspectives. *Education + Training*, 57(7), 757–773. <http://doi.org/10.1108/ET-08-2014-0093>
- Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education*, 40(2), 350–367. <http://doi.org/10.1080/03075079.2013.842221>
- Jackson, D. (2016a). Developing pre-professional identity through work-integrated learning. *Higher Education*, 1–21. <http://doi.org/10.1007/s10734-016-0080-2>
- Jackson, D. (2016b). Re-conceptualising graduate employability: the importance of pre-professional identity. *Higher Education Research & Development*, 4360(September), 1–15. <http://doi.org/10.1080/07294360.2016.1139551>
- Jain, R., & Jain, S. (2013). Conceptualization, Measure Development and Empirical Assessment of Career Oriented Attitudes and Employability of Technology Graduates. *Vision: The Journal of Business Perspective*, 17(2), 143–157. <http://doi.org/10.1177/0972262912483528>
- Jones, N., Torezani, S., & Luca, J. (2012). A peer-to-peer support model for developing graduate students' career and employability skills. *Intercultural Education*, 23(1), 51–62.
- Kirk, B. A., Schutte, N. S., & Hine, D. W. (2008). Development and preliminary validation of an emotional self-efficacy scale. *Personality and Individual Differences*, 45(5), 432–436. <http://doi.org/10.1016/j.paid.2008.06.010>
- Kleeman, A. P. (2011). *Employer Perceptions: an Exploratory Study of Employability Skills Expected of New Graduates in the Hospitality Industry*. University of Central Florida.
- Knight, P., & Yorke, M. (2003). Employability and Good Learning In Higher Education. *Teaching in Higher Education*, 8(1), 3–16. <http://doi.org/10.1080/1356251032000052294>

- Lester, S., & Costley, C. (2010). Work-based learning at higher education level: value, practice and critique. *Studies in Higher Education*, 35(5), 561–575. <http://doi.org/10.1080/03075070903216635>
- Mason, G., Williams, G., & Cranmer, S. (2009). Employability skills initiatives in higher education: what effects do they have on graduate labour market outcomes? *Education Economics*, 17(1), 1–30. <http://doi.org/10.1080/09645290802028315>
- McCash, P. (2006). We're all career researchers now: breaking open career education and DOTS. *British Journal of Guidance & Counselling*, 34(4), 429–449. <http://doi.org/10.1080/03069880600942558>
- Mcgrath, S. (2000). *What is Employability?* UNESCO Centre for Comparative Education Research, School of Education, University of Nottingham
- Mcmahon, M., Patton, W., & Tatham, P. (2002). Issues Informing the Design of an Australian Blueprint for Career Development Managing Life, Learning and Work in the 21st Century Ministerial Council for Employment. *Australian Journal of Career Development*, 8(83), 42–46.
- McQuaid, R. W., & Lindsay, C. (2005). The Concept of Employability. *Urban Studies*, 42(2), 197–219. <http://doi.org/10.1016/j.buildenv.2006.10.027>
- Ministry of Higher Education. (2015). *Malaysia Education Blueprint 2015-2025*. Ministry of Education Malaysia 2015. Putrajaya. <http://doi.org/10.5923/j.ijis.20120206.05>
- Moreau, M., & Leathwood, C. (2006). Graduates' employment and the discourse of employability: a critical analysis. *Journal of Education and Work*, 19(4), 305–324. <http://doi.org/10.1080/13639080600867083>
- Moreland, N., & ESECT. (2005). *Work-related learning in higher education* (Learning and Employability Series 2).
- Nauta, A., Vianen, A., Heijden, B., Dam, K., & Willemssen, M. (2009). Understanding the factors that promote employability orientation: The impact of employability culture, career satisfaction, and role breadth self-efficacy. *Journal of Occupational and Organizational Psychology*, 82(2), 233–251. <http://doi.org/10.1348/096317908X320147>
- Nilsson, S., & Ellström, P.-E. (2012). Employability and talent management: challenges for HRD practices. *European Journal of Training and Development*, 36(1), 26–45. <http://doi.org/10.1108/03090591211192610>
- Organisation for Economic Co-operation and Development (OECD). (2013). Structural policy country notes for emerging Asia : Malaysia. *Economic Outlook for Southeast Asia, China and India 2014: Beyond the Middle-Income Trap*, 1–16. <http://doi.org/http://dx.doi.org/10.1787/saeo-2014-en>.
- Paadi, K. (2014). Perception on employability skills necessary to enhance human resource management. Graduates prospects of securing a relevant place in the labour market. *European Scientific Journal, special ed*(August), 129–143. <http://doi.org/123>
- Pillai, S. (2009). Enhancing graduate employability through University-Industry Partnerships. *Sub Theme D - University Industry Partnership - ASAIHL 2009 D-5*, (October), 247– 254.
- Pillai, S., Khan, M. H., Ibrahim, I. S., & Raphael, S. (2012). Enhancing employability through industrial training in the Malaysian context. *Higher Education*, 63(2), 187–204. <http://doi.org/10.1007/s10734-011-9430-2>
- Qenani, E., MacDougall, N., & Sexton, C. (2014). An empirical study of self-perceived employability: Improving the prospects for student employment success in an uncertain environment. *Active Learning in Higher Education*, 15(3), 199–213. <http://doi.org/10.1177/1469787414544875>
- Rajibussalim, Sahama, T., & Pillay, H. (2016). Realisation of University-Industry Collaboration Through Industry-Based Learning At Indonesian Higher Education. In *INTED2016 Conference 7th-9th March 2016* (pp. 3853–3863). Valencia.
- Rateau, R. J., Broyles, T. W., Fowler, S. B., & Robinson, J. S. (2011). *Understanding the Employability of College Graduates for Success in the Workplace*.
- Renganathan, S., Karim, Z. A. B. A., & Li, C. S. (2012). Students' perception of industrial internship programme. *Education + Training*, 54(2/3), 180–191. <http://doi.org/10.1108/00400911211210288>

- Ross, L. E., & Elechi, O. O. (2002). Student attitudes towards internship experiences: From theory to practice. *Journal of Criminal Justice Education*, 13(2), 297–312. <http://doi.org/10.1080/10511250200085491>
- Silva, P., Lopes, B., Costa, M., Seabra, D., Melo, A. I., Brito, E., & Dias, G. P. (2015). Stairway to employment? Internships in higher education. *Higher Education*, 703–721. <http://doi.org/10.1007/s10734-015-9903-9>
- Smith, M., Brooks, S., Lichtenberg, A., McIlveen, P., Torjul, P., & Tyler, J. (2009). *Career Development Learning : Maximising the contribution of work-integrated learning to the student experience*. <http://doi.org/10.2172/1000008>
- Tomlinson, M. (2012). Graduate Employability: A Review of Conceptual and Empirical Themes. *Higher Education Policy*, 25(4), 407–431. <http://doi.org/10.1057/hep.2011.26>
- Tran, T. T. (2016). Enhancing graduate employability and the need for university- enterprise collaboration. *Journal of Teaching and Learning for Graduate Employability*, 7(1), 58– 71. <http://doi.org/10.21153/jtlge2016vol7no1art598>
- Trede, F., & McEwen, C. (2015). Early workplace learning experiences: what are the pedagogical possibilities beyond retention and employability? *Higher Education*, 69, 19–32. <http://doi.org/10.1007/s10734-014-9759-4>
- Watts, a G. (2006). Career development learning and employability. *Higher Education*, 1-36. Retrieved from http://hca.ltsn.ac.uk/assets/documents/resources/resourcedatabase/id592_career_development_learning_and_employability.pdf
- Wickramasinghe, V., & Perera, L. (2010). Graduates', university lecturers' and employers' perceptions towards employability skills. *Education + Training*, 52(3), 226–244. <http://doi.org/10.1108/00400911011037355>
- Williams, S., Dodd, L. J., Steele, C., & Randall, R. (2015). A systematic review of current understandings of employability. *Journal of Education and Work*, 1–25. <http://doi.org/10.1080/13639080.2015.1102210>
- Yorke, M. (2004). Employability in the Undergraduate Curriculum: some student perspective. *European Journal of Education*, 39(4), 409–427.
- Zwane, F. N., du Plessis, L., & Slabbert, E. (2014). Analysing employers' expectations of employee skills in the South African tourism industry. *South African Journal of Human Resource Management*, 12(1), 1–9. <http://doi.org/10.4102/sajhrm.v12i1.550>

URBAN AGRICULTURE: TRANSFORMING OF INNOVATION AMONG FARMERS' IN MALAYSIA

Milah Zainal & Siti Raba'ah Hamzah
Faculty of Educational Studies, Universiti Putra Malaysia
masterptv3@gmail.com, srh@upm.edu.my

ABSTRACT

Following the phenomenal increase in the cost of living in the city, the government is committed to guarantee the quality and food security of the population in the country. Accordingly, as a strategy for increasing food productivity there are a variety of methods, technologies and innovations that have been introduced. Urban agriculture is a practical approach among the urban population to produce their own food defined as all activities done related to agriculture and agricultural activities in the urban area. It can reduce daily expenses due to the rise in cost of living in the city. However, the acceptance of urban agriculture among farmers in the city was influenced by their cognitive, affective and behavioral. Thus, present study aims to study the current stance of the process of acceptance and practice of urban agriculture among urban farmers, for being successful in the future urban agriculture activities.

Keywords: Urban Agriculture, Innovation, Urban Farmers

Introduction

By 2050, world population is expected to reach up to 10 billion people, and 80% of the world's population is projected to live in cities (MITI, 2015). This causes the rate of global urbanization process which will continue to increase. In Malaysia, the growth of the urban population will reach to 75% by 2020 (McClintock, 2013). As a result, the demand for food supply is also expected to increase by 70% in order to meet global food needs. Thus, the agricultural sector needs to be more effective and efficient in order to meet the food needs of the world's population, especially in Malaysia.

Things got more challenging when the urban household faced with the high of living cost the impact of rising food prices (Rafiqah & Aziz, 2015; Rezai et al, 2016). Therefore, urban agriculture is the best answer and through timely steps it can address the problem of food security or food security of the country (Zaidi et al., 2013). Urban agriculture can be responsible for human wellbeing, food security and urban resilience; and the need for integrated planning across sectors to ensure that the ecosystem services that urban agriculture provides can proliferate. Rogers (2003) explains that not all individuals in a society can adopt innovations.

How urban farmers accept urban agriculture as food security activities in their lives? There is a need to understand the process and practice of urban agriculture among farmers in the city. Chauhan (2007) stated that extension education is primarily for the rural development. Its main objective is to generate necessary change in the beliefs or views of people. Extension education is an educational process by which capabilities among people are developed to understand their problems and resources. It is utilized to make scientific methods available to the farmers, so that they can raise their agricultural production and their standards of living.

It also plays major role in bringing desirable changes among urban farmers towards urban agriculture. This implies bringing change in an urban farmer's present knowledge by providing information about latest developmental works, for instance, providing knowledge about urban agriculture activities. If urban farmers are not aware of the development of urban agriculture then information about it is imparted through training programs.

Literature Review

Definition of Urban Agriculture

The term of urban agriculture abbreviated U.A, was first used for comfortable writing of food production activities which has been done in the cities (Ellis et al., 1998). This activity can encourage city residents to grow their own vegetables / food crops around their homes so that the burden of rising living costs can be reduced. Urban agriculture (UA) may provide a source of food or income for households and help mitigate the impacts of these growing threats to food security (M.N. Poulsen et al, 2015). Urban agriculture can be defined by a variety of perspectives (Lorenz, 2015). Food and Agriculture (2000) defines urban agriculture as any agricultural activity which grow, raises, and processes and distributes agricultural products regardless of land size and number of human resources within the cities and towns. Mindy (2011) also states that urban agriculture is growing and rearing animals in urban environments for the purpose of supplying food to the local population. Rafiqah and Aziz (2015) provide a definition of urban agriculture as a description of the production of food and goods through farming, cultivation, animal husbandry and forestry. Moreover, Tim and Ilina (2016) define urban agriculture as the practice of growing plants, fungi, fish and livestock in and around towns and cities. Hence, of the most common urban agriculture definition is the methods of producing crops and livestock in urban areas or in the suburbs aimed to meet the needs of urban farmers and communities nearby.

Transformation in Urban Agriculture

Agricultural activities among urban households to produce their own food is a practical approach and could reduce daily expenses due to higher cost of living in the city (MOA, 2016). Today, agriculture is no longer subject to the concept of a large land area, high capital, dirty and does not guarantee the future. Urban agriculture is perceived as an innovation to solve the problems related to food supply among urban residents (Rezai et al, 2016). It is seen as a sustainable practice that can benefit the economic, social, health and ecological state.

It affects the well-being, justice, solidarity, comfort, quality of life and environmental sustainability (Zaidi et al, 2013; M.N. Poulsen et al, 2015). Urban agriculture is a form of transformation of the agricultural model conventionally carried out in rural areas where the planting is to be commercialized and rarely meets consumer demand nearby. Now, urban agriculture has changed the public perception that agriculture can be implemented not only in villages but also in the presence of a suitable opportunity and space in the city, so that city residents' needs are also met.

It is gaining popularity and is practiced by individuals or communities in this country, where a variety of activities geared to gardening or urban agriculture in the available space in urban areas has been undertaken (Zaidi et al, 2013). Urban agriculture taking into account the limited space for gardening and lifestyle of the city is always busy (Zulhazmi et al, 2016). In addition, the implementation of urban agriculture that uses second-hand goods or recycling can save costs for farming besides creating eco-friendly atmosphere (Zaidi et al, 2013). Investment in urban and suburban areas can be performed without the need for agricultural land such as on rooftops, hydroponics or fertigation for intensive livestock rising and horticulture production. The implementation of urban agriculture tailored to the specific opportunities and challenges in the urban areas in line with the needs of the population, including food security, income generation and environmental management (Jose, 2014).

Importance of Urban Agriculture

Urban agriculture is seen as a sustainable practice that can benefit the economic, social, health and the environment. Additionally, it is beneficial to the welfare, justice, solidarity, comfort, quality of life and environmental sustainability (Zaidi et al, 2013).

a. **Economic Benefits:** Although literature exists on economic impacts, it is very limited. The majority of economic research was centered on farmers markets, although there were a fair number of studies focused on economic benefits to consumers and gardeners involved with urban agriculture

(Golden, 2016). Earnings grow their own food or breeding e helps save on household expenses to buy food. Based on studies by Resource Center on Urban Agriculture and Food Security (RUAF), poor people in poor countries generally spend most of their income (50% - 70%) on food. Although urban agriculture does not contribute significantly to job creation, but in terms of food security it is also a major concern to address the problem of urban poverty (Nugent, 2002). Sales of agricultural products (fresh or processed) among urban farmers to be one source of income for the urban population which in turn can offset the expense of the urban population (Liu, 2008; Kremer & DeLiberty, 2011; Zaidi et al, 2013; Ackerman et al, 2014). More than 800 million urban residents worldwide are involved in urban agriculture in which they want to gain access to food and commercial gain (Rabiul dan Chamhuri, 2012).

b. **Social Benefits:** Urban agriculture as a medium for creating social relationships, especially when it is conducted in the community in a residential area. Social interaction and communication and friendly relations enrichment would take place through urban farming activities carried out jointly. It can also foster a community that is united and work together in mobilizing resources available to implement urban agriculture activities (Zaidi et al, 2013). Another social impact of urban agriculture includes providing a medium for learning experiences, educational programs, and youth development opportunities. Many of the case studies and agency reports describe projects that include education services or youth leadership opportunities (Krasny & Doyle, 2002, Ober Allen et al., 2008 Kerton & Sinclair, 2009; Travaline & Hunold, 2010; Bradley & Galt, 2013).

c. **Health Benefits:** Consumers around the world are increasingly concerned about the quality of food that is safe and healthy to eat because it will affect their health. These concerns exist because of the daily food, either vegetables or fruits susceptible to pesticide residues, contamination of food by chemicals in dairy products and seafood, and uncontrolled use of additives in processed foods. Through urban agriculture activities residents can produce their own nutritious food daily and securely (Park et al, 2011; Corrigan, 2011; Ratnawati & Abdullah, 2012; Zaidi et al, 2013). Community gardens are places for residents to recreate and engage in physical activity (Patel, 1991; Armstrong, 2000; Twiss et al., 2003; Saldivar-Tanaka & Krasny, 2004 ;). They create opportunities for individuals to be active for sustained amounts of time, which has been found to prevent disease and other ailments (Magnus, Matroos, & Strackee, 1979). Many gardeners found that the presence of plants helps reduce stress and improved over-all well-being (Patel, 1991; Armstrong, 2000; Teig et al., 2009).

d. **Environmental Benefits:** Tsuchiya et al (2015) states that urban agriculture plays an important role in many aspect environmental such as i) providing an alternative to the waste disposal problem by making it to productive resources through composting. Compost can be used for planting and serve as a natural fertilizer ii) water pollution is minimized when recycled water for food production purposes iii) rainwater can be stored or distributed to plant trees through rainwater harvesting for use in watering, cleaning plants or livestock as well as promote the use of rain economically and iv) enhance sustainability in terms of environmentally friendly in urban areas by using recycled materials and recycling such as plastic bottles, empty cans, wooden pallets used plastic barrels, tires and so on. Zaidi et al (2013) reveals that urban agriculture can also improve the habitat and biodiversity in urban areas in order to ensure the continuity of certain organisms to survive by creating green areas consisting of a variety of plants. In addition, the greening of urban agriculture suggest that it reduces the harmful effects of erosion, add shading and control the temperature of the surrounding area City to be more comfortable and help beautify the scenery around City.

Transforming in Innovation among Farmers' in Malaysia

An innovation is an idea, practice, or object that is new to individuals or organizations. With innovations farmers' can improve the quality of life especially contribution of urban agriculture to food and nutrition security. Innovation diffusion is a process where newly developed technologies or innovations are communicated to stakeholders through different channels of communication (Shahrina et al, 2014). The process of innovation diffusion of urban agriculture does not mean anything if it is not followed by an adoption process by urban farmers. Rogers (2003) mention that adoption is the process of how urban farmers' think and decide to practice urban agriculture in their lives.

Process of Decision Making of Urban Farmers

Each urban farmers have to go through the decision making process before adopting urban agriculture varied depending on the characteristics of personality and environment adopter. There are five processes to be traversed by urban farmers before they implement urban agriculture activities (Rogers, 2003). Figure 1 indicates the process of decision making among urban farmers.

- i) Obtain Knowledge - The process of getting knowledge begins when urban farmers obtain the information on the existence of urban agriculture.
- ii) Create Persuasion - Urban farmers will be confident of the benefits of urban agriculture.
- iii) Making Decisions - Urban farmers will make the final decision whether to continue to accept or reject urban agriculture.
- iv) Implement Decision - Implementation occurs when urban farmers decides to implement urban agriculture and vice versa.
- v) Creating Confirmation - In this stage of every urban farmer to take a stand to practice urban agriculture are fully introduced.

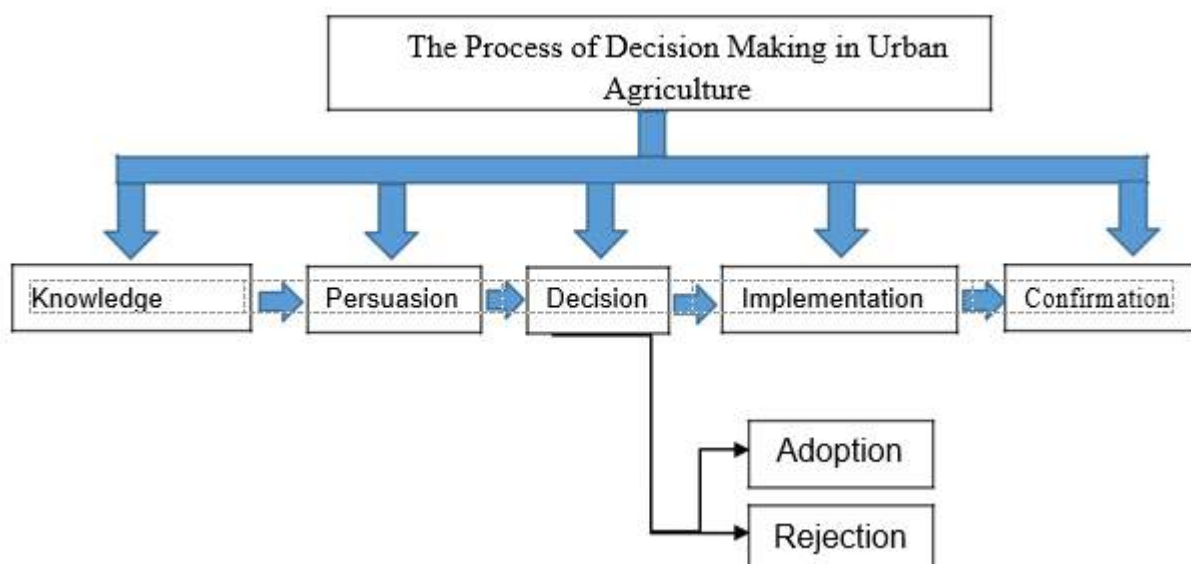


Figure 1: The Process of Decision Making in Urban Agriculture Category of Adopter (Urban Farmers)

Rogers (2003) pointed out that innovation will spread gradually over time and among humans, which will produce a variety of other categories. The result of the process of innovation and change from time to time will create the S curve when plotted on a graph (Rogers, 1995). Rogers equalize the distribution of this revenue to the role of information, which reduces the uncertainty in the process of diffusion. Humans are divided into five categories according to the level of acceptance of innovation. This category along with the percentage of each is as follows; pioneer or innovator group (2.5%), early adopters (13.5%), the early majority (34%), late majority (34%) and Laggards (16%). An innovator is the earliest adopting innovations. They have superior features such as willing to take risks and accept the odds, have a higher education, known to many and have extensive social relations. Figure 2 illustrates the curve of innovation diffusion to describe categories of users. Urban Farmers that practice urban agriculture with good performance of productivity or give the positive impact can be categorized as innovators group. Table 2 shows the definition and criteria of adopter category.

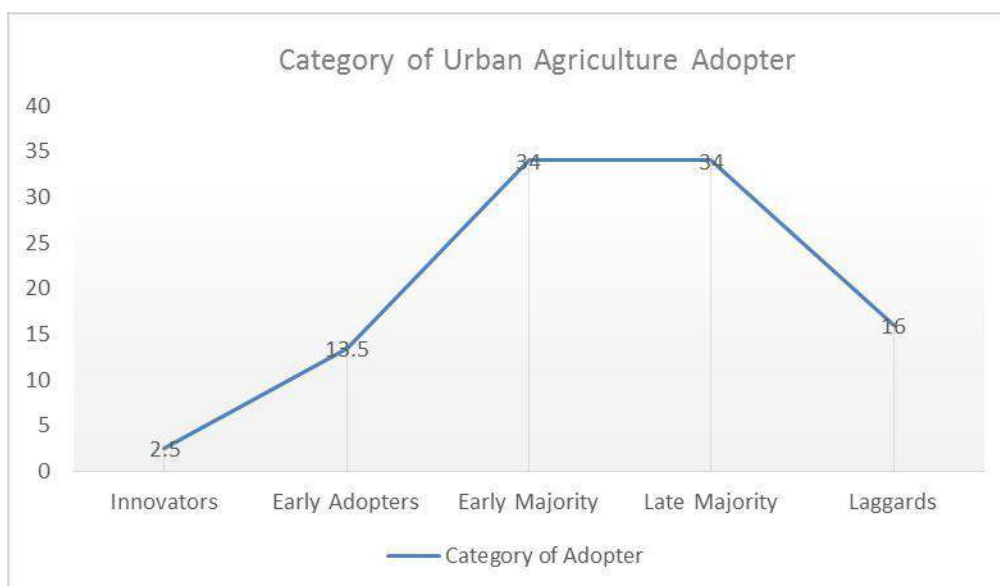


Figure 2: Curves of Category of Adopter

Table 1. Category of Adopter
Source: (Rogers, 1995)

Adopter Category	Definition and Criteria
Innovators	<p>The first group is represented by (2.5%) an adopted the urban agriculture.</p> <ol style="list-style-type: none"> 1. Have features such as willing to take risks, courage, and interest to try new ideas, young people, people who are financially strong and stable and well-educated.
Early Adopters	<p>The people who represent as many (13.5%) of the members of this community and more of the Innovators.</p> <ol style="list-style-type: none"> 1. Determine the advantages of an innovation to spread to others, they are influential and highly regarded as a role model and be happy to know the value of an innovation.
Early Majority	<p>Approximately 34% of those who receive the most innovative and practice it before other people use it.</p> <ol style="list-style-type: none"> 1. This group was influenced by the early adopters. They have to decide if they really believe the benefits of a decision.
Late Majority	<p>Approximately 34% of the people adopted the innovation after most of the members of the society accept them gain confidence that new innovations.</p> <ol style="list-style-type: none"> 1. the

	<p>Their involvement is slow due to a wait and see attitude, and need</p> <ol style="list-style-type: none"> 2. support and encouragement from others to open their minds with a detailed explanation of the benefits and advantages of these innovations. Those who are cautious and often hesitate and just wait for the early majority to accept it earlier.
Laggards	<ol style="list-style-type: none"> 1. This group is only 16% of the latter using the innovations introduced. Likely to stay in places that are isolated, lack of confidence in 2. innovation, due to the nature of their advanced age, maintaining traditional values, there is no relationship and meeting more often than other groups to convince the innovations introduced. They are suspicious of innovation and anything that leads to change. 3. This group usually consists of the poor who rarely take risks.

Recommendations

Urban agriculture is now gaining popularity and practiced by individuals or communities in the country. The diffusion and adoption of innovation process play a significant role in ensuring that the urban agriculture achieves the objectives. Each urban farmer will adopt the innovation once they distinguish information on the urban agriculture as the first process in making a decision. Therefore, appropriate knowledge should be provided by the extension agent on urban agriculture including methods of implementation, the concept or the benefits of urban agriculture to convince the urban farmers to adopt the urban agriculture. Transformation of knowledge can be implemented by extension program such as forum, agriculture fair, seminar and others. Other than that, pioneers or innovators who could potentially be identified should help motivate, raise awareness and foster interest in the people of the city to engage in urban agriculture. Further research on the effective way of knowledge transfer among community for urban agriculture empowerment.

Conclusion

Urban agriculture is vital in providing a better quality and food security in the country. Innovation and new technologies is required for urban farmers to improve their standard of living, employment status and receiving treatment methods. Innovation is a major instrument in social and economic development especially in agricultural sector. Farmers in the city is one of the major components to implement the urban agriculture activities. Thus, the process of diffusion and adoption of urban agriculture as innovation among farmers is required. The knowledge on the process of innovation diffusion is beneficial as this can serve as guidance in the technology transfer work prepared by the agencies related to agricultural development.

References

- Ackerman, Conard, Culligan, Plunz, Sutto dan Whittinghil. (2014). Sustainable Food Systems for Future Cities: The Potential of Urban Agriculture. *The Economic and Social Review*, 45. 2. 189–206.
- Armstrong, D. (2000). A Survey of Community Gardens in Upstate New York: Implications for Health Promotion and Community Development. *Health & Place*, (6), 319–327.
- Bradley, K., & Galt, R. E. (2013). Practicing food justice at Dig Deep Farms & Produce, East Bay Area, and California: Self-Determination as a Guiding Value and Intersections with Foodie Logics. *Local Environment*, 1–15.

- Corrigan, M. P. (2011). Growing What You Eat: Developing Community Gardens in Baltimore, Maryland. *Applied Geography*, 31(4), 1232–1241.
- Ellis, F. & Sumberg, J. (1998). Food Production, Urban Areas and Policy Responses. *World Development Journal*, Vol. 26, No. 2, p. 213-225.
- Food and Agriculture Organization (2000). A Briefing Guide for the Successful Implementation of Urban and Peri-Urban Agriculture in Developing Countries and Countries of Transition. Revision 2, Handbook Series. Volume III. Rome.
- Kementerian Pertanian dan Industri Asas Tani (MOA). 2016. Portal rasmi Jabatan Pertanian. <http://www.doa.gov.my>.
- Kerton, S., & Sinclair, A. J. (2009). Buying Local Organic Food: A Pathway to Transformative Learning. *Agriculture and Human Values*, 27(4), 401–413.
- Lorenz, K (2015). Organic Urban Agriculture. *Soil Science*. Wolters Kluwer Health, Inc. Volume 180:146–153.
- Kremer, P., & DeLiberty, T. L. (2011). Local Food Practices and Growing Potential: Mapping the case of Philadelphia. *Applied Geography*, 31(4), 1252–1261.
- Krasny, M. E., & Doyle, R. (2002). Participatory Approaches to Program Development and En-gaging Youth in Research: The Case of an Inter-Generational Urban Community Gardening Program. *Journal of Extension*, 40(5), 1–16.
- J. Liu, Gateway Greening. Actrees.org. April 21, 2008, Retrieved August 2, 2013, from http://actrees.org/files/Research/gateway_greening_whitmire.pdf
- Malaysia International Trade and Industry. Laporan MITI (2015). http://www.miti.gov.my/miti/resources/MITI_Report_2015-5.pdf
- Maria G. Botsiou, Stavriani. K dan Vassilios, D. (2014). Innovation and Success: Perceptions, Attitudes and Practices of Young Farmers. *Scientific Bulletin – Economic Sciences*, Volume 13/ Issue 2.
- Magnus, K., Matroos, A., & Strackee, J. (1979). Walking, Cycling, or Gardening, With or With-out Interruption, in Relation to Acute Coronary. *American Journal of Epidemiology*, 110(6), 724–733.
- Mindy, G. (2011). Urban Agriculture: A Sixteen City Survey of Urban Agriculture Practices Across the Country. Turner Environmental Law Clinic.
- Ober Allen, J., Alaimo, K., Elam, D., & Perry, E. (2008). Growing Vegetables and Values: Benefits of Neighborhood-Based Community Gardens for Youth Development and Nutrition. *Journal of Hunger & Environmental Nutrition*, 3(4), 418–439.
- Park, Y., Quinn, J., Florez, K., Jacobson, J., Neckerman, K., & Rundle, A. (2011). Hispanic Im-migrant Women’s Perspective on Healthy Foods and the New York City Retail Food Envi-ronment: A Mixed-Method Study. *Social Science & Medicine*, 73(1), 13–21.
- Patel, I. C. (1991). Gardening’s Socioeconomic Impacts. *Journal of Extension*, 29(4), 1–3.
- Rabiul Islam dan Chamhuri Siwar (2012). The Analysis of Urban Agriculture Development in Malaysia. *Advances in Environmental Biology*, 6(3): 1068-1078.
- Rafiqah Mat dan Aziz Abdul Majid (2015). Kepentingan Pertanian Bandar dan Cabaran yang Dihadapi oleh Petani Bandar di Malaysia. *International Journal of Environment, Society and Space*, 3(1), 44-56.
- Ratnawati Yuni Suryandari dan Abdullah Sumrahadi (2012). Bertani dalam Bandar dan Kesannya kepada Komuniti Tempatan dan Persekitaran Bandar: Kajian kes Jakarta Barat dan Tangerang, Indonesia. *Malaysia Journal of Society and Space* 8 Issue 3 (12 – 22).
- Rezai. G, Mad Nasir Shamsudin dan Zainalabidin Mohamed (2016). Urban Agriculture: A Way Forward to Food and Nutrition Security in Malaysia. *Procedia - Social and Behavioral Sciences*. 216:39 – 45.
- Rogers, E .M (1995). *Diffusion of Innovations*. 4th Ed. New York: Free Press.
- Rogers, E.M. (2003). *Diffusion of innovations*. New York: Free Press of Macmillan.
- Rolling, N. (1982). Alternative Approach in Extension. *Progress in Rural Extension and Community Development*. Vol. 1, P. 87-115.
- Saldivar-Tanaka, L., & Krasny, M. E. (2004). Culturing Community Development, Neighborhood Open Space, and Civic Agriculture: The case of Latino community gardens in New York City. *Agriculture and Human Values*, (21), 399–412.

- Jose (2014). Innovation in Agriculture: A Key Process for Sustainable Development. Institutional position paper. Inter-American Institute for Cooperation on Agriculture.
- Golden, S. (2013). Urban Agriculture Impacts: Social, Health, and Economic: A Literature Review. University of California Sustainable Agriculture Research and Education Program.
- Teig, E., Amulya, J., Bardwell, L., Buchenau, M., Marshall, J. A., & Litt, J. S. (2009). Collective Efficacy in Denver, Colorado Strengthening Neighborhoods and Health through Community Gardens. *Health & Place*, 15(4), 1115–1122.
- Tim, V dan Ilina, G. (2016). Urban Agriculture Project. A GFS Food Futures panel activity. OPM Group.
- Travaline, K., & Hunold, C. (2010). Urban Agriculture and Ecological Citizenship in Philadelphia. *Local Environment*, 15(6), 581–590.
- Tsuchiya, K., Hara, Y., dan Thaitakoo, D (2015). Linking Food and Land Systems for Sustainable Peri-urban Agriculture in Bangkok Metropolitan Region. *Landscape and Urban Planning*, 143, 192-204.
- Twiss, J., Dickinson, J., Duman, S., Kleinman, T., Paulsen, H., & Rilveria, L. (2003). Community Gardens: Lessons Learned From California Healthy Cities and Communities. *American Journal of Public Health*, 93(9), 1435–1439.
- McClintock, N. (2013). Radical, Reformist, and Garden-Variety Neoliberal: Coming to Terms with Urban Agriculture's Contradictions. *Local Environment*, 1–25.
- Nugent, R (2002). The Impact of Urban Agriculture on The Household and Local economies. RUAF Foundation International Workshop of Urban Agriculture: Growing Cities, Growing Food.
- Poulsen, M. N., McNab, P. R., Clayton, M. L., & Neff, R. A. (2015). A Systematic Review of Urban Agriculture and Food Security Impacts in Low-Income Countries. *Food Policy*, 55, 131-146.
- Zaid Tajuddin, Nordin Abd Rahman, Khairuddin Idris., dan Faridah Abdullah. (2013). Transformasi Pertanian Bandar. Pusat Transformasi Komuniti Universiti: Universiti Putra Malaysia.
- Zulhazmi Sayuti, Hanim Ahmad dan Ab Kahar Sandrang (2016). Inovasi Pertanian Bandar. Serdang: MARDI

ERGONOMICS IN SCHOOL COMPUTER LAB: MALAYSIAN TEACHERS' PERSPECTIVE

Suhaizal Hashim & Nurul Hidayah Liew Abdullah

Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia

Parit Raja, Johor, Malaysia

suhaizal@uthm.edu.my, hidayahl@uthm.edu.my

ABSTRACT

Ergonomic interpreted as a discipline in science and technology that aims to alter the use of work equipment, the design of the workplace, the environment and ways of working in accordance with the limits as well as physical and mental capabilities of the workers. This study is a survey of the level of teacher knowledge about ergonomics and negative effects faced by students using computers in school computer lab. Questionnaires were used as the research instrument. The samples for this study are 30 individuals consisting of teachers who use computer labs for their teaching and learning from 5 schools in Johor Bahru. Analyzes were performed to find the mean, frequencies and percentages. The result shows that these teachers have a high level of ergonomics knowledge about computer workstation in the school computer lab and a moderate level of knowledge about the physical ergonomic position while using the computer. The study also found that the negative effects faced by students using computers in school computer lab are on average level.

Keywords: Ergonomics, Computer Used, School Computer Lab

Introduction

The technology that we achieve nowadays is the impact of technological breakthroughs. Sophisticated technology design has helps to put information in our fingertips. These changes not only be felt by the management and administration of education, but also in the education curriculum that involves teaching and learning. The use of computers in teaching and learning in schools is growing rapidly which the government provides a significant allocation to build a computer lab at school. It also includes computer maintenance costs and training for teachers as well as the person responsible for managing the computer laboratory. Computer gives huge impact in the regular basis of education, specifically the use of computers in design, development, delivery and evaluation of teaching [1].

A result showed that the majority of computer labs were ill suited for teaching Information Computer Technology (ICT). The most common classroom management problems were making noise, lack of interest and inappropriate movement in the computer lab. The classroom management strategies that ICT teachers employed were using effective teaching methods, planning effective learning tasks and activities to keep students on task, calling attention to the classroom rules, yelling in anger, and asking students to shut down computer monitors during their teaching [2].

As we know, every school in Malaysia is supplied with computers in school computer lab. Just as in the usual working environment, the use of computers in teaching and learning environment allows students to interact with the computer through the monitor, using a keyboard, mouse and other mechanical equipment, as well as sitting in front of the computer for a long time. The use of computers can also cause injury to students indirectly when they ignore physical ergonomic position while using the computer and ergonomics in the workstation of school computer lab [3]. Ergonomics is the scientific study of efficiency in other words how to work with aims to facilitate a job for a more comfortable and to improve health and productivity.

In recent years, there has been an increasing concern over the association between computer use and reports of discomfort, aches and pains in students. It is suggested that the physical set-up and individual styles of using interactive media has an influence over this discomfort [4]. A study in New York, United States found that 80% of respondents from the teachers feel less comfortable using

computers at school. They face the problem of pain in his neck and shoulder, spine, wrists and eyes. From this study, the researchers found that knowledge of ergonomics should be included in teacher training and computer courses for teachers to address the health problems they face [5]. If teachers in schools facing this problem, then surely the student will face the same problems during the process of teaching and learning using a computer at school. This statement supported by a study that aims at evaluating ergonomic convenience of the classrooms at Akpinar Multi-Program High School. It is understood that sitting height is not adjustable, the chairs are not adjustable, chairs have no arm rest and the material of desks is not designed in a way to avoid falling [2].

According to a study, each year approximately 10,000 employees who use a computer at work suffer bodily injury on top of their fingers, hands and back. The National Institute of Occupational Safety and Health Malaysia (NIOSH) suggests the need for these workers been exposed on the knowledge about computer ergonomic use at the workplace [6]. By using the same equipment and work with the same situation, the problems faced by these workers would have same implication to the students during the process of teaching and learning using computers at school [3].

A study about computer chairs currently used in schools in the Cape Metropole area, Western Cape, South Africa state that 89% of learners did not match the seat given and 5% of learners matched the chair depth, the majority was found to be too big. In contrast, 65% of the learners matched the chair width dimension. From this research, the school chairs failed standard ergonomics recommendations for the design of furniture to fit the user [7]. A study share about five reasons why we might want to keep at least some desktop computers around classroom state that screen size is essentially an ergonomic issue, but it's not the only one. Some schools are sticking with desktops so they have more control over the placement of the monitor and keyboard, and to provide students with full-sized keyboards with integrated number pads [8]. The question is whether the use of computers in school computer labs poses a negative impact on students teaching and learning process? Children's use of computers supposed to be different from adult's computer use at work.

Moreover, a study developed and tested a child-specific model demonstrating multivariate relationships between musculoskeletal outcomes, computer exposure and child factors. Using pathway modeling, factors such as gender, age, television exposure, computer anxiety, sustained attention (flow), socio-economic status and somatic complaints (headache and stomach pain) were found to have effects on children's reports of musculoskeletal symptoms. The potential for children's computer exposure to follow a dose-response relationship was also evident [9]. Most teachers (89.6%) had received computer training, but few (17.6%) had received ergonomics information during the training and they were not satisfied with their current knowledge of ergonomics [5].

This study seen as an initial step to investigate the negative effects faced by students using computers in school computer lab and the area to which existing laboratory taking ergonomic factors in helping students improve their understanding of the lessons learned. The students who use computer lab at school are at risk to posture problem due to the keyboard position that is too high and not suitable, the monitor is too high and the feet do not touch the floor when sitting. This issue is particularly interesting from the perspective of education as the use of computers in school computer lab by students should be given attention. When using a computer in the school computer lab, the position in terms of an appropriate posture of the position of the head, neck, spine, hands, wrists, waist and thighs should be given attention because it can lead to injury if you're in a position that does not fit.

Thus, the purpose of this study is to achieve the following objectives:

- i. To identify the teacher's knowledge on computer workstation ergonomic in the school computer lab.
- ii. To identify the teachers' knowledge on the correct physical ergonomic position when using the computer.

- iii. To identify the negative effects encountered by students when using the computer in school computer lab.

The findings of this study are hope used as a beneficial to all parties involved, directly or indirectly. First, on behalf of the students who should be able to avoid the injury caused by the use of computers in the unsuitable posture such as Computer Vision Syndrome, Cumulative Trauma Disorder and Repetitive Strain Injuries. The result also helps to increase students' knowledge about ergonomics and use of correct posture when using computers in school computer lab. On behalf of the teacher, the findings of this study can guide them on the importance of ergonomics in a congruence learning environment during the process of teaching and learning.

The finding is also expected to attract teachers' attention and they could use it as a guide to improve their knowledge on computer ergonomic use in order to avoid injury to their students during the process of teaching and learning. Finally, it is hoped that this study will provide guidance to the Ministry of Education in implementing ergonomic knowledge in school computer lab so that students can follow the process of teaching and learning in a harmless and comfortable environment at school.

Methodology

A. Participants

In this study, a sample selected using a random sampling method. In this method, there are several stages of sample selection in the classification performed to meet the needs of researchers. The survey covers a wide area may be difficult for researchers. The sampling in this study was initiated by researchers divided the teachers who use computers at school before specified it to the teacher that use the school computer lab for teaching and learning. To avoid taking the sample size is too large and also to save costs and time, researchers have decided to take a sample of 30 teachers from 5 schools.

B. Procedure

This study will use the descriptive method, the type of research to obtain information about a situation or phenomenon that is taking place. This study was conducted using questionnaires. A survey can be used in research that aimed to gather information on any issue. The purpose of choosing this method is time saving, easier to respondents, costly, faster data collection and respondent in a group can be used [10]. The study is to make a survey to determine the level of teachers' knowledge on ergonomic computer use as well as negative effects faced by students using computers in school computer lab.

This study used questionnaires to be completed by the respondents on the level of teachers' knowledge on ergonomic computer use as well as negative effects faced by students using computers in school computer lab. Questionnaires are used to obtain information about the facts, feelings beliefs, desires and others. Accuracy and response of the subject to the stimulus of the questions will also be available. The questionnaires consist two parts which are parts A and B.

Table 1. Items Distribution

Section	Research questions	Items
A	Respondent information.	3
B	Teacher's knowledge on computer workstation ergonomic	10
	Teachers' knowledge on the physical ergonomic position	10
	The negative effects faced by students.	10

Finding and Discussion

The study covers the demographic background of respondents in terms of gender, professional qualification, the use of computers in school computer lab and the main purpose of using the computer lab at school in part A which are:

- i. Female respondents involved more which are about 23 person or 76.7% of respondents compared to male respondents of up to 7 person or 23.3%.
- ii. Respondents educational qualification consist 29 or 96.7% of the respondents have a degree in their respective fields and only 3.3% have a diploma.
- iii. The use of computers in school computer lab by respondents are 30 or 100% of them use computers in school computer lab.

The next section in table 2, 3 and 4 shows result of the total mean and standard deviation consists of 30 items that have been used to examine the level of teachers' knowledge on ergonomic computer use as well as negative effects faced by students using computers in school computer lab.

Table 2. Teacher Knowledge on Computer Workstation Ergonomic

Item	Mean	Standard deviation
Item C1Q1	3.40	0.62
Item C1Q2	3.40	0.73
Item C1Q3	3.37	0.72
Item C1Q4	3.37	0.61
Item C1Q5	3.43	0.68
Item C1Q6	3.53	0.57
Item C1Q7	3.90	1.03
Item C1Q8	4.13	0.73
Item C1Q9	4.10	0.76
Item C1Q10	4.23	0.82
TOTAL	3.69	0.46

Table 3. Teacher Knowledge on the Physical Ergonomic Position

Item	Mean	Standard deviation
Item C2Q11	3.77	0.90
Item C2Q12	3.83	0.83
Item C2Q13	3.60	0.72
Item C2Q14	3.53	0.73
Item C2Q15	3.33	0.96
Item C2Q16	3.30	0.92
Item C2Q17	3.27	0.90
Item C2Q18	3.43	0.82
Item C2Q19	3.43	0.68
Item C2Q20	3.43	0.86
TOTAL	3.49	0.54

Table 4. Negative Effects Faced by Students

Item	Mean	Standard deviation
Item C3Q21	2.70	1.21
Item C3Q22	2.83	1.09
Item C3Q23	2.80	0.96
Item C3Q24	2.43	0.90
Item C3Q25	3.93	0.76
Item C3Q26	4.14	0.69
Item C3Q27	4.29	0.98
Item C3Q28	2.63	1.03
Item C3Q29	2.17	0.75
Item C3Q30	2.10	0.76
TOTAL	2.50	0.73

Overall, a conclusion that can be made is the respondents have a high level of knowledge about ergonomic computer workstations in the school computer lab. The overall mean for the question of this study is 3.69. Respondents also had a moderate level of knowledge about the physical ergonomic position while using the computer. The overall mean for the question of this study is 3.49 and lastly, the respondents have a moderate knowledge about the negative effects faced by students using computers in school computer labs with an overall mean for the question of this study was 2.5.

Conclusion

The result of these findings can be concluded that, in general, these teachers have a high level of knowledge about computer workstation ergonomic in the school computer lab and a moderate level of knowledge about the physical ergonomic position while using the computer. The study also found that the negative effects faced by students using computers in school computer lab are at the average level. Effort should be made by the various parties involved to improve teachers' knowledge on ergonomic computer use and reduce the negative effects faced by students using computers in school computer lab

Courses related to current ergonomic knowledge of computers in the school computer lab should be conducted to improve the knowledge of teachers about ergonomic in computer use during the process of teaching and learning in the school computer lab. There are many types of courses that been offered to enhance the knowledge of teachers about ergonomic computer workstation and ergonomics or physical position while using the computer to help them avoid the incidence of health problems to the students as well as to increase their comfort during the process of teaching and learning. This is very important because a study investigated the effect of a school-based ergonomic intervention on children posture and discomfort while using computers highlights the need for continuing concern about the physical effects of children's computer use and the implications of school-based interventions [5].

Approximately two-thirds of the students reported that they had not received any information in school about appropriate workplace layout and techniques for computer work [4]. Teachers are supposed to expose students in advance about the ergonomics when using the computer. Students should also be given exposure on ergonomic knowledge while using the computer as they are the victims if negative effects occur when using the computer. The students should be given guidelines in the use of computers with an appropriate and safe environment in order to avoid health problems occur during the process of teaching and learning using computers in school computer lab.

Besides that, parents should also be aware of the possible health problems faced by their children due to the use of computers that do not meet the ergonomic use of computers either at home

or at school while undergoing the process of teaching and learning. As a smart consumer, it is better for parents to avoid this problem as the cost of treatment if you have health problems such as repetitive strain injury and cumulative trauma disorders are high. The best way to handle it is to equip them with knowledge about ergonomic computer use. Children in primary school tend to work at computers in school for relatively short periods of time yet there is evidence that even this can cause discomfort. More importantly is the fact that children are learning work practices and habits that will carry through to home computer use and through to adulthood when they will be spending considerably longer periods of time at computers [5].

This study is a survey of the level of teacher knowledge about ergonomics and negative effects faced by students using computers in school computer lab. Therefore, it is important for teachers to become aware of ergonomics which include some elements of anatomy (the study of human body structure), physiology (human nature) and psychological (mind) of man. It is the duty of a teacher to be aware of ergonomics in the use of computers by students in the school computer lab in order to assemble a comfort environment and excellent student's health.

References

- [1] Timothy J. N., Donald A. S., James D. L. and James D. R. (2000). *Instructional Technology for Teaching and Learning Instruction, Integrating Computers and Using Media*. 2nd Ed. Upper Saddle River, New Jersey: Prentice Hall.
- [2] Deryakulu, D., and Altun-Akbaba, S. (2014). Classroom Management in Middle School Computer Labs: The Turkish Experience. *Journal for Computing Teachers*, 1(1), 1-11
- [3] Hashim, S., & Idris, A. R. (2007). *Tahap Pengetahuan Guru Tentang Ergonomik Dan Kesan negatif Yang Dihadapi Pelajar Semasa Menggunakan Komputer di Makmal Komputer Sekolah* (Degree dissertation, Universiti Teknologi Malaysia).
- [4] Dockrell, S., Fallon, E., Kelly, M., Masterson, B., & Shields, N. (2007). School children's use of computers and teachers' education in computer ergonomics. *Ergonomics*, 50(10), 1657-1667.
- [5] Williams, C. D., & Jacobs, K. (2002). The effectiveness of a home-based ergonomics intervention on the proper use of computers by middle school children. *Work*, 18(3), 261-268.
- [6] Utusan Malaysia (2006). *10000 pekerja yang menggunakan komputer ditempat kerja mengalami kecederaan anggota badan bahagian atas: NUTP*, Newspaper : Utusan Malaysia 7 Mac 2006.
- [7] Van Niekerk, S. M., Louw, Q. A., Grimmer-Somers, K., Harvey, J., & Hendry, K. J. (2013). The anthropometric match between high school learners of the Cape Metropole area, Western Cape, South Africa and their computer workstation at school. *Applied ergonomics*, 44(3), 366-371.
- [8] Meyer, L. (2014). 5 Reasons Schools Still Need Desktop Computers: Despite the Growth of Mobile Learning, Desktops Still Play Important Roles in the 21st Century Classroom. *THE Journal (Technological Horizons In Education)*, 41(4), 20.
- [9] Shuai, J., Yue, P., Li, L., Liu, F., & Wang, S. (2014). Assessing the effects of an educational program for the prevention of work-related musculoskeletal disorders among school teachers. *BMC public health*, 14(1), 1211.
- [10] Mohamad Najib Abdul Ghafar (1999). *Penyelidikan Pendidikan. Johor Bahru* : Penerbit Universiti Teknologi Malaysia.

THE APPLICATION OF MULTIPLE INTELLIGENCE THEORY DURING THE INCULCATION OF HIGHER-ORDER THINKING SKILLS IN HISTORY SUBJECT

Sivapakkiam a/p Ramasamy, Fadzilah Abd. Rahman, Umi Kalthom Abdul Manaf & Rozita
Radhiah Said

Faculty of Educational Studies, University Putra Malaysia
sivawpkl@gmail.com, dzila@upm.edu.my, umizat90@upm.edu.my,
radhiahrozita@upm.edu.my

ABSTRACT

In accordance to the needs and current educational policy, higher-order thinking skills (HOTS) have become the main focus in daily teaching and learning processes. History is regarded as a must-pass subject for the Malaysia Certificate of Education (SPM) since the year 2013. Therefore, the Ministry of Education of Malaysia (MoE) highly recommends teachers teaching History subject to apply various teaching strategies that could attract students' interest towards learning the subject. One of which is the Multiple Intelligence Theory, proposed by Howard Gardner in 1983. A qualitative study was carried out to identify the types of multiple intelligence applied and the teaching approaches that complement the identified intelligence during the inculcation of HOTS in History subject. The samples involved were three Excellent History Teachers (*Guru Cemerlang Sejarah*). The data were collected through the process of triangulation, of which teaching and learning process observation, interview, and document analysis. The Data were then analysed and triangulated using the Atlas.ti 7.0 software. The findings showed that all informants applied the verbal-linguistic, interpersonal, and visual-spatial intelligence dominantly during the process of inculcating HOTS in History subject. Excellent History Teachers were also found complementing other teaching approaches such as discussion, questioning, and graphical presentation with the appropriate multiple intelligence in inculcating HOTS among students. This study gives input to History teachers on how to apply the Multiple Intelligence Theory towards inculcating the HOTS in History subject through various teaching strategies.

Keywords: multiple intelligence, higher-order thinking skills, Excellent History Teachers, teaching approaches

Introduction

The national educational system is currently aiming towards developing a productive and innovative society. As a nation that is rapidly developing in various aspects of development, in parallel, educational sector is expected to evolve and uphold a new set of paradigm, of which in return will promote innovations in all aspects of education. Improvements and the introduction of new educational policies within the educational system are seen as a crucial step in elevating the dignity and status of Malaysia in the eyes of the world.

Background of Study

The inculcation of thinking skills is not new within the national educational system. The Critical and Creative Thinking Skills (KBKK) have been implemented since the 1990s. Within the Malaysia Education Blueprint (PPPM) 2013-2025, the inculcation of HOTS element is seriously emphasised. The MoE has defined HOTS as the ability of a student to apply the knowledge, skills, and values that he or she has acquired during the process of postulating and reflecting problems, decision-making, innovation, and creativity (Lembaga Peperiksaan, 2013).

HOTS involve high intellectual skills. According to PPPM, every student has to acquire various cognitive skills, including postulation and critical thinking, creative, as well as innovative. Since it is found that these skills are not being given the emphasis, in return, students are found lacking in applying the knowledge and think critically beyond the context of academic (Kementerian Pendidikan Malaysia, 2013). HOTS requires an individual to think before explaining a phenomenon based on a thorough

analysis, evaluation, idea generation, choices in decision-making, problem-solving technique, and proper planning. MoE gives a serious emphasis on HOTS inculcation among students in order to produce a generation of whom able to compete and being productive globally. Students with HOTS are given the freedom to compare, contrast, organise, classify, and identify cause and effect according to their opinion and views of their own.

HOTS in the context of History subject will enable students to give answers in many forms, creating new ideas, of which could help them to view History from various perspectives regarding an event and connect them with current issues. This kind of exercise is what is known as creative, innovative, and critical thinking skills among students. Therefore, in order to make sure the success of inculcation of HOTS among students, teachers need to act as significant medium or a catalyst. Indeed, such responsibilities must be carried out wholeheartedly. Teaching approach in History subject must be diversified by integrating several learning theories and proper techniques that are in accordance with the needs of today's educational settings (Ahmad, Seman, Awang & Sulaiman, 2015).

Multiple Intelligence Theory is a learning theory purposed by Howard Gardner in 1983. Multiple Intelligence Theory is important due to its close relationship with the field of education. It is widely accepted that students do possess various intelligence and the way they think, act, and learn are indeed different from each other (Gardner, 1993). Theoretically, multiple intelligence is comprised of eight categories, of which each describing the tendency of an individual; verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical, intrapersonal, interpersonal, and naturalistic (Gardner, 1983). Spiritual intelligence is recently added by Gardner in 1999. Various studies were carried out to prove that an education based on multiple intelligence is indeed capable of developing students' talents and potential more as compared to an education that is not.

Problem Statement

An interesting teaching approach will enable students to actively engage in teaching and learning activity of History subject. However, the majority of History teachers are found still applying outdated teaching approaches during their daily teaching and learning activities. Due to the fact that current teaching practices are focusing more on excellence in examinations and 'A' count, History teachers are often observed practising the memorisation technique during their teaching and learning sessions. History teachers are also found lacking in implementing innovative teaching approaches, of which if implemented will enable them to improve and diversify their teaching skills during the process of producing excellent students in History subject (Jabar, 2010).

Perhaps one of the reasons such predicament occurred is due to fact that teachers' knowledge on implementing HOTS is still at infancy stage and therefore they are unable to emphasise HOTS as the main elements during their teaching and learning activities (Ramasamy, Fadzilah, Umi Kalthom, Habsah, Rozita, 2016). Khairul (2014) states that the main problem with Malaysia's thinking skills inculcation is that teachers are not given the required knowledge (declarative) and teaching skills (procedural). Since teachers are still lacking in HOTS, they are unable to inculcate HOTS during their teaching and learning sessions.

Most students are able to answer simple and short questions since it only requires them to memorise facts as compared to problem-based and opinion-based questions (Hamimi, 2013). In doing so, students are only applying the Low-order Thinking Skills (LOTS) rather than HOTS. Students are also found unable to relate past events with current issues. This is due to the lack of HOTS exposure among students.

Research Objectives

This study was meant to identify types of multiple intelligence applied by the History teachers in order to stimulate HOTS and to elaborate the teaching approaches that were simultaneously implemented with multiple intelligence in order to stimulate HOTS among students.

Research Questions

Based on the research objectives, two research questions were derived, of which firstly, what were the types of multiple intelligence applied by History teachers during their teaching and learning sessions in order to stimulate HOTS among students? And secondly, what were the teaching approaches used simultaneously with multiple intelligence in order to stimulate HOTS among students?

Research Methodology

A qualitative case study was implemented as the design of this study. The case was the usage of Multiple Intelligence Theory during the inculcation of HOTS. This study was carried out in two schools in the Federal Territory of Kuala Lumpur and a school in the Federal Territory of Putrajaya. The locations were chosen due to several factors such as schools with Excellent History Teachers, and various categories of school; Daily Secondary School, Boarding School, and High Achieving School. This study involves three Excellent History Teachers (GCS1 - GCS3) from various service grades and teaching experiences. Samples were full-time teachers who are still in service.

Research Findings

The data collected were analysed using the Atlas.ti 7.0 software. The transcriptions were preliminarily prepared and validations were made by the informants involved. Next, the process of code determination was carried out based on the research objectives. The overall analysis was made based on the stipulated research questions.

- i) The first research question was, what were the types of multiple intelligence applied by History teachers during their teaching and learning sessions in order to stimulate HOTS among students?

Verbal-linguistic Intelligence

All informants were found applying the verbal-linguistic intelligence as the dominant intelligence in stimulating HOTS among students. Students were given the opportunity to debate, giving an opinion, criticising peer opinions, and providing solutions to problems. Students were also found able to think with words in delivering their argumentation verbally and in a written form.

Interpersonal Intelligence

This type of intelligence was applied during the group work assignment, of which observed during the informants' teaching and learning sessions. Students were observed interacting with each other within their designated groups during the discussion of answering HOTS questions. The interaction amongst them, in return, produces high-order answers. This kind of answers can only be materialised through collaboration among group members, acknowledging others' opinions, and accepting recommendations from all group members. The inculcation of teamwork skills is observed throughout the GSCs' teaching and learning sessions. Indirectly, students were observed portraying their interpersonal intelligence. Teachers were also observed effectively inculcating HOTS among student during the process of ideas sharing among group members. Through the application of this type of intelligence, teachers were able to implement the student-centred learning teaching approach effectively.

Visual-spatial Intelligence

The application of visual-spatial intelligence was observed routinely among all of the GCSs in stimulating HOTS among students, especially through the usage of visualisation. Students were observed able to tell and visualise history events through a graphical presentation. Teachers were found stimulating HOTS among students through their abilities in giving their ideas through graphical sketches. Whenever students are able to illustrate their facts and ideas in the form of graphical presentation, it gives the impression that students are actually understood clearly the learning outcomes of the day. Instances of HOTS-worthy graphical presentation analysed in this study are,

- ii) What were the teaching approaches used simultaneously with multiple intelligence in order to stimulate HOTS among students?

Discussion Approach

Discussion approach was observed simultaneously implemented with multiple intelligence such as verbal-linguistic, interpersonal, and visual-spatial. GSCs were observed giving HOTS-worthy questions to students to be discussed in their groups. During the discussion sessions, interpersonal intelligence was applied, whereas, during the presentations, verbal-linguistic and visual-spatial intelligence were applied by the students.

Questioning Approach

The stimulation of HOTS in History subject was observed through questioning approach. Questions that are based on various levels of thinking order were prepared and ready to be discussed and debated in groups. Students were stimulated to answer questions in the form of verbal communication and writings, with the use of their verbal-linguistic intelligence.

Graphical Approach

Findings showed that graphical approach was simultaneously implemented with visual-spatial intelligence. GCS 1 was observed applying the graphical approach during her teaching and learning session in order to stimulate HOTS among students. Apart from GCS 1, GCS 2 was also observed practicing the same graphical approach during her teaching and learning session. Students were observed presenting their discussions through pictures and mind map. This approach was also seen able to stimulate students' thinking skills towards History lesson at the level of imagination. Whenever students are imagining things, indirectly, their HOTS are also stimulated.

Discussion

This study provides input on the success of simultaneous implementation of Multiple Intelligence Theory and History teaching approaches towards stimulating HOTS among students. Verbal-linguistic and interpersonal intelligence are two most dominant intelligence that need to be applied during the History teaching and learning session. Both intelligences need to be supported with other types of intelligence such as visual-spatial, kinesthetic, and musical for a much more effective inculcation of HOTS. Findings of this study also showed that discussion, questioning, and graphical approaches were simultaneously implemented with verbal-linguistic, interpersonal, and visual-spatial intelligence. The teaching approaches and intelligence observed and discussed in this study were found having strong relationships among them during the process of HOTS inculcation among students.

Research Implications

This study gives several impacts towards the theory and practice of History subject's curriculum in Malaysia. The main impact is none other than achieving the main objective of MoE's—producing individuals with HOTS so that they will be able to compete globally.

History teachers' Teaching Plans

This study shows the importance of teacher's daily teaching plan (RPH). The application of learning theory such as Multiple Intelligence Theory as well as the appropriate teaching approaches is found effective in stimulating students' involvements in teaching and learning activities. Findings of this study also suggest that teachers should be aware and sensitive towards students' multiple intelligence during their teaching and learning sessions. Therefore, teachers are urged to plan their teaching and learning sessions towards promoting students' multiple intelligence.

Integration of Multiple Intelligence Theory during daily Teaching and learning Activities

This study revealed that the integration of multiple Intelligence Theory during teaching and learning activity of History teachers did manage to create interest of students towards learning History. Creative teachers are those who are able to apply multiple intelligence in relevant topics and those who are able to practice the appropriate teaching approaches that are suitable to be implemented

simultaneously with multiple intelligence. This approach, in return, helps teachers to conduct their teaching and learning sessions in the most enjoyable state as compared to the conventional teaching approach, of which focuses on teacher-centred technique. Indirectly, teachers will be able to inculcate HOTS easily among students.

History Subject Curriculum

According to the PPPM 2013-2015, an effective implementation of HOTS requires curriculum of all subject matters to be carefully coordinated. HOTS should be treated as the main elements within the national curriculum and all subject matters are expected to embrace the elements fully. In this regard, findings of this study will give impact to the current curriculum review for History subject. The elements of HOTS should be given the emphasis during the development of curriculum in order to make sure the accumulation of HOTS is possible in Malaysian educational settings.

Recommendations

The MoE should make sure all pre-service teachers are given the exposure regarding the appropriate application of Multiple Intelligence Theory and HOTS during their teaching and learning sessions. Teachers should be given the appropriate in-service training from time to time regarding HOTS inculcation, supported by several learning theories. The practice of integrating the Multiple Intelligence Theory and relevant teaching approaches should be given the emphasis since preschool.

Excellent History Teachers should act as main references when it comes to knowledge sharing on the best practices to inculcate HOTS among students. It could be done through collaborative workshops in teaching and learning among schools in a certain area or with the State Education Departments. Through this kind of knowledge and skills sharing by these Excellent Teachers to ordinary teachers, History subject will finally be known for its interesting and mind tickling teaching and learning session among students.

Recommendations for Future Research

This study only involves Excellent History Teachers. The findings do not represent ordinary History teachers. Therefore, future studies should involve ordinary teachers in order to understand the difference of HOTS inculcation among Excellent History Teachers and ordinary History teachers. The number of samples needs to be increased in order to gain more information pertaining to the application of Multiple Intelligence Theory and how HOTS are actually inculcated.

This study only involves secondary school students. History is a relatively new subject at primary schools. Therefore, future studies should be carried out at primary schools particularly towards the effectiveness of HOTS implementation in History subject. The recommendations are intended to observe the extent of HOTS stimulation, supported by multiple intelligence at schools. It is recommended that in the future, these studies are carried out using the experimental research design in order to determine the effectiveness of Multiple Intelligence Theory's application.

Conclusion

Findings of this study illustrate the effectiveness of HOTS inculcation through Multiple Intelligence Theory, as well as an excellent teaching plan. Teachers of whom are regarded as main agents of change in implementing MoE policies need to be more creative and critical in planning and implementing their teaching and learning activities. It is undeniable that HOTS is regarded as a catalyst for our educational system, of which in return will elevate our nation's advancement in the economy as well as well-being. Findings of this study are also hoped to illustrate clearly to the relevant authorities of how important it is for History teachers to apply Multiple Intelligence Theory in their teaching and learning sessions and how important it is to change the scenario of learning History from traditional to creative and innovative ones. The aim of MoE in producing HOTS generation can only be fulfilled if all educational entities are ready and willing to change the current practices of education in this country.

References

- Ahmad, A. R., Seman, A. A., Awang, M. M., & Sulaiman, F. (2015). *Application of Multiple Intelligence Theory to Increase Student Motivation in Learning History*, 7(1), 210–219. <https://doi.org/10.5539/ach.v7n1p210>
- Anderson, L. W. & Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching and Assessing*: New York. Longman Publishing.
- Breakstone, J., & Smith, M. (2013). The TPS Journal - Assessing Historical Thinking Skills Using Library of Congress Primary Sources, 1–8.
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York, NY: Basic Books.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York, NY: Basic Books.
- Gardner, H. (1999). *Intelligences reframed: Multiple intelligences for the 21st century*. New York, NY: Basic Books.
- Hamimi, K. A. B. (2013). Kemahiran Pelestarian Pemikiran Dalam Pendidikan Sejarah. Seminar Pendidikan Sejarah Dan Geografi, 2013, 29–30.
- Jabar, B. (2010). Pelaksanaan Kemahiran Pemikiran Sejarah dalam Pengajaran Guru-guru Sejarah: Satu Kajian Kes di Daerah Hilir Perak.
- Kementerian Pendidikan Malaysia. (2013). Pelan Pembangunan Pendidikan Malaysia 2013-2025, 2025. doi: 10.1016/j.tate.2010.08.007
- Khairul. (2014). Tahap Kesiapan Guru Pelatih Institut Pendidikan Guru Dalam Latihan Mengajar. <http://doi.org/10.1017/CBO9781107415324.004>
- Peperiksaan, L. (2013). 11 anjakan yang terkandung dalam Pelan Pembangunan Pendidikan 2013-2025, 1–25.
- Rajendran, N. (2001). Pengajaran Kemahiran Berfikir Aras Tinggi: Kesiapan Guru Mengendalikan Proses Pengajaran Pembelajaran. Kertas Kerja Ini Telah Dibentangkan Rajendran, N. S. (2000). Kesusasteraan Sebagai Wahana Mengajar Kemahiran Berfikir Aras Tinggi.
- Ramasamy, S., Fadzilah A.R., Umi Kalthom. A.M, Habsah, I., Rozita, R.S. (2016). Journal of Modern Education Review, Volume 6, Number 9, 612-621. NY: Academic Star.

CHALLENGES OF PRIMARY SCHOOL TEACHERS IN THE IMPLEMENTATION OF STANDARD-BASED ASSESSMENT SYSTEM

¹ Rubiah Dalail, ²Chan Yuen Fook, & ³Gurnam Kaur Sidhu

¹Malaysian Examinations Syndicate, Ministry of Education

²Faculty of Education, Universiti Teknologi MARA

³Faculty of Education, Segi University & Colleges

drubiah@ymail.com, yuenfook@salam.uitm.edu.my, gurnamsidhu213@yahoo.com

ABSTRACT

In 2011, Malaysia's Ministry of Education has implemented a new education policy called Standard Based system for Malaysian national primary schools. It is known as Primary School Curriculum Standard or *Kurikulum Standard Sekolah Rendah* (KSSR) which focuses on improving the learning process of the students. However, there are many implementation concerns that need to be addressed in order to ensure the effectiveness of this current system. Therefore, this study intends to explore teachers' challenges in the implementation of the standard-based system in Malaysian primary schools. A descriptive correlational research design which integrated survey questionnaires and interviews has been employed to a total of 290 teachers from national primary schools in Selangor. The findings of the study showed that teachers were facing some key challenges such as belief, teaching and learning, motivating students, support group and professional development factors that hinder the process of the system in schools. Identifying and overcoming these factors will enhance the implementation of standard-based assessment system in Malaysia.

Keywords: Standard-based assessment; performance standard; formative assessment; summative assessment; *Kurikulum Standard Sekolah Rendah* (KSSR)

Introduction

The traditional norm-based system which focuses on high stakes examinations has been heavily criticized as having detrimental effects on student learning and should be reduced to minimum (Harlen & Crick 2003; Morrison & Tang 2002; Black 1998). Hence, in 2011, the standard-based system has been introduced in Malaysian public schools to replace the norm-based system. The current education system which was initiated by the Ministry of Education is called the Primary School Curriculum Standard or *Kurikulum Standard Sekolah Rendah* (KSSR) and Performance Standard (PS) starting from Year 1 to Year 6 in the primary schools (Office of Director General, 2010; Examinations Syndicate (2011c). The introduction of KSSR and PS were set in place a form of school-based assessment (SBA) integrated into the curriculum, which promotes new assessment approaches in the classroom as depicted in Figure 1.

The aim of this current system is to improve the learning process rather than the results of the assessment (Kirton, Hallam, Peffers, Robertson, & Stobart, 2007; Stiggins, 2005; Stobart, 2008). The standard-based system reflects a convergence of policy trends, the importance on using formative authentic assessments and the belief that effective education transformations work in alignment toward a common set of goals.

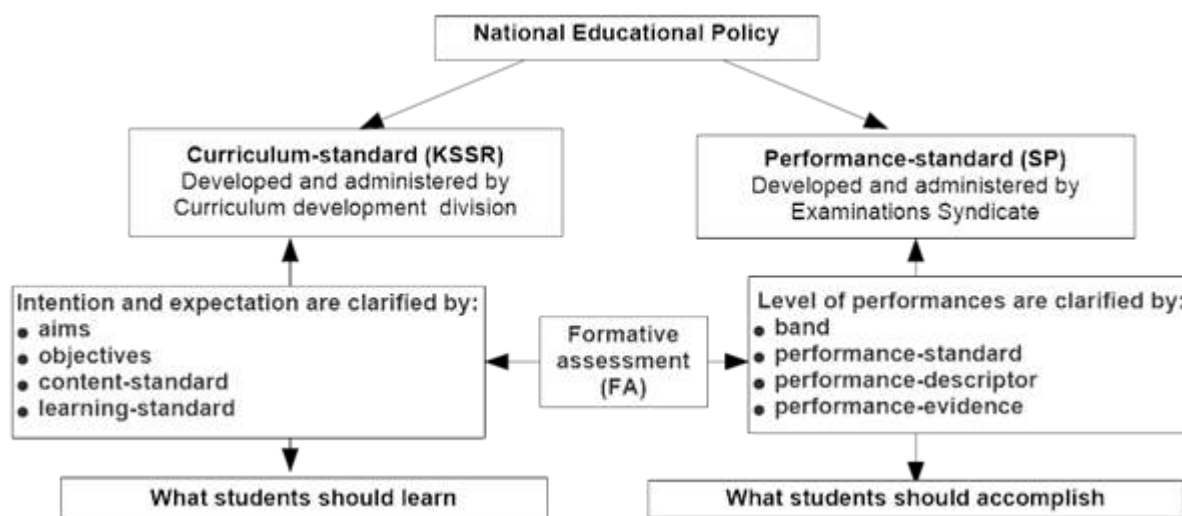


Figure 1: Standard-based Assessment Approach in Malaysian Schools

Figure 1 shows that curriculum and assessment standards will provide a coherent framework for the enhancement of learning and assessment in Malaysian schools. Although there are undeniably advantages related to this standard-based system, the implementation could still pose a number of challenges to many parties in schools. Hence, this paper attempts to look at the challenges of implementing the standard-based assessment from teachers' perspective.

In fact, the notions of what constitutes effective standard-based school system have progressed over time (Massell, 2008). Despite research on the reformation of school system has been changed from norm-based to standard-based, there are implementation concerns that need to be addressed. The controversies and disputes that arose from the issues of the implementation of standard-based system have been critically discussed among educators and stakeholders. One of the key impediments of standard-based system are the challenges that teachers faced in the implementation of the current system. There are legitimate questions about the issues relating to the challenges of the system from teachers' perspective. As teachers play an active role in ensuring the effectiveness of standard-based system, therefore it is important to address this issue from teachers' perspective in order to improve education system in Malaysian schools.

Literature Review

In Malaysia, assessment system in pre-schools, primary and secondary schools are re structured under the National Educational Assessment System (NEAS). The Examinations Syndicate is the sole agency given authority by the Educational Act 1996 to strategise the execution of educational assessment in the Malaysian education assessment system through central examinations and school-based assessment (SBA). Central examination certificates are awarded to students who sit for the examinations at certain levels of schooling such as (1) Ujian Penilaian Sekolah Rendah (UPSR) for the primary schools, and (2) Sijil Pelajaran Malaysia (SPM) for the higher secondary level (Examinations Syndicate, 2011a). On the other hand, the SBA report is presented to the students at the end of every schooling year by the schools. Undeniably, this SBA assesses a broader range of holistic development of a student in different aspects of psychomotor, cognitive and affective, as compared to the central examination which assesses only cognitive achievement.

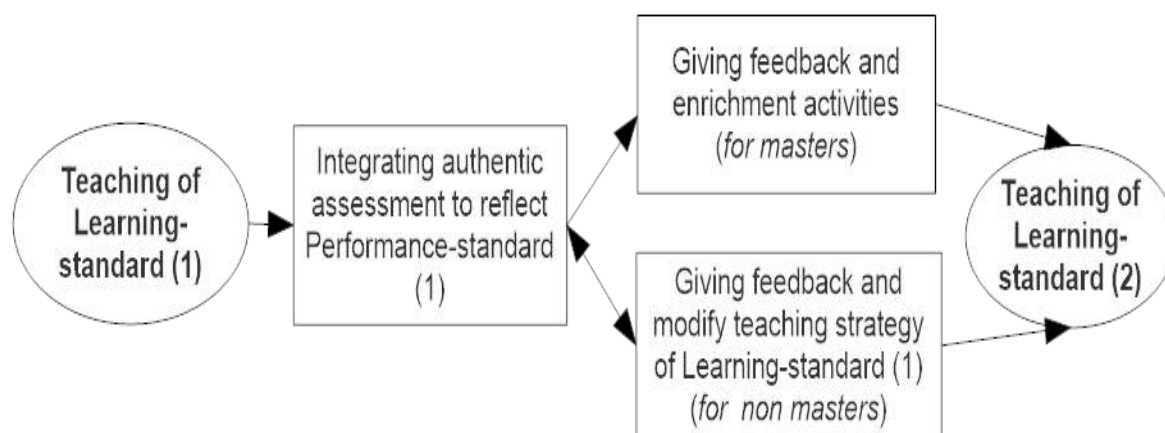


Figure 2: The integration of performance assessment in teaching-learning process

Figure 2 shows an example of the integration of performance assessment of standard-based system in the cycle of a unit of teaching and learning practice in a classroom setting featuring an element of feedback after an assessment is conducted. Figure 2 shows that after a teacher taught for example, learning standard (1), they will continue the process of teaching-learning by integrating assessment related to Performance standard (1). A single performance standard operates for a particular student at a particular stage of development. The quality of performance of a student rises steadily as the student progresses through various performance standards (Examination Syndicate, 2012). The more able students who manage to present evidence on Performance standard (1) will be given motivational feedback and enrichment activities to advance to the next tier of learning, i.e. learning standard (2). In fact, many feedback obtained have indicated the existence of a ‘gap’ between mastery learning and non-mastery learning (Taras, 2005). Hence, the standard-based system will benefit students and teachers alike. In this new system, teachers use feedback to strategise their teaching-learning, while students use feedback to monitor the strengths and weaknesses of their performance, so that aspects associated with success and quality of learning can be recognised and reinforced and unsatisfactory aspects can be modified or improved (Sadler, 1989; Clark, 2011).

Obviously, implementation is the fundamental step to transform a system. According to Fullan (2007), implementation consists of putting into practice ideas and structures new to the implementers. Fullan (2007, p. 30) added that there are at least three important components to be dealt with while implementing a new policy: (1) the alteration of beliefs, (2) the use of new materials and (3) the use of new approaches. In Malaysia, with that notion, the implementation of performance standards in schools also requires (1) the change of teachers’ beliefs in the current assessment practice (2) the knowledge of performance assessment, and (3) the new approaches to classroom assessment.

In order to set up an effective implementation of this performance standard (PS), the Ministry of Education needs competent teachers who have the knowledge, skills, beliefs to develop their professional selves. These attributes are the qualities that most teachers should have as pre-requisites to implement the new educational system. This PS needs to inspire teachers to garner ownership, commitment and clarity about the nature of the transformation because the execution of PS can only be achieved if teachers as change agents can behave strategically (Fullan, 2007) in the classroom. However, Fullan (2007, p. 31) also warrants that,

“It is very difficult to define once and for all exactly what the objective dimensions of change are with respect to materials, teaching approach and beliefs, because they may get transformed, further developed, or otherwise altered during the implementation.”

The reason behind the implementation of a new education policy is usually due to the demands of complex global society and educated citizens for improvement (Fullan, 2007). Fullan (2007) believes

how an implementation is put into practice determines its success. Hence, some strategies do not seem to work most of the times, and professional development of teachers has been ineffective and wasteful more times than not. Under this new system, there have been great new advances in knowledge.

“It requires intensive action sustained over several years to make possible both physically and attitudinally for teachers to work naturally together in joint planning; observation of one another’s practice; and seeking, testing and revising teaching strategies on a continuous basis.” (Fullan, 2007, p. 7).

Based on that note, the challenge for the teachers has to be effective lifelong learners whose ultimate goal is visualised by Novak (2010, p. 23) who stated that “meaningful learning underlies the constructive integration of thinking, feeling and acting leading to empowerment for commitment and responsibility.” However, teachers’ unfamiliarity with PS might pose risks of incompatibility. Consequently, teachers adopt the implementation on the surface, whereby the forms and structures of the processes are altered but not the practice of teaching (Fullan, 2007). Since many teachers are still not proficient in classroom assessment skills (Boon, 1991), it has led to assessment information that has not been fully utilised.

In response to the implementation of performance standard in primary schools in Malaysia, teaching and assessment philosophy and practices have been aligned with the learning standard. In order to ensure a success, teachers need to collaborate and participate in the improvement of their classroom practice. In that, teachers should base their actions on the way they believe things to be or their perceptions. Since the objective of implementing PS is to change the educational practice and produce quality students, hence the execution of PS requires constant vigilance and measurement. Proper measures need to track not just the inputs of teachers’ competencies and beliefs but also the changes that occur during the implementation and the output of students’ quality. Therefore, in order for significant assessment change to occur in schools, the PS needs to be created and implemented by teachers themselves. Therefore, this current study intends to explore teachers’ challenges while implementing the standard-based system in Malaysian schools.

The research employed multiple instruments in the study namely survey questionnaire and interviews protocol to help balance out the weakness in each data collection method (Gray, 2004; Dudley, 2005). A descriptive-correlation research design has been used to corroborate findings within this study. Significantly, the more the measures corresponded with each other, the more the researcher would be confident about the findings (Cohen, Manion & Morrison, 2007).

The state of Selangor was randomly selected from the 15 states in Malaysia as the location for this study. Generally, Selangor is similar to all other states in Malaysia as the respondents in Selangor were using the same curriculum, textbooks and directions from the Ministry of Education, Malaysia. The researchers have stratified the sample to reproduce population characteristics as noted by Bryne (2002, p. 73) “if we want a sample that looks like population, we must stratify the sample.”

Stratified random sampling technique has been used to choose respondents to be involved in this study. Finally, a total of 290 teachers in which 237 of them were females and 53 were males have been selected for this study. Among them, 189 of the respondents were from urban schools, while the other 101 were from rural schools.

A self-assessment survey instrument of Teachers’ Classroom Assessment Practice Survey (TCAPS) has been used in this study. The researchers used the self-assessment approach in the survey as suggested by Saville (2008, p. 270) because “self-assessment can be described as the process undertaken by individuals or organizations to study the discrepancies that exist between what they say they do or want to do and what they actually do or what actually happens”.

Methodology

The research employed multiple instruments in the study namely survey questionnaire and interviews protocol to help balance out the weakness in each data collection method (Gray, 2004; Dudley, 2005). A descriptive-correlation research design has been used to corroborate findings within this study. Significantly, the more the measures corresponded with each other, the more the researcher would be confident about the findings (Cohen, Manion & Morrison, 2007).

The state of Selangor was randomly selected from the 15 states in Malaysia as the location for this study. Generally, Selangor is similar to all other states in Malaysia as the respondents in Selangor were using the same curriculum, textbooks and directions from the Ministry of Education, Malaysia. The researchers have stratified the sample to reproduce population characteristics as noted by Bryne (2002, p. 73) “*if we want a sample that looks like population, we must stratify the sample.*”

Stratified random sampling technique has been used to choose respondents to be involved in this study. Finally, a total of 290 teachers in which 237 of them were females and 53 were males have been selected for this study. Among them, 189 of the respondents were from urban schools, while the other 101 were from rural schools.

A self-assessment survey instrument of Teachers’ Classroom Assessment Practice Survey (TCAPS) has been used in this study. The researchers used the self-assessment approach in the survey as suggested by Saville (2008, p. 270) because “*self-assessment can be described as the process undertaken by individuals or organizations to study the discrepancies that exist between what they say they do or want to do and what they actually do or what actually happens*”.

Research Finding

This section listed the findings on the challenges faced by teachers in implementing standard-based system and discusses the challenges that teachers face in implementing the PS system at their respective schools. Obviously, the process of transformation of this new policy poses many challenges to teachers in justifying their routine activities. Results of the study showed the dimension of the challenges faced by teachers in the implementation of this new system. The evident from the data analysis was shown in Table 1.

Table 1. Dimension of Challenges Faced by Teachers

Dimensions	N	Mean	SE	SD
Belief factor	289	3.87	.042	.718
Teaching-learning factor	290	3.37	.042	.723
Motivating students factor	290	3.06	.047	.798
Support group factor	290	2.92	.044	.744
Professional development factor	290	2.74	.051	.876

Indicators: 1=Strongly disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly agree

From the findings obtained from the questionnaire, it was identified that teachers face distinct challenges in their work including belief factor, teaching-learning factor and motivating students factor. Table 1 presented teachers’ challenges according to the descending order of the mean scores. Overall, teachers in this study were almost agreed that the belief factor (M=3.87, SD=.718) was the number one challenge in their practice. Teachers were also moderately undecided that the teaching-learning factor (M=3.37, SD=.723) was a challenge to them. The result indicated that the motivating students factor (M=3.06, SD=.798) was rated within their control as they were undecided on this factor as a challenge. However, the support group (M=2.92, SD=.744) and professional development factor (M=2.74, SD=.876) were not considered as challenges to teachers as they slightly disagreed to consider them as challenges. The detailed results of items in these dimensions were presented in the following

paragraphs. Overall, teachers in the study perceived that they were undecided and disagreed on determining their practice in implementing performance-standard as challenges.

Belief factor

The first item in Table 2 indicated that teachers were moderately agreed that the biggest challenge in conducting performance assessment was related to data entry point ($M=4.48$, $SD=.83$). They believed that their work was pending due to poor internet connectivity and periodic system maintenance in schools.

Table 2. Teachers' Challenges in Belief Factor

Challenges	<i>N</i>	<i>M</i>	<i>SE</i>	<i>SD</i>
Data entry work pending due to poor internet connectivity and periodic system maintenance	289	4.48	.049	.83
Teacher is not convinced on the effectiveness of observation method	288	3.58	.062	1.05
Formative assessment cannot challenge the effectiveness of summative assessment	289	3.55	.059	1.01

Indicators: 1=Strongly disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly agree

Teachers who were asked about poor internet connectivity and periodic system maintenance on School-based Assessment Management System (SPPBS) in the interview further confirmed this challenge. Their comments were often despairing, among the key challenges cited by teachers were related to poor internet connectivity which has slowed down the data entry and printing. As a result, teachers had to redo the data entry many times and this has encroached into their personal hours.

The second item in Table 2 indicated that teachers in the study were not convinced on assessment via observation method as they were moderately undecided on the effectiveness of the observation method ($M=3.58$, $SD=1.05$) in the PS. In fact, the stress related to challenges in classroom assessment faced by most teachers was often associated with flexible approaches in the new practices of observation method which caused many uncertainties in the scoring.

The third item in the belief factor dimension indicated that the traditional way of teaching was preferred by most teachers as the effectiveness of summative Assessment (SA) over formative assessment (FA) has dominated teachers' beliefs ($M=3.55$, $SD=1.01$). They were moderately undecided whether FA was able to challenge the effectiveness of SA.

Hence, the introduction of standard-based education has helped them to see teaching and learning in a new dimension. Definitely, teachers should dare to experiment new teaching, learning and assessment approaches. However, experimenting with new approaches also will become the source of their challenge and stress as the implementation of standard-based performance assessment system has no single right answer in practice so far.

Teaching-learning Factor

Looking at the teaching-learning factor (Table 3), the vast majority of teachers' responses were neutral in their opinion. Teachers almost agreed on "Teacher does not have enough time for planning the execution of many formative assessments", ($M=3.77$, $SD=.91$) and "syllabus is incomplete with the integration of assessment into teaching and learning", ($M=3.74$, $SD=.95$). The study's results identified that teachers were undecided on the fact that FA failed to change the traditional culture towards integrated learning ($M=3.46$, $SD=.97$). Teachers were also perceived as undecided on the fact that they had difficulty referencing on the correct technique for conducting performance assessment ($M=3.46$, $SD=1.05$). Teachers were seen undecided on the fact that performance standards did not improve their students' performance ($M=3.34$, $SD=1.01$), neither it has contributed to teachers' performance evaluation ($M=3.34$, $SD=1.06$). Besides that, teachers' neutral tone also indicated they did not perceive the task of integrating performance assessment into teaching-learning process ($M=3.24$, $SD=1.04$) as a challenge, and the integration had interfered their teaching ($M=3.22$, $SD=.97$). They were also

reluctantly agreed that understanding the implication of integrating performance standards was a challenge ($M=3.14$, $SD=1.06$) and class control was a problem to them ($M=3.02$, $SD=1.19$).

Table 3. Teachers' Challenges in Teaching-Learning Factor

Challenges	n	M	SE	SD
Teacher does not have enough time for planning the formative assessments	289	3.77	.053	.91
Syllabus is incomplete with the integration of assessment into teaching-learning	289	3.74	.056	.95
Formative assessment fails to change classroom culture into integrated learning	287	3.46	.057	.97
Teachers have difficulty referencing on technique of performance assessment	289	3.46	.062	1.05
Performance-standard does not improve students' performance	289	3.34	.060	1.01
Teachers' innovativeness in classroom assessment does not contribute to their performance evaluation	287	3.34	.062	1.06
It is difficult to integrate performance assessment into the teaching-learning	287	3.24	.062	1.04
The integration of assessment into teaching interferes with instruction	287	3.22	.057	.97
Teachers are not clear with the implication of performance standard	290	3.14	.062	1.06
Class control loosens when teacher conducts formative assessment	289	3.02	.070	1.19

Indicators: 1=Strongly disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly agree

However, many teachers were struggling in adapting to the new policy. A common challenge mentioned in the interview was on the integration of performance-standard into teaching-learning and finishing the syllabus within the school-term as mentioned by most of the teachers. When asked on any weaknesses in the new policy and its implementation, most teachers perceived it as a very complicated practice to be adopted and understood.

One of the common challenges mentioned during the interviews was on educating parents to read their children's accomplishment. Another challenge relating to teaching-learning factor was the fact that teachers need to be more selective in teaching with the integration of performance assessment into teaching-learning.

From the interview findings, it is clear that much of the information needed to make effective teaching decisions emerges in the context of assessment practice. The interview findings also revealed that the vast majority of teachers agreed that they did not have enough time for planning the teaching and learning factor in the PS. Consequently, some teachers advocated teaching strategies to be better scripted and routinised. The purpose was to reduce variability in the implementation and to produce outcomes from a significant subset of teachers.

Motivating Students' Factor

Motivating students to learn is a central part of teachers' practice in the classroom. In general, the result of this study in Table 4 showed that teachers were undecided whether students took their teachers' feedback seriously or not ($M=3.45$, $SD=1.00$). However, teachers were slightly disagreed that FA does not help students' understanding ($M=2.95$, $SD=1.03$) and hence their students are passive in the classroom ($M=2.81$, $SD=.99$).

Table 4. Teachers' Challenges in Motivating Students' Factor

Challenges	N	M	SE	SD
Students do not take teachers' feedback seriously	287	3.45	.059	1.00
Formative assessment does not help students' understanding	287	2.95	.061	1.03
Students are passive in classroom	290	2.81	.058	.99

Indicators: 1=Strongly disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly agree

There are direct and indirect impacts of the new policy to students' learning as narrated by the teachers on student performance in the interview. Students were perceived as being playful and less motivated by their teachers. On one other hand, some teachers were sceptical when concerning the manifestation of a student under the transformed policy.

Support Group Factor

Support group is very important as it assists teachers' professional development. The support can be gained from external and internal school channels. Teachers were undecided on naming challenges associated with external parties. Many teachers have no idea whether the workshops organised by the Examinations Syndicate were comprehensive or not ($M=3.56$, $SD=.95$) but they disagreed that they have difficulties in consulting with the mentors of FA ($M=3.02$, $SD=1.04$). Overall, teachers were also moderately disagreed that challenges to internal support on two factors namely teachers' learning community does not exist in schools ($M=2.68$, $SD=.97$) and teachers share limited knowledge on performance standard in schools ($M=2.42$, $SD=.99$).

Table 5. Teachers' Challenges in Support Group Factor

Challenges	n	M	SE	SD
Workshop organised by the Examinations Syndicate is not comprehensive	289	3.56	.056	.95
Teachers have difficulties consulting the mentors of formative assessment	289	3.02	.061	1.04
Teachers' learning community does not exist in school	289	2.68	.057	.97
Teachers share limited knowledge on performance standard in school	290	2.42	.058	.99

Indicators: 1=Strongly disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly agree

To date, the Ministry of Education, especially the Examination Syndicate had organised many courses nationwide in order to prepare teachers with the implementation of school-based assessment. The cross-tabulation on the distribution of teachers as respondents attending the courses and the significance of their selection as the course participants between demographic variables were depicted in Table 6. The majority of the teachers who attended the workshop organised by the Malaysian Examinations Syndicate were female teachers (52.6%). These teachers were having advanced teaching qualification (39.4%), they teach heterogeneous ability students in a class (54.5%), and have teaching experience of 10 years (35.5%). Most of these teachers were below 40 years old (49.0%) and from urban schools (43.0%). A majority of them were teaching Year 1 Mathematics (24.4%) and attending 40 students and less in a class (47.1%).

Furthermore, the Chi square test ($p>.05$) result shown in Table 6 indicated that there were no significant differences on the selection of teachers attending courses between and among groups in various demographic variables: gender ($p>.05$), academic qualification ($p>.05$), class taught ($p>.05$), classroom size ($p>.05$), age ($p>.05$) and location ($p>.05$).

Table 6. Teachers' Attendance in Courses

Demographic variables		Percentage attending			Chi-Square Sig.
		Yes	No	Total	
Gender	Male	12.7(37)	5.8(17)	18.6(54)	.581
	Female	52.6(153)	28.9(84)	81.4(236)	
Qualification	Basic	25.8(74)	16.4(47)	42.0(120)	.225
	Advanced	39.4(113)	18.5(53)	58.0(166)	
Students' Ability	Mix ability	54.5(158)	29.3(85)	83.8(243)	.686
	Similar ability	11.0(32)	5.3(15)	16.2(47)	
Experience	10 years and below	30.0(87)	16.2(47)	46.2(134)	.844
	Above 10 years	35.5(103)	18.3(53)	53.8(156)	
Students' Taught	Year 1	24.4(71)	12.7(37)	37.1(108)	.859
	Year 2	19.6(57)	9.6(28)	29.2(85)	

	Year 3	21.3(62)	12.4(36)	33.7(98)	
Classroom Size	40 students and less	47.1(137)	25.1(73)	72.2(210)	.975
	Above 40 students	18.2(53)	9.6(28)	27.8(81)	
Age	Below 40 years old	49.0(142)	26.9(78)	75.9(220)	.691
	40 years and above	16.2(47)	7.9(23)	24.1(70)	
Location	Urban	43.0(125)	22.0(64)	65.2(189)	.680
	Rural	22.3(65)	12.7(37)	34.8(101)	

Note: Number in parentheses is frequency of teachers in each group.

The teachers attended the workshop organised by the Examinations Syndicate were dominated by female teachers (54.8%). Comparative difference indicated that more requests were from those with advanced teaching qualifications (42.0%) compared to those with basic teaching qualifications (26.6%). Most teachers interested for a course were teaching students with heterogeneous ability in a class (59.2%). The data in Table 7 showed that teachers with above 10 years of experience were less interested to attend courses (20.4%) as compared to teachers with below 10 years of experience (11.4%). These teachers were teaching 40 students or less in a class (47.9%) and below 40 years old (53.8%). Urban teachers were more keen to attend the courses (45.9%) compared to rural teachers (22.4%).

Table 7. Teachers' Interest for Courses

Demographic variables	Percentage Interested			Chi-Square Sig.	
	Yes	No	Total		
Gender	Male	13.4(39)	5.2(15)	18.6(54)	.490
	Female	54.8(159)	26.6(77)	81.4(236)	
Qualification	Basic	26.6(76)	15.4(44)	42.0(120)	.108
	Advanced	42.0(120)	16.1(46)	58.0(166)	
Students' Ability	Mix ability	59.2(171)	24.9(72)	84.1(243)	.118
	Similar ability	9.3(27)	6.6(19)	15.9(46)	
Experience	10 years and below	34.9(101)	11.4(33)	46.4(134)	.014
	Above 10 years	33.2(96)	20.4(59)	53.6(155)	
Students' Taught	Year 1	26.2(76)	11.0(32)	37.2(108)	.820*
	Year 2	19.7(57)	9.3(27)	29.0(84)	
	Year 3	22.4(65)	11.4(33)	33.8(98)	
Classroom size	40 students and less	47.9(139)	24.1(70)	72.1(209)	.299
	Above 40 students	20.3(59)	7.6(22)	27.9(81)	
Age	Below 40 years old	53.8(156)	22.1(64)	75.9(220)	.088
	40 years and above	14.5(42)	9.7(28)	24.1(70)	
Location	Urban	45.9(133)	19.3(56)	65.2(189)	.294
	Rural	22.4(65)	12.4(36)	34.8(101)	

$df=1$, $df=2$ *

Note: Number in parentheses is frequency of teachers in each group.

There were no significant differences on preference for courses based on gender, academic qualification, class taught, classroom size, age and location as indicated by $p > .05$ in Table 7. However, there was only a significant difference on respondents' preference for courses based on teaching experience ($p < 0.05$).

Professional Development Factor

Regarding challenges in professional development, Table 8 indicated that teachers slightly disagreed that they have no effective model on compiling students' showcase and portfolio ($M=2.94$, $SD=1.11$), and the in-house training ($M=2.93$, $SD=1.04$) was incomprehensive, and the FA skill ($M=2.81$, $SD=1.08$) of teachers was also inadequate. They were also disagreed that they did not

understand the difference between FA and SA ($M=2.62, SD=1.09$) and were not well versed in operating the application of School-based Assessment Management System (SPPBS) ($M=2.60, SD=1.17$).

Table 8. Teachers' Challenges in Professional Development Factor

Challenges	<i>n</i>	<i>M</i>	<i>SE</i>	<i>SD</i>
Teachers do not have a model on compiling students' portfolio	289	2.94	.065	1.11
In-house training conducted by the school is not comprehensive	290	2.93	.061	1.04
Teacher lacks formative assessment skill	289	2.81	.064	1.08
Teachers do not understand the difference between formative and summative assessments	289	2.62	.064	1.09
Teachers are not well versed in operating computer and SPPBS application	290	2.60	.069	1.17

Indicators: 1=Strongly disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly agree

The study found that attending professional development to enhance classroom assessment skills had its own challenges to teachers. Many teachers were solely depending on the school administration to arrange such professional development courses and many more did not feel the need to do so.

The t-test result in Table 9 revealed that there were no significant differences between and among groups based on various demographic variables such as gender ($t=1.312, p>.05$), academic qualification ($t=-.436, p>.05$), experience ($t=1.037, p>.05$), age ($t=1.286, p>.05$) and location ($t=1.215, p>.05$).

Table 9. Teachers' Perceived Challenges

Demographic variables		N	M	SD	SE	Df	T	SE	Sig. (2-tailed)
Gender	Male	53	3.29	.60	.08	288	1.312	.09	.191
	Female	237	3.17	.58	.04				
Qualification	Basic	121	3.18	.61	.06	284	-.436	.07	.663
	Advanced	165	3.21	.57	.04				
Experience	≤ 10 years	133	3.22	.52	.05	287	1.037	.07	.301
	> 10 years	156	3.15	.64	.05				
Age	<40 years old	219	3.21	.57	.04	287	1.286	.08	.222
	≥40 years old	70	3.11	.64	.08				
Location	Urban	189	3.22	.59	.04	288	1.215	.07	.226
	Rural	101	3.13	.59	.06				

Indicators: 1=Strongly disagree; 2=Disagree; 3=Undecided; 4=Agree; 5=Strongly agree

The overall challenges reported in the study indicated that there were grounded challenges in conducting classroom assessments among teachers. However, the survey findings revealed that teachers with different demographic variable were approximately undecided to define the problems they faced as challenges. In general, their rating was inclined to slightly disagree on the matter. This was illustrated in Table 9. The mean score index indicated that male teachers ($M=3.29, SD=.60$) were struggling more than female teachers ($M=3.17, SD=.58$) in this matter. There were slight differences in the mean scores of teacher performance identified between different qualification categories. Teachers with advanced qualification ($M=3.21, SD=.57$) were more undecided than teachers with basic qualification ($M=3.18, SD=.61$). A similar pattern was also identified by those serving lesser years in schools. In short, junior teachers ($M=3.22, SD=.52$) were more undecided than senior teachers ($M=3.15, SD=.64$). In fact, age also played a role as older teachers showed a firmer score to disagreement ($M=3.11, SD=.64$) than younger teachers' slight indecision ($M=3.21, SD=.57$). The mean scores were comparable between groups and was seen between teachers teaching in the rural area ($M=3.13, SD=.59$) compared to those teaching in the urban area ($M=3.22, SD=.59$).

Discussion

The findings of the study showed that teachers with different demographic variables were undecided on how to define the problems they faced while implementing standard-based performance assessment as challenges. However, comparable challenges had been reported in school-based assessment studies conducted by many researchers (Malakolunthu, 2008; Chan et al., 2009; Norliza, 2010; Yasmin, 2011). Among the dimension of challenges focused in this study were belief, teaching and learning, motivating students, support group and professional development factor.

Belief Factor

The teachers involved in the study perceived that they should be more sensitive to the changing needs of the policy. They were not complacent and satisfied with their past knowledge as some were obsolete due to the changing nature of society and technology. Additionally, to be effective in the implementation process, teachers need to alter their beliefs, use new material and use new approaches as echoed by Fullan (2007) below.

The Alteration of Belief

Some teachers involved in this study believed that new practice to be menacing, imminent and troublesome, while others approached it with a fighting spirit, favouring adjustment and adaptation. On one hand, believing stressful situations as harmful hinders teachers' ability to analyse and subsequently cope with these situations. Seeing them as challenging enables them to deal effectively with the events.

The New Material - Manual Based Recording over Technology Based Recording

Teachers in the study need to slowly separate manual recording from the past and accept new technology such as School-based Assessment Management System (SPPBS), as an integral part of students' data management system in the 21st century. Adding to the challenges of integrating students' data management system were the problems of filing room and internet connection that fail to function. Unfortunately, what remains in the minds of many teachers and headmasters in the study was that technology issues were not being addressed well in schools. Acknowledging the challenges, many teachers have a strong belief that this system will follow other policy changes that failed in the implementation process. The findings in this study indicated that inadequacy of knowledge plays a vital role in teachers' belief system.

The New Approaches of Teaching-Learning Process

Implementing performance assessment requires a change in teachers' thinking about assessment. As teachers integrate it in the teaching-learning process, there are mixed methods and strategies that teachers can adapt. However, many teachers in the study were taken aback by the vast variety of methods. They were afraid to explore new things and afraid that making adjustment would take up their time while the syllabus still needs to be covered. Instead, teachers should challenge themselves to adapt to the new approach of teaching-learning and assessment as an added value to their traditional practice. To overcome teachers' negative beliefs, Pritchett and Pound (1993) suggested some positive mindsets that teachers could embrace the following: "teachers must view that progress is not a problem, but a challenge, and the reward for their arduous work is multiple. They must make the changes work by inventing the future, controlling their attitude, taking some ownership of the changes, choosing to improve skills, being tolerant of management mistake, and leading a normal life".

Teaching-learning Factor

The Standard-based system is a newly introduced practice to lower level primary school students in Malaysian public schools. There are many challenges to teachers in adopting the concept of the new knowledge. One of the teachers' challenges in this study was to restructure their prior knowledge to encompass new knowledge practice. The challenge was to acquire a deep, meaningful understanding of the new concept of classroom assessment. Much of the information needed to make effective teaching decisions emerges in the context of practice. Findings revealed that the vast majority of teachers agreed that they did not have enough time for planning the teaching and learning factor.

Motivating Students' Factor

It was observed in the study that classroom assessment information had not been fully utilised by the teachers. In fact, teachers seldom made use of the assessment results to guide them in their actual teaching. They were more content-centred and the majority of them tend to teach according to the pace of the average students in the class. They did not know how to cope with the range of individual differences and they lacked of knowledge on the effective use of such assessment results. Knowledge and practice are antagonistic when one hinders the other. Indeed, attempts to 'unlearn' the set of routine and new approaches can be difficult and challenging. To many teachers, it is important to help them understand that 'letting go' of previously learned ideas and routines or incorporate new information into their practice and choose what to abandon and what to keep or modify, are parts of what it means to be a lifelong learner and an adaptive expert. For a teacher to be an adaptive expert, discovering the need to change is perceived not as a failure but instead, as a success and an inevitable, continuous aspect of effective teaching.

Support Group

The findings of the study showed that the real challenge that teachers faced was misinformation. Teachers have had in-house training on a whole variety of tips but only few worked consistently for them. This is because they were only getting parts of the picture. None of these quick tips from courses work in isolation. Teachers need support to stay informed about developments in the education policy, figure out answers to their questions, find alternatives for teaching practices and talk on related issues. Within this context, professional communication in the staffroom has become a form of continuing education for teachers.

Professional Development Factor

A number of studies reported on the lack of classroom assessment training in Malaysia via professional development program (Chan et al., 2009). Norliza (2010) defined professional development in Malaysian school context as the enhancement of teachers' skills and competencies as mandated by ministry circulars. Consequently, continuous professional development has become a means of coping with change, whether imposed by the policy initiative, or voluntarily sought and participated by teachers themselves. Undeniably, the implementation of performance standard sets challenges to teachers to learn, relearn and unlearn some of their common knowledge and practices of classroom assessment.

Conclusion

Many teachers in the study shared similar problems with standard-based performance assessment system because they did not have enough training in lifelong learning. Consequently, they worried and complained about the new assessment system. Yasmin (2011), in her study of the establishment of smart schools in Malaysia, found that teachers who were not actually prepared for a transformation in teaching practice would revert to teacher-centered teaching. Her findings indicated that teachers failed to integrate the ideal teaching into the transformed culture due to the misconception of working knowledge and lack of training. This study showed that the challenges that many teachers faced were also closely related to high workload and time management. The results in this study showed that teachers need to reframe their teaching-learning and focus on the challenges of teaching effectively. It is undeniable that there will always be constraints on teachers' practice. For teachers, there are ways to learn to teach creatively within these constraints, however, the constraints must be duly acknowledged and taken into account as challenges. Therefore, it is hoped that this current study could shed some light on the efforts of improving standard-based education system and serve as a guideline for future development and transformation in Malaysian education system.

References

- Black, P.J. (1998). *Testing: friend or foe?* London: Falmer.
- Boon, P.Y. (1991). *The Assessment System in the new curriculum within the Ecology of a School: A Case Study*. M.Ed. University Malaya. *Unpublished M.Ed. thesis*, University Malaya
- Bryne, D. (2002). *Interpreting Quantitative Data*. London: SAGE Publication Ltd.

- Chan, Y. F., Sidhu, G. K. & Md. Rizal, M. Y. (2009). *School-based assessment: enhancing knowledge and best practices*. University Publication Centre (UPENA), UiTM.
- Clark, I. (2011). Formative assessment and motivation: Theories and themes. *Prime Research on Education Journal*. Vol. 1(2) pp. 027-036. www.primejournal.org/PRE
- Cohen, L., Manion, L. & Morrison, K., (2007). *Research Methods in Education*. Sixth Edition. Routledge Taylor & Francis Group.
- Cresswell, J. (2013). *What is Mixed Method Research?* Youtube.com.
- Dudley, J. R. (2005). *Research Methods for Social Work: Becoming consumers and producers of research*. USA : Pearson Education, Inc.
- Education Act 1996 (Act 550). (2011), *Peraturan-peraturan & Kaedah-kaedah terpilih (hingga 1hb Mac 2011)*. International Law Book Services. Petaling Jaya.
- Examinations Syndicate. (2011c). *Surat Siaran Lembaga Peperiksaan Bil. 3 Tahun 2011: Pemakluman Pentaksiran Berasaskan Sekolah (PBS) Di Sekolah Rendah dan Menengah Rendah*. KP.LP.003.07.14.05 (1)
- Examinations Syndicate. (2011f). *Pengurusan dan Pengendalian Pentaksiran Berasaskan Sekolah (PBS), Sekolah Rendah*.
- Examinations Syndicate. (2012). *Standard prestasi*, Retrieved 28 January 2012, from <http://www.moe.gov.my/lp>.
- Fullan, M. (2007). *The New Meaning of Educational Change*. Fourth Edition. USA: Teachers College Press.
- Gray, D. E. (2004). *Doing Research in the Real World*. London: SAGE Publications.
- Guskey, T. R. (2007). Formative Classroom Assessment and Benjamin S. Bloom: Theory, Research, and Practice. In J. H. McMillan (Eds.), *Formative Classroom Assessment: Theory into Practice*. (pp. 63-78). New York: Teachers College Press.
- Harlen, W. & Deakin Crick, R. (2003) 'Testing and motivation for learning', *Assessment in Education: Principles, Policy & Practice*, 10(2), pp. 169-207
- Kirton, A., Hallam, S., Peffers, J., Robertson, P., & Stobart, G. (2007). Revolution, evolution or a trojan horse? Piloting assessment for learning in some Scottish primary schools. *British Educational Research Journal*, 33(4), 605-627.
- Malakolunthu, S. (2008). *Teacher Learning in Malaysia: Problems and Possibilities of Reform*. University of Malaya Press.
- Massell, D. (2008). The current status and role of standards-based reform in the United States. Paper prepared for the National Research Council Workshop on Assessing the Role of K-12 Academic Standards in the States. Available at: <http://www7.nationalacademies.org/cfe/Massell%20State%20Standards%20Paper.pdf>
- Morrison, K. & Tang, F.H.J. (2002). Testing to destruction: a problem in a small state. *Assessment in Education*, Vol.9, No.3. pp. 289- 371.
- Norliza, K. (2010). *Understanding Teachers' Identity as Learners: The case of Malaysian teachers*. Dissertation for Ph.D. In Education. University of Bristol.
- Novak, J. D. (2010). Learning, Creating, and Using Knowledge: Concept maps as facilitative tools in schools and corporations. *Journal of e-Learning and Knowledge Society*. Vol.6, n.3, (pp. 21-30).
- Pritchett P. & Pound R. (1993). *The Employee Handbook for Organizational Change*. 10th Printing. Pritchett Publishing Company. USA.

ENHANCING VOLUNTEERISM IN COMMUNITY HEALTHCARE: MEDIATING EFFECT OF SOCIAL NETWORK

Siti Noormi Alias, Maimunah Ismail, Turiman Suandi & Zoharah Omar
Faculty of Educational Studies, Universiti Putra Malaysia

sitinoormi@upm.edu.my, mismail379@gmail.com, tj@upm.edu.my, zoharah@upm.edu.my

ABSTRACT

Volunteerism refers to intangible contributions of time and effort spent to help those people in straitened circumstances in a community. Volunteerism is a type of philanthropic behavior. This study explored how social network acts as a mediator in the relationships between coping strategies and social trust with volunteerism in community healthcare in Malaysia. This study used a correlational research design involving 300 community health workers (CHWs) under MERCY Malaysia, a non-government organization (NGO) in the health sector. Data were analysed using a two-step approach in structural equation modeling (SEM). Results showed that social network mediated the relationship between task-oriented coping and volunteerism in community healthcare. This study gives insights to managers and NGOs in hiring and retaining CHWs in community development work based on a developing country context.

Keywords: Volunteering, coping strategies, social trust, social network, community health workers

Introduction

Volunteerism in healthcare involves intangible contributions of time and effort by volunteers to help and improve the lives of the underprivileged community (Stukas et al., 2016). Donation, on the other hand, focuses on giving a certain amount of money or visible contributions to the needy. Volunteerism entails social interactions between various interacting units (stakeholders) in volunteering social network. Volunteering activities, which particularly monitored under non-profit and voluntary institutions, provide benefits not only to the victims but the volunteers themselves, the organization they serve, the local community, as well as the society at large. Victims will acquire the necessary healthcare relief, whilst in return, volunteers will be exposed to the improvement in terms of technical and social skills. Moreover, the organizations will successfully achieve their vision and mission, the local community will grow in a healthy environment, and the society will flourish equally in the social system. Therefore, the promotion of volunteering is not just on individual consciousness for humanity, but it has become the community and national focus. In addition, volunteerism claim to be one of philanthropic initiatives other than donating, solely by individuals and organizations. In this regards, individuals volunteered to get involved, meanwhile organizations sensed their responsibility to contribute resources to healthcare issues through their corporate social responsibility programs (Alias & Ismail, 2015). Notwithstanding that the awareness on the importance of volunteerism in healthcare escalates, non-profit organizations are still in constraints to hire new volunteers and to retain them in the workforce (Stukas et al., 2016).

Background and the Research Gap

In Malaysia context, it is estimated that for every 1,000 population, there are seven registered volunteers (Do Something Good, 2012). Therefore, for 23.9 million Malaysian population aged above 15 years old, there were 167,300 registered volunteers in Malaysia (Department of Statistics Malaysia, 2016). This makes up only 0.7% of the population involved in volunteerism in 427 non-governmental organizations (NGOs). In average, 12,538 individuals are involved in healthcare volunteering activities. One of the NGOs in healthcare is MERCY Malaysia.

Throughout the deployment of human resources to face the outbreaks of diseases such as Suspected Severe Acute Respiratory Syndrome (SARS), Chikungunya, Ebola, human infection with avian influenza A (H7N9), and recently zika virus, Malaysian government strongly encourage the participation of NGOs in combating these healthcare issues particularly in urban areas. Related to this, the Malaysia's National Social Policy, which was established in 2003, prominently, showing the

government continuous efforts and seriousness to provide equal development opportunities. It is done by providing opportunities to develop individuals' potentials to the optimum in a healthy social environment based on fairness and equity in accordance with the goal of Vision 2020. Moreover, government alone could not afford to provide sufficient health services to all citizens. Consequently, the involvement of various entities including NGOs and their volunteers in health-related activities is required to complement existing healthcare services provided by the government and thus be able to realize the national development goal.

The underlying motivations for volunteering may vary and articulating them facilitate the recruitment processes for new volunteers as well preserving the existing volunteers. However, these motivating factors are still not enough to secure the continuous involvement of the volunteers due to task complexities, particularly when volunteering in healthcare areas. Healthcare can be considered as one of the most highly demanding areas of volunteering work among victims and public, yet, it is extremely risky. For example, the political conditions of the affected areas (such as in Syria and Myanmar), the policies restrictions (i.e., Palestine, Sri Lanka, and Sudan), and the severity of injuries, may somehow or rather, have psychological effects on these volunteers. To aid this process, the individual volunteers are strongly assured to have full control over any decision he will take which related to any voluntary involvement in healthcare activities. Therefore, it is necessary to include individual constituents into account.

Volunteerism in healthcare mostly deals with emergencies, lost, and injuries. In time of disaster, the mental health of the affected population may not be seen as an immediate need if compared to physical injuries. Traumatized survivors need emotional support and guidance in the aftermath of a disaster, and accordingly, psychosocial intervention from skilled volunteers are highly demanded. However, volunteers themselves also are human beings, in which if they were exposed to repeated traumatized and emergency cases for a long term, it may affect their physical and mental wellbeing (Cheung et al., 2016). For example, volunteers cannot enjoy their food as usual and do not get enough rest because their minds keep restoring about victims and corpses. Therefore, the way these volunteers deal with such obstacles to cope with the situations has become one of the focuses of this study because this issue is rarely being explored in the past.

Stukas et al. (2016) asserted that individuals joined voluntary works because of their desire to help others and to sustain their contributions. This relates to their adaptation to social challenges and volunteering work complexities in healthcare. As volunteerism in community healthcare deals with multiple emergency cases (i.e., earthquake, flood, and bloodshed incidents) and teamworks among members play a major role in accomplishing the task, these activities certainly require individuals with the most suitable coping style and high level of trustworthiness. Lazarus (1991) referred to coping as the way an individual deals with situation, which is challenging, threatening, harming, or even benefiting him. It can also be defined as conscious attempts to manage internal or external stressors that the individual perceives as over his limitations (Pavlova & Silbereisen, 2014). Coping thus can be used to describe an individual adaptation to adverse social interaction circumstances. Coping in volunteering occurs when people sometimes engage in behavior which usually under social pressure such as repeated traumatic events experienced (Cicognani et al., 2009), and also frequent contact with victims (i.e., ill people or those with serious traumatic issues after events such as flood, earthquake, tsunami, aeroplane crash). These kind of situations definitely require great physical and emotional efforts to deal with. Task-oriented coping describes an active problem solving approach to stressful situations (Endler & Parker, 1999). In contrast, emotional coping is characterized by engaging behaviors such as ruminating or becoming emotional in response to stress. Individuals who report a preference to avoid stressful situations have a predominantly avoidant coping strategy.

Social trust is one of the dimensions of social capital (other than social network and shared goals) that exists between human interactions and widely used to describe collaborative interactions in the community including volunteerism (Wing & Lai, 2008). Social trust refers to the degree of one's willingness to the vulnerable actions of other people (Chow & Chan, 2008). Based on these definitions,

this study takes the meaning of social trust as an individual's belief that others will not do him harm and can be relied upon.

Social trust includes trust in other people and trust in organization by which it could increase individual tendency to actively engage and continuously involve in volunteering activities (Rothstein & Uslaner, 2005). Kelly (2009) has shown that individuals who trust others (individuals and institutions) have more tendency to participate in volunteering activities. Meanwhile, according to Siegrist and Cvetkovich (2000), social trust will be utilized by individuals to select experts who are trustworthy and whose opinions believed to be accurate. Their study on the role of social trust depicted that there was a significant correlations ($r = .59$) between social trust and individual decisions towards performing certain behavior in the absence of sufficient knowledge.

Indeed, volunteerism in healthcare is inseparable from the need for interactions in their social network. A volunteer social network may consist of multiple stakeholders including volunteers in the same organization and management team, volunteers from other organizations, as well as from government, private sector, and public at large. Good teamwork with other members will ensure a smooth work accomplishment, sturdy coalition with management team that can create efficient communication flow, and vigorous affiliation with volunteers from another organization, which can cultivate information exchange. In addition, strict adherence to government rules and regulations may secure funds, tenacious collaboration with private and government-linked organizations, which will increase the probability for sponsorship and will generate future philanthropists. Moreover, the intensified association with public as well as local communities will preserve continuity of human resources in the third sector. Due to the above reasons, these volunteers tend to maintain their contact and bond with others. As a result, individuals in their personal networks are homogenous with regards to their interest (i.e., volunteerism in healthcare), socio-demographic, behavioral, and interpersonal characteristics (McPherson et al., 2001). More importantly, the presence of homophily will influence information flows among the interacting units in a social network. The information obtained will be translated into actual behavior and later will be disseminated and impinged on others' behavior.

Consequently, fostering these homophilous connections among the stakeholders in social network can spread social wellbeing such that people will start trusting and be trustworthy to each other (van Ingen & Bekkers, 2015). Accordingly, the volunteer role identification can be promoted and developed. Meanwhile, both volunteering and identity may arise from social trust (Bekkers & Bowman, 2009). A reciprocal relationship exists between developing volunteer identity and social trust that will further enhance teamwork, which subsequently can provide outcomes such as volunteering behavior. Next, we demonstrate the research gap of the study.

Despite the crucial role of volunteers in community healthcare, little is known about the antecedents such as coping strategies and social trust, and the mediator such as social network in influencing their involvement in volunteering activities. Social network is chosen as a mediator because it is one of the dimensions of social capital. Social capital further signifies the strength of interaction among individual volunteers in the social system. The effect of social factor in the context of volunteerism in healthcare or even in volunteering as a whole in Malaysia is still underexplored. Against such a backdrop, several questions arise: How do individual coping strategies and social trust predict volunteerism in healthcare? How does social network mediate the relationships between coping strategies and social trust among volunteerism in healthcare? This study sought to answer these research questions. This study is significant because it adds knowledge on volunteering in healthcare from the perspective of NGO of a developing country. Therefore, this study aims to determine the mediating effect of social network in the relationships between coping strategies and social trust among volunteers in healthcare in Malaysia. The article continues with discussions on theoretical foundations, hypotheses development, research framework of the study, followed by methodology, and ends with a conclusion.

Theoretical Foundation

This study proposes two types of relationships that exist between the studied variables: a) direct relationships, b) indirect relationships through social network. We used two theories *vis*, the Theory of Planned Behavior (TPB) (Ajzen, 1991) and Social Network Theory (SNT) (Granovetter, 1973) to underpin the theoretical framework.

TPB is the most significant theory in predicting actual action (Lu et al., 2009) including volunteerism. This theory is guided by three considerations: beliefs about the likely consequences of the behavior (behavioral beliefs), beliefs about the normative expectations of others (normative beliefs), and beliefs about the presence of factors that may affect performance of the behavior (control beliefs). These beliefs might be influenced by various individual's background factors including mood, coping, social trust, and experiences (Ajzen, 2005). Briefly, it can be said that all the relationships between background factors and particular behavior can be examined directly and not necessarily through behavioral, normative, and control beliefs. This further justifies the direct relationships between two groups of background factors (coping strategies and social trust) and the studied behavior (volunteerism).

In addition, the more favorable the attitude and subjective norm, and the greater the perceived control, the stronger the person's intention should be in performing the behavior. Given a sufficient degree of actual control over the behavior, people are expected to carry out their intentions when opportunity arises. For example, if a person intends to engage in volunteerism, he or she will likely be involved in an actual behavior such as voluntarily attached to any volunteering institution. Following this suggestion, intention and actual behavior will be treated equally. Example of studies that employed similar theory and interchangeably used intention or behavior in referring to particular behavioral outcomes include, Courneya et al.'s (1999) study on the relationship between personality and exercise behavior, Manning and Bettencourt's (2011) study on depression and medication adherence among breast cancer survivors, and Cordano and Frieze's (2000) study on pollution reductions among environmental managers. Based on the above descriptions, TPB is employed into this investigation to explain the relationships between coping strategies and social trust with volunteerism in healthcare.

Social network is a set of actors (nodes) connected together by social relations (ties). The actors possibly are individuals, groups, organizations, or communities. Whereas, ties may fall within a level of analysis (e.g., individual-to-individual ties) or cross-levels of analysis (e.g., individual-to-group ties) (Katz et al., 2004). There can be flows and exchanges between the interacted nodes. Flows and exchanges can be very important in network theory as both can affect human behavior. Amongst the earliest scholars of SNT, is Granovetter (1973) who proposed that: a) behavior is shaped and constrained by one's network, and b) individuals can manipulate these social networks to achieve specific goals.

SNT rests on the notion that the social structure and functioning of the network may influence individual behavior and attitudes by shaping access to opportunities and constraints on behavior (Forthofer et al., 2016). Networks are believed to operate at the behavioral level through four primary pathways: social support, social influence, social engagement and attachment, and access to resources and material goods (Berkman & Glass, 2000). Social support interventions help change behavior through building, strengthening, and maintaining social networks that provide supportive relationships for behavioral change, which one of it is towards volunteering.

Social life is created by relations and the patterns formed by these relations. Therefore, SNT is able to explain the process of mapping and measuring relationships and flow among people, groups, or organizations, where they mostly shared the similar attributes (Nour, 2011). Asendorpf and Wilpers (1998) emphasized that dyadic social relationships formed resulting from the transaction between two individuals. In accordance, individuals develop in a dynamic, continuous, and reciprocal process of interaction with their environment. However, the quality of social relationship between the members in a social network is a function of the individual characteristics (Westaby, et al., 2016). For example, sociable individuals may actively create opportunities for new relationship by spending more time with

others and agreeable persons may minimize interpersonal conflict by being less aggressive or by provoking less aggression from others.

Hypotheses Development

Hypotheses are now proposed building on the previous discussion, including coping strategies, social trust, and social network with volunteerism in healthcare.

H1: Task-oriented coping is significantly associated with volunteerism in healthcare.

H2: Emotion-oriented coping is significantly associated with volunteerism in healthcare.

H3: Avoidance-oriented coping is significantly associated with volunteerism in healthcare.

The most robust coping strategies found in literature comprised of three construct, namely task, emotion, and avoidance-oriented coping (McWilliams et al., 2003). Coping strategies have yet to be investigated in relation to volunteerism in healthcare. There is very limited evidence on which to base our hypothesis. In addition, most studies on coping strategies among volunteers in healthcare only differentiate the most preferable coping style based on genders and number of years served (i.e., Essex & Scott, 2008) and the general ways of reducing the effect of stressful situations (i.e., attending religious activities) without specifically classified them into the standardized types of coping strategies.

Electing the most appropriate coping style when dealing with challenging situations would reduce any adverse impact (i.e., physically and mentally) towards victims and volunteers themselves. Task-oriented strategy is associated with optimism, enjoys being around people, and easily adapt with social changes (Grove & Heard, 1997). Meanwhile, emotion-oriented strategy associated with individual endeavour to reduce the amount of stress by modifying his emotional responses to stressor. For that reason, the first two coping strategies were considered as proactive way to deal with challenging situations and contributed to better adjustment. By contrast, avoidance coping style is related to maladaptation due to inclinations towards framing and avoiding himself from the problems encountered. Thus,

H4: Social trust is significantly associated with volunteerism in healthcare.

Social trust includes trust in other people and trust in organization by which it could increase individual tendency to actively engage and continuously involve in volunteerism (Rothstein & Uslander, 2005). In fact, it has been proven in a study conducted by Kelly (2009) among youth ages ranging from 15-25 years, which shows that individuals who trust others resulted the government have more participation tendencies. Delhey and Newton (2003) suggested that social trust contributes to the provision of public goods, social integration, cooperation and harmony, and even to good health and longevity. Consequently,

H5: Social network is positively associated with volunteerism in healthcare.

Social interaction is essential for every humankind. Volunteers with extensive social networks, involve in multiple organizational memberships, and prior volunteer experience can increase the chances of continuously contribute to society through volunteerism in healthcare (Wilson, 2000). This simply means that social network (breadth and strength) can be a predictor of volunteerism. Fowler and Christakis (2010) asserted that a wide variety of behaviors spread in human social networks particularly when they choose to be friend with people of similar behavior. They further suggested that dyadic social interactions in particular social network attract individuals to behave the same way as shown by fellow group members. Through such process or known as socialization process, an individual acquires attitudes, behavior, and knowledge needed to be accepted in certain social network (Morrison, 2002). They added that a sense of giving to others through volunteerism could emerge as a result of repeated interactions in a fixed social network because of “social viscosity”. Therefore, this research hypothesizes that:

H6: Social network mediates the relationship between task-oriented coping and volunteerism in healthcare.

H7: Social network mediates the relationship between emotional-oriented coping and volunteerism in healthcare.

H8: Social network mediates the relationship between task-oriented coping and volunteerism in healthcare.

H9: Social network mediates the relationship between social trust and volunteerism in healthcare.

Proactive coping strategies and social trust are shown to positively influence social competence (Kaeppler & Erath, 2016). Social competence can be proved by the size and strength of social network. Regular interactions between the interacting units in similar social network (homophile) prone to involvement in volunteering activities in healthcare. Previous studies have indicated that social network have a mediating effect. For example, Cattell (2001) qualitative study on the dynamics between poverty and exclusion, found that social network mediated the relationship between individual factors (i.e., violent) and expression of feelings associated with health outcome. Other studies that employed social network as mediating variable are by Kaskutas et al. (2002), on the relationship between alcoholics anonymous involvement and reduced substance use; Ahimbisibwe et al.'s (2012) study on the mediating role of social network dimensions (i.e., network degree and network transitivity) on the relationship between project communication strategies and perceived project success. These studies revealed that social network is a significant mediator in the relationship between variables being studied. Hence, this study hypothesizes that:

Based on the above literature review and hypotheses, Figure 1 shows the hypothesized framework of the study.

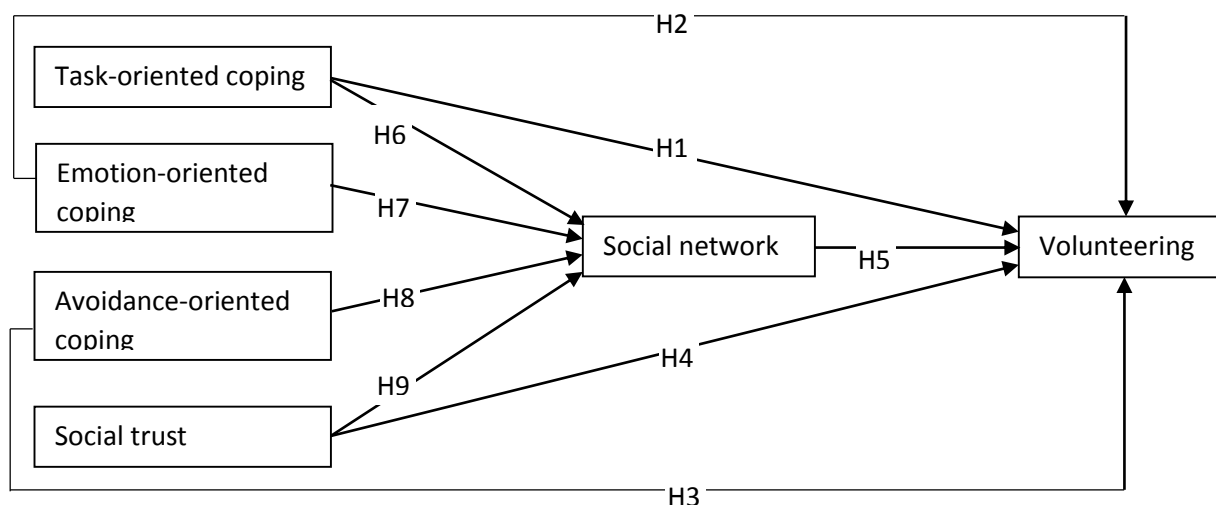


Figure 1. The Hypothesized Research Framework

Method

Design and Participants

The study employed correlational research design. The subject of the study were the registered volunteers under the MERCY Malaysia who were categorized as active volunteers (N = 1,200). MERCY Malaysia is an international Malaysian-based NGO focusing on providing medical relief, sustainable health-related development, and risk reduction activities for vulnerable local and international communities (i.e., Sri Lanka, Somalia, Philippines, and Myanmar). CHWs from MERCY Malaysia were chosen as the participants of this study due to several reasons: i) its significance in offering assistance to the needy based on philanthropic philosophy; ii) the personnel of this NGO are genuine volunteers despite having their formal functions in their respective organizations such as hospitals, clinics,

companies, and universities; and iii) the functions of the volunteers are on a wide spectrum of community health services.

The sample consisted of medical (n = 84) and non-medical (n = 216) volunteers recruited through online questionnaire (http://esurv.org/online-survey.php?surveyID=LIKHLF_6d54b664&u=philanthropic_behavior) developed by the research team. The administration of the questionnaire was facilitated by the MERCY Malaysia management team. The questionnaire was prepared in both English and Malay languages to meet respondents' preferences. The accuracy of the translation in both languages was assured through the services of two language experts in Malay and English. The volunteers' age ranged from 18 to 74 years old (M = 28.69, SD = 9.54), were single (62.7%), and mostly female (60.7%). Data collection took place between 1 February and 31 July 2015. The sampling technique used was simple random sampling in Microsoft Excel.

Measures

Dependent variable. This study used instrument from Canadian National Survey of Giving, Volunteering, and Participation (NSGVP) to measure volunteerism's construct. Volunteers responded to items such as "in the past 12 months, how frequently did you involve in issues related to health screenings, such as breast cancer screening, pap smears, glaucoma tests, or diabetes screenings as a volunteer?" on a scale of 1 (*very rarely*) to 5 (*very frequently*).

Mediator. As for social network, we adapted items developed by Kaskutas et al. (2002) and Overall Connectedness Dimensions by Van Bel et al. (2009). The 12 statements, including "I have a large circle of friends linked with my volunteer activities", were responded to on 5-point Likert-like scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Two negatively worded items were reverse-scored.

Independent Variables

Coping strategies. This study employed Coping Inventory for Stressful Situations (CISS) to measure coping strategies among volunteers. Volunteers responded to 21 items (seven items for each coping strategies) on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). Example of item used to measure task-oriented coping is "When encountering problems, I focus on the problem and see how I can solve it", example of item for emotional-oriented coping "when encountering problems, I blame myself for having gotten into this situation" and "when encountering problems, I take some time off and get away from the situation" is example of item for avoidance-oriented coping.

Social trust. We utilized General Trust Scale by Yamagishi et al. (1998) to measure volunteers' social trust. Respondents were required to answer six statements on general trust items such as "most people are basically honest" and were recorded based on their level of agreement.

Statistical Analyses

This study used IBMSPSS22 to analyze demographic components and the correlations (Pearson-product moment correlation) between the studied variables. Regression models were estimated through structural equation modeling (SEM) using AMOS to determine the effects of the hypothesized variables based on bootstrapping formula by Preacher and Hayes (2004). As suggested by Hayes (2009), this study requested 5,000 bootstrap samples and requested for 95% confidence intervals for Bias-corrected option. The last column of Table 3 shows the upper and lower limits for the 95% confidence intervals. These values correspond to the 2.5th and 97.5th percentiles from lowest to highest rank-ordered estimates of the indirect effect derived from the 5,000 samples.

In accordance, the determination of mediation effect of social network in the relationships between IVs and DV strictly follows the rules suggested by Preacher and Hayes (2004). This study used Preacher and Hayes (2004) determination of mediation effect over the traditional rule by Baron and Kenny (1986) due to one of the foremost recent argument raised by scholars in literature. Baron and

Kenny (1986) asserted that the evidence for mediation is strongest when there is an indirect effect, which they call “full mediation.” When there are both indirect and direct effects, they call it “partial mediation.” However, according to Iacobucci (2008), majority of articles that strictly follow Baron and Kenny (1986) mediation test steps ended up with ‘partial mediation’. That is, mediation is usually accompanied by a direct effect. Therefore, truthfully there is a grounding direct relationships between set of IVs and DV that sometimes hard to be explained theoretically. Thus, there is a need for more practical ways to test for mediation effect becomes possible without putting the requirement for significant direct relationship (between IVs and DV) comes first.

Mediation based on Preacher and Hayes (2004) is equal to the indirect effect, regardless whether there is or not direct relationship between independent and dependent variables. Mediation is said to be significant as long as it is proven that the indirect effect of independent variable on dependent variable through mediator is significant. The determination of mediation effect of social network on the relationships between coping strategies (task-oriented, emotion-oriented, and avoidance-oriented) and social trust with volunteering in this study is based on “zero” location in CI (Hayes, 2009). It states that if CI contains “zero” means indirect or mediation effect is statistically significant. In addition, calculated effect size (kappa-squared, k^2) for significant indirect effect based on Preacher and Kelley (2011) is also available. They suggested that it makes sense to interpret k^2 values in the same light as the coefficient of determination (R^2), i.e., with the guidelines of Cohen (1988), where small, medium, and large effect sizes are stated as 0.01, 0.09, and 0.25, respectively. The k^2 values were calculated based on values of variance of independent variables (X), mediator (M), and dependent variable (Y), covariance of XY, XM, and MY, Beta of X on M (a), Beta of M on Y (b) as in Myresearchsurvey.com developed by Rothmann (2011).

The following parameters were considered to determine the model fit for both measurement and structural models in SEM analyses: factor loading $>.50$, Relative $\chi^2 < 5.0$, the root mean square error of approximation (RMSEA) $<.08$, Akaike’s information criterion (AIC) in which lower is better, the goodness of fit index (GFI) $>.90$, the adjusted goodness of fit index (AGFI) $>.90$, the comparative fit index (CFI) $>.90$, the incremental fit index (IFI) $>.90$, and Tucker-Lewis index (TLI) $>.90$.

Table 1 shows factor loadings, average variance extracted (AVE), and construct reliability of the scales used in this study. Factor loadings of all items met the minimum cut-off point $.50$, and $.70$ for construct reliability. Hair et al. (2005) suggested that greater than 0.5 AVE reveals that the construct has higher reliability. However, the AVE for the volunteerism, social network, task-oriented coping, and social trust constructs are below the minimum cut off point of 0.5 , which may suggest that the validity for these four constructs is compromised. A new sample is needed in the future to confirm our conclusion.

Table 1. Factor Loadings, Average Variance Extracted and Construct Reliability of Scales

Items	Factor Loadings ($r>0.5$)	AVE ($AVE>0.5$)	Construct Reliability ($CR>0.7$)
Volunteerism			
- Item 1	.575	0.444	0.847
- Item 2	.700		
- Item 3	.602		
- Item 4	.742		
- Item 5	.613		
- Item 6	.678		
- Item 7	.734		
*1 item deleted			

Items	Factor Loadings (r>0.5)	AVE (AVE>0.5)	Construct Reliability (CR>0.7)
Social Network			
- Item 1	.595	0.395	0.866
- Item 2	.656		
- Item 3	.504		
- Item 4	.680		
- Item 5	.612		
- Item 6	.644		
- Item 7	.645		
- Item 8	.597		
- Item 9	.709		
- Item 10	.620		
*2 items deleted			
Task-oriented Coping			
- Item 1	.642	0.459	0.771
- Item 2	.686		
- Item 3	.743		
- Item 4	.632		
*3 items deleted			
Emotional-oriented Coping			
- Item 1	.759	0.591	0.878
- Item 2	.852		
- Item 3	.772		
- Item 4	.722		
- Item 5	.732		
*2 items deleted			
Avoidance-oriented coping			
- Item 1	.786	0.504	0.876
- Item 2	.717		
- Item 3	.716		
- Item 4	.680		
- Item 5	.632		
- Item 6	.743		
- Item 7	.686		
Social Trust			
- Item 1	.662	0.447	0.800
- Item 2	.530		
- Item 3	.700		
- Item 4	.734		
- Item 5	.698		
*1 item deleted			

Regarding discriminant validity to assess whether the constructs are sufficiently distinct from each other, Table 2 indicates that the value of square root of AVE for all latent constructs were higher than the correlation coefficient between the focal and other constructs. Accordingly, it testified the “reasonableness” of the constructs used in this study.

Table 2. Mean, Standard Deviation, Average Variance Extracted, Correlation Matrix and Discriminant Validity of the Latent Constructs

Constructs	Mean	SD	AVE	1	2	3	4	5	6
Volunteerism	4.218	.556	0.444	.780					
Social network	4.176	.516	0.395	.546**	.707				
Task-coping	4.110	.558	0.459	.393**	.438	.812			
Emotional-coping	4.140	.461	0.591	-.063	.026	.026	.755		
Avoidance-coping	3.702	.765	0.504	.042	-.034	.037	-.007	.718	
Social trust	3.732	.660	0.447	-.083	-.032	.017	-.188	-.155	.799

** . Correlation is significant at the 0.01 level (2-tailed).

Note: The squared root of AVE of each construct presented on the diagonal and correlation coefficients are located on the correlational matrix.

Results

Table 3 shows the results of fit indices for the structural model. Hooper et al. (2008) suggested that the researcher should choose the fit indices that indicate the best fit. Furthermore, Hult, et al. (2006) stated that most studies reported at least three fit measures together with RMSEA and $\chi^2/\chi^2/df$. Meanwhile, value close to .90 reflects a good model fit (Schumacker & Lomax, 2016). Therefore, according to results displayed in Table 3, it was indicated acceptable fit for structural model.

Table 3. Goodness of fit Indices of Structural Model

Goodness of Fit Index	CMIN (χ^2)	(χ^2/df) ≤ 5.0	CFI ≥ .90	IFI ≥ .90	TLI ≥ .90	RMSEA ≤ .08
Value	1330.59	1.66	.91	.92	.91	.05

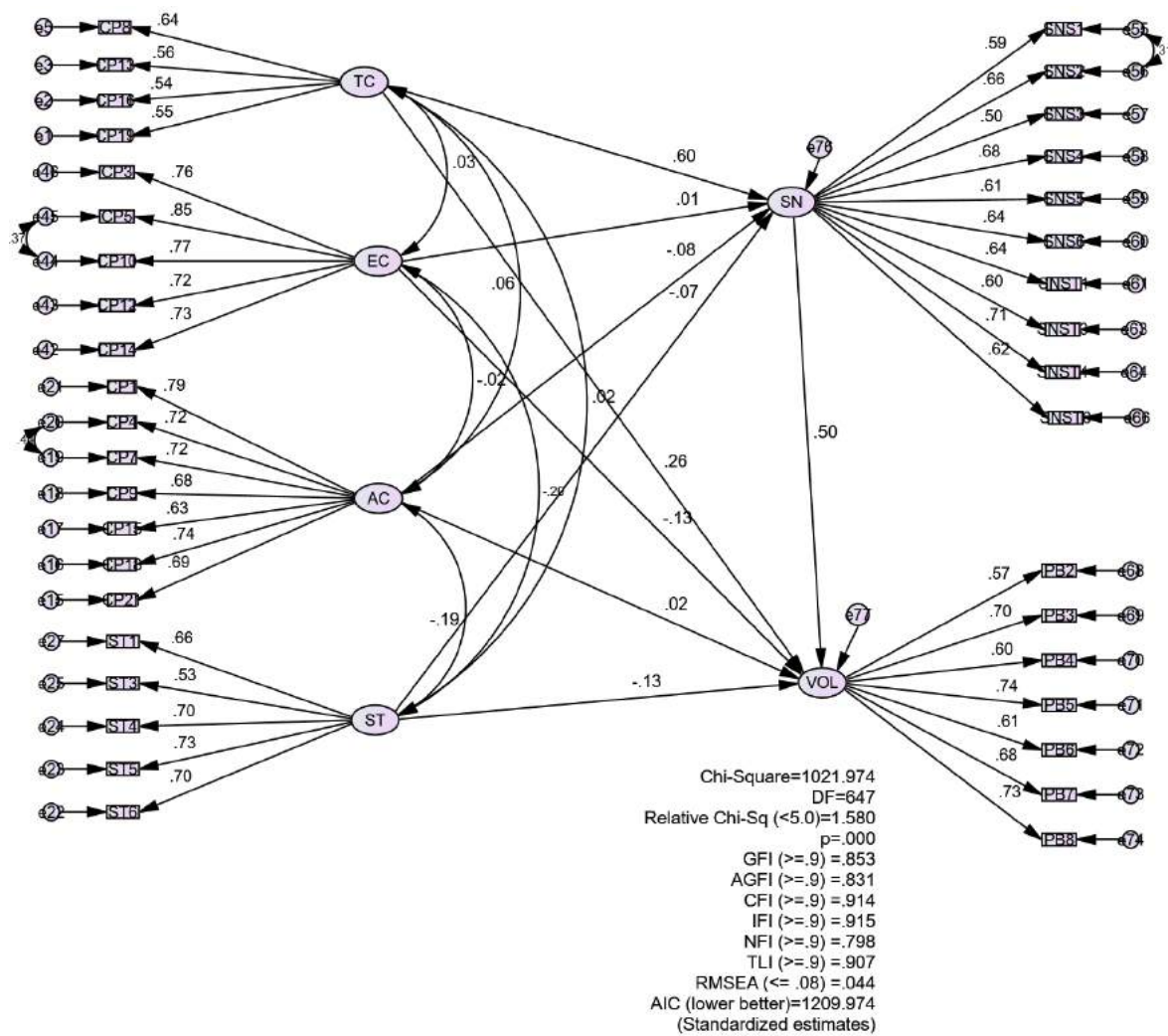


Figure 2. The Mediation Model of the Study

Table 4 illustrates that task-oriented and emotional-coping significantly influenced volunteerism in healthcare ($\beta = .264, p = .005$; $\beta = -.129, p = .020$). The results also indicated significant relationship between social network and volunteerism in healthcare ($\beta = .497, p = .000$). Except for emotional-oriented coping, the results of correlational matrix showed in Table 2 support the findings for relationships between task-oriented coping and social network with volunteerism in healthcare ($r = .546, p < .01$; $r = .393, p < .01$). Consequently, the results support **Hypothesis 1, Hypothesis 2, and Hypotheses 5**. However, as for the direct relationships between avoidance-oriented coping and social trust with volunteerism, this study failed to provide enough evidences to reject the null hypotheses ($\beta = .024, p = .665$; $\beta = -.126, p = .091$).

Table 4. The Regression Weights in the Direct Hypothesize Model

No.	Hypothesized relationship	Beta	B	S.E.	C.R.	p-value
1	Task-oriented coping → Volunteerism	.264	.291	.103	2.835	.005
2	Emotional-oriented coping → Volunteerism	-.129	-.143	.061	-2.323	.020
3	Avoidance-oriented coping → Volunteerism	.024	.016	.038	.434	.665
4	Social trust → Volunteerism	-.126	.081	.048	1.689	.091
5	Social network → Volunteerism	.497	.566	.111	5.096	.000

As shown in Figure 2 and Table 5, the results indicated that there is a significant mediating effect of social network on the relationship between task-oriented coping and philanthropic behavior of

volunteering [the bias-corrected 95% percentile confidence interval ($\beta = 0.29$, CI = 0.19, 0.46, $p = .00$) and percentile 95% confidence interval ($\beta = 0.29$, CI = 0.18, 0.45, $p = .00$), both does not include zero]. In addition, following Preacher and Kelley (2011), we can conclude that the indirect effect of task-oriented coping on volunteerism through social network is large, $k^2 = 0.28^*$. Therefore, **Hypothesis 6** was supported by bootstrapping analysis.

Table 5. Mediation of the Effect of Individual Adaptability and Organizational Factors on Philanthropic Behavior through Social Network

	Point estimate	SE	Bootstrapping		P	Bootstrapping		P
			BC Percentile 95% CI			Percentile 95% CI		
			Lower	Upper		Lower	Upper	
Task-oriented coping	.297	.055	.199	.416	.000	.197	.414	.000
Emotion-oriented coping	.004	.032	-.059	.070	.891	-.059	.070	.882
Avoidance-oriented coping	-.041	.035	-.112	.025	.210	-.109	.027	.226
Social trust	-.037	.034	-.109	.026	.246	-.106	.030	.283

Note:

*Indirect/mediation effect is significant if Zero (0) falls outside the lower bound and upper bound

However, for the emotion-oriented coping [the bias-corrected 95% percentile confidence interval ($\beta = -.03$, CI = $-.08, .01$, $p = .13$) and percentile 95% confidence interval ($\beta = -.03$, CI = $-.08, .01$, $p = .15$), both does include zero], avoidance-oriented coping [the bias-corrected 95% percentile confidence interval ($\beta = -.04$, CI = $-.11, 0.01$, $p = .08$) and percentile 95% confidence interval ($\beta = -.04$, CI = $-.11, .01$, $p = .11$), both include zero], and social trust [the bias-corrected 95% percentile confidence interval ($\beta = -.01$, CI = $-.03, .02$, $p = .67$) and percentile 95% confidence interval ($\beta = -.01$, CI = $-.03, .02$, $p = .68$), both does not include zero], results showed that there were no significant mediating effect of social network between these three factors with philanthropic behavior of volunteering. Therefore, **Hypothesis 7**, **Hypothesis 8**, and **Hypothesis 9**, were not supported by the results of the bootstrapping analysis.

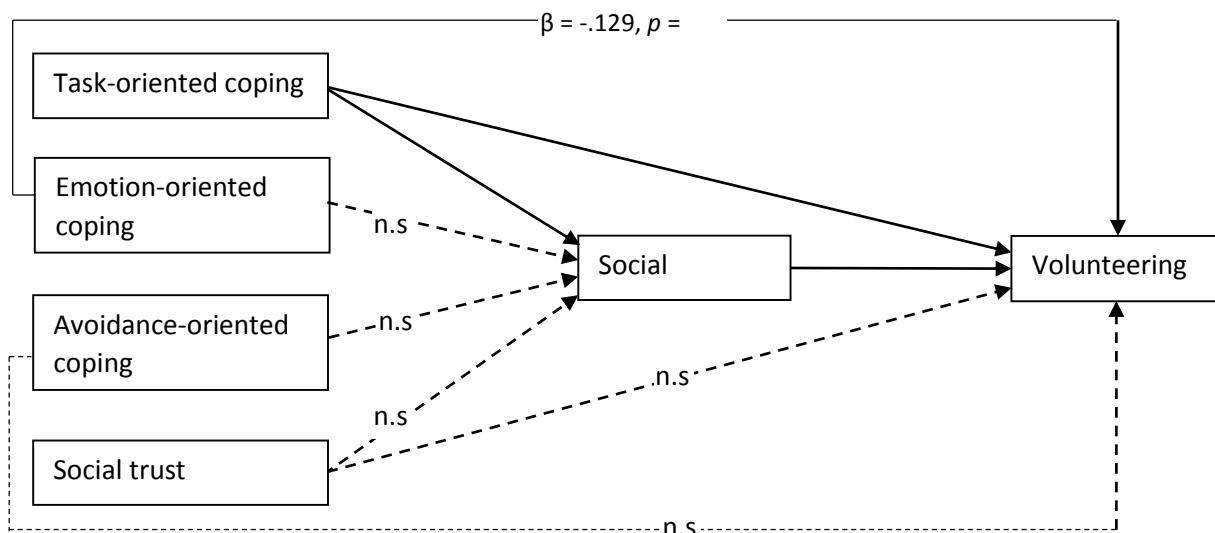


Figure 3. Summary Results of Direct and Indirect Relationships

Discussion

We found that there is a significant mediating effect of social network between the relationship of task-oriented coping and philanthropic behavior of volunteering. This means the volunteers believed that volunteering was the result of their social interaction with others such as colleagues and the significant others with similar volunteering interest, while doing their assigned tasks. Basing on the Social Network Theory perspective, individuals who regularly practiced positive task-coping styles make use of his social network to be exposed to new information about community work in healthcare. Furthermore, Cattell (2001) asserted that task-oriented coping contributes to dense and strong social ties, in which it enables likelihood for behavioral change, resulted from initial information exchange among the interacted unit. Information might be available from his kinship, parents, and relatives through personal communications, as well as through peers from social media such as Facebook, Twitter, and Instagram, that are currently pervasively used among the younger generation workers. As such, individuals connect, contact, interact, and get immediate responses regarding volunteering tasks in healthcare. As a result, active participation in formal social network does result in involvement of CHWs. Nevertheless, not all social networks lead to similar effects, although the number of social network per se has a positive effect on philanthropic behaviour of volunteering. Arun et al. (2015) suggested that those affiliated with heterogeneous network have a positive effect on increasing volunteering behavior in community healthcare. However, without early information, supports, and directions by his social network, the relationship between task-oriented coping and involvement in volunteerism in healthcare will not be possible. The explanations given supported the indirect relationship between task-oriented coping with volunteerism in healthcare through social network. This is consistent with previous literature stated that a size and strength of social network could account for a significant amount of variance in the relationship between task-oriented coping strategy with volunteerism in healthcare of CHWs in their respective study contexts (i.e., Arun et al., 2015).

This study has a number of theoretical and practical implications. First, this study provides empirical evidence to support the crucial role of social network as an intervening factor (Finnigan et al., 2013) using the SNT. The theory further implies that a person will put in much effort to behave philanthropically specifically in volunteering when he formally attached to a community-based group, particularly in this study, MERCY Malaysia or probably other similar NGOs. Second, the study implies that social network has a certain influence and pressure on individual participation (Kaskutas et al., 2002), as the volunteering behavior spread out from social interaction. Thus, this study contributes to the theory by adding empirical evidence on the mediating function of social network towards volunteering philanthropic activities based on perception of CHWs in a Malaysian context, albeit limited to the influence of task-oriented coping factor. Third, this study provides evidence for NGOs to promote volunteering activities among the public, particularly in community healthcare services by emphasizing the crucial role of social network while not neglecting the role of task-oriented coping of the individual members.

Implications for Theory and Research

The focus area of this study, volunteerism in healthcare, is under one of the social development agendas of communities, nations, and regions. The main contribution of this study is the conceptual framework that enhances our knowledge about the determinants of volunteerism and the mediating role of social network in healthcare volunteering sector. Prior to the involvement of individuals in volunteering activities, this study provides insights on the factors influencing philanthropic behavior among volunteers' involvement in health provision activities particularly based on a context of Malaysian non-governmental organization (NGO). These factors should be revealed, as it will benefit the NGOs in strategizing promotional and recruitment plan of new volunteers. Moreover, knowing all the possible constituents can be a 'golden key' for these NGOs to retain their existing volunteers. Hiring and conserving the right volunteers are vital for these NGOs as to reach the organizational objectives and to secure its survival over the long haul. Without doubt this study extends the Social Network Theory by clearly clarifies individual factors (task-oriented, emotional-oriented, avoidance-oriented coping, and social trust) that would broaden and strengthen up individual's social network through interaction and

socialization process and to explain the volunteering activities among volunteers specialized in healthcare.

The TPB was used to support the SNT as the core theory used in the mediation analysis in this study. The findings revealed support for the employment of the TPB in the research framework of this study as the theory becomes the basis of using individual factors that influence behavioral outcome. It implies that individual social characteristics are important in enhancing what leads to volunteering activities in healthcare. Two essential qualities of those embark on in community healthcare volunteering activities are those with task-oriented coping, emotional-oriented coping, and those with broad social network.

Implications for Practice

The findings of this study will help MERCY Malaysia as well as any other stakeholders such as volunteer and charity work associations in healthcare that have similar functions and interests. For organizations to foster active volunteering engagement, they need to find volunteers that shared similar goals (Loiseau, et al., 2016). Therefore, the volunteering organization needs to develop a systematic hiring process to identify the most suitable individuals to be the next volunteers. Ample and appropriate training programs including induction program and other basic healthcare trainings (i.e., basic life support, aqua basic training, and emergency response) also must be provided to assist them in performing their volunteering work.

As predicted, individual differences in coping styles were differently associated with volunteerism in healthcare. As the result suggests, task-oriented and emotional-oriented coping both directly related to volunteerism. According to Savage (2005), these two coping styles are considered as proactive strategies and conventionally associated with better adjustment as reflected in higher self-rated coping effectiveness and less depression. Volunteers with task-oriented coping style tend to directly taking action upon any issues arose while executing volunteering work. All the knowledge and skills obtained will be integrated to ensure the task were completed in a healthy environment. Therefore, individuals with these characteristics should be attracted into the organization to be the future volunteers. This process of selecting the right individuals is very crucial particularly when assigning them to any humanitarian missions and emergency cases. Therefore, the results will enable MERCY Malaysia to develop community-based programs that are more attractive to their existing volunteers who are involved in various health provision activities for the purpose of community development.

In our study, task-oriented coping also indirectly influenced volunteerism through social network. Task-oriented individuals also known for their eagerness to seek for information, effective decision-maker and planner, as well as a proficient conflict resolver. Inevitably, they will try various alternatives to obtain as much information as possible from colleagues inside and outside their social network to ensure consummation of a voluntary task given. Indirectly, they will increase the size of social network and increase their confidence in volunteer work they do.

The results of this study also able to help MERCY Malaysia and other NGOs that are trying to promote volunteering activities among non-medical background individuals to be involved in health provision activities. By identifying the factors influencing volunteers' involvement in healthcare volunteering activities, volunteer and charity work associations can focus lesser time and budgets in the hiring process. In addition, data of the fitted model offer managers, CEOs, and policy makers in volunteering institutions a guide to understand the crucial factors in attracting more volunteers into their medical relief activities (i.e., healthcare promotion, health education, cancer screening).

As a systematic understanding of volunteerism in Malaysia and detailed patterns and characteristics of Malaysian volunteers' behavior are still undeveloped, this study would contribute to a new vista towards understanding on such behavior, and could serve as a basis to monitor and assess non-profit volunteer organizations' programs in the community health-care sector.

Limitations and Future Directions

With regard to the limitations of the study, we suggest the following directions for future research: First, this study was limited to volunteers from one single NGO (MERCY Malaysia). We therefore recommend future research to be extended to volunteers from other health-related NGOs in the country such as Malaysian Red Crescent Association. Second, future research could take into consideration other demographic and professional factors such as personality, educational attainment, gender, religiosity, and professional background. Finally, this research should be replicated to other countries in Asia and other regions in the world so that the results of which could be used for making comparison about the role of social network as a mediator on the influence of coping strategies and social trust with volunteerism in healthcare.

Conclusion

We have identified the mediating role of social network in the relationships between individual adaptability factors such as task-oriented coping and social trust with volunteerism in healthcare based on the TPB and SNT. We conclude that volunteers with high task-oriented coping would tend to display better philanthropic behaviour of volunteering through the mediating function of social network. Thus, interactive volunteering social system must be developed to encourage social networking among the volunteers.

References

- Ahimbisibwe, A., & Nangoli, S. (2012). Social networks: Mediator of project communication and perceived project success. *International Journal of Humanities and Social Science*, 2(20), 73-85.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Ajzen, I. (2005). *Attitudes, Personality, and Behavior (2nd edition)*. New York: Open University Press.
- Alias, S., & Ismail, M. (2015). Antecedents of philanthropic behavior of health care volunteers. *European Journal of Training and Development*, 39(4), 277-297.
- Arun, S., Anim, S., & Arun, T. (2015). Do all networks 'work'? The mediating role of social networks on consumption expenditure in India. *Sociology*, June, 1-20.
- Asendorpf, J. B., & Wilpers, S. (1998). Personality effects on social relationships. *Journal of Personality and Social Psychology*, 74(6), 1531-1544.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.
- Bekkers, R., & Bowman, W. (2009). The relationship between confidence in charitable organizations and volunteering revisited. *Nonprofit and Voluntary Sector Quarterly*, 38(5), 884-897.
- Berkman, L. F., & Glass, T. (2000). Social integration, social networks, social support, and health. In L. F. Berkman, & I. Kawachi, *Social epidemiology* (pp. 137-173). New York: Oxford University Press.
- Cattell, H. E. (2001). The sixteen personality factor (16PF) questionnaire." . Springer US, 2001. . In W. I. Dorfman, & M. Hersen, *Understanding psychological assessment* (pp. 187-215). Springer US.
- Cheung, C.-K., Lo, T. W., & Liu, E. S.-C. (2016). Sustaining social trust and volunteer role identity reciprocally over time in pre-adult, adult, and older volunteers. *Journal of Social Service Research*, 42(1), 70-83. Retrieved from <http://dx.doi.org/10.1080/01488376.2015.1078267>
- Chow, W. S., & Chan, L. S. (2008). Social network, social trust, and shared goals in organizational knowledge sharing. *Information & Management*, 45(7), 458-465.
- Cicognani, E., Pietrantonio, L., Palestini, L., & Prati, G. (2009). Emergency workers' quality of life: The protective role of sense of community, efficacy beliefs and coping. *Social Indicators Research*, 94(3), 449-463.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. United States of America: Lawrence Erlbaum Associates.
- Cordano, M., & Frieze, I. H. (2000). Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's Theory of Planned Behavior. *Academy of Management Journal*, 43(4), 627-641.

- Cordano, M., & Frieze, I. H. (2000). Pollution reduction preferences of US environmental managers: Applying Ajzen's theory of planned behavior. *Academy of Management Journal*, 43(4), 627-641.
- Courneya, K. S., Bobick, T. M., & Schinke, R. J. (1999). Does the Theory of Planned Behavior mediate the relation between personality and exercise behavior? *Basic and Applied Social Psychology*, 21(4), 317-324.
- Delhey, J., & Newton, K. (2003). Who trusts?: The origins of social trust in seven societies. *European Societies*, 5(2), 93-137.
- Department of Statistics Malaysia. (2016). Retrieved September 23, 2016, from Selected Demographic Estimates Malaysia 2016: https://www.statistics.gov.my/index.php?r=column/cthemByCat&cat=397&bul_id=WVVQUnYrZkRwK1k1QXZMbEpuV1hNUT09&menu_id=L0pheU43NWJwRWVVSZklWdzQ4TlhUUT09
- Do Something Good. (2012). Retrieved April 11, 2013, from <http://dosomething.gd/>
- Endler, N. S., & Parker, J. D. (1999). *Coping Inventory for Stressful Situations (CISS): Manual (Revised Edition)*. Toronto: Multi-Health Systems, Inc.
- Essex, B., & Scott, L. B. (2008). Chronic stress and associated coping strategies among volunteer EMS personnel. *Prehospital Emergency Care*, 12(1), 69-75.
- Finnigan, K. S., Daly, A. J., & Che, J. (2013). Systemwide reform in districts under pressure: The role of social networks in defining, acquiring, using, and diffusing research evidence. *Journal of Educational Administration*, 51(4), 476-497.
- Forthofer, M., Burroughs-Girardi, E., Stoisor-Olsson, L., Wilcox, S., Sharpe, P. A., & Pekuri, L. M. (2016). Use of formative research and social network theory to develop a group walking intervention: Sumter County on the Move! *Evaluation and Program Planning*, 58, 28-34.
- Fowler, J. H., & Christakis, N. A. (2010). Cooperative behavior cascades in human social networks. *Proceedings of the National Academy of Sciences of the United States of America*, 107(12), 5334-5338.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78(6), 1360-1380.
- Grove, J. R., & Heard, N. P. (1997). Optimism and sport confidence as correlates of slump-related coping among athletes. *The Sport Psychologist*, 11, 400-410.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2005). *Multivariate data analysis: Sixth Edition*. Upper Saddle River, New Jersey: Pearson Education, Inc.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, 76(4), 408-420.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53-60. Retrieved from <http://arrow.dit.ie/cgi/viewcontent.cgi?article=1001&context=buschmanart>
- Hult, G. T., Ketchen, D. J., Cui, A. S., Prud'homme, A. M., Seggie, S. H., Stanko, M. A., . . . Cavusgil, S. T. (2006). An assessment of the use of structural equation modeling in international business research. In D. J. Ketchen, & D. D. Bergh, *Book Series: Research Methodology in Strategy and Management* (pp. 385-415). Emerald Group Publishing Limited.
- Iacobucci, D. (2008). *Mediation Analysis*. CA: Thousand Oaks.
- Jinkyung, J., & Eunsun, K. (2011). Trust development in volunteering an exploratory study of social trust and volunteer activities in Korea. *International Review of Public Administration*, 16(1), 157-179. doi:10.1080/12264431.2011.10805190
- Kaeppler, A. K., & Erath, S. A. (2016). Linking social anxiety with social competence in early adolescence: Physiological and coping moderators. *Journal of Abnormal Child Psychology*, 1-14.
- Kaskutas, L. A., Bond, J., & Humphreys, K. (2002). Social networks as mediators of the effect of alcoholics anonymous. *Addiction*, 97(7), 891-900.
- Katz, N., Lazer, D., Arrow, H., & Contractor, N. (2004). Network theory and small groups. *Small Group Research*, 35(3), 307-332.
- Kelly, D. C. (2009). In preparation for adulthood: Exploring civic participation and social trust among young minorities. *Youth & Society*, 40(4), 526-540.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.

- Loiseau, B., Sibbald, R., Raman, S. A., Darren, B., Loh, L. C., & Dimaras, H. (2016). Perceptions of the role of short-term volunteerism in international development: Views from volunteers, local hosts, and community members. *Journal of Tropical Medicine*, 2016, 1-12.
- Lu, Y., Zhou, T., & Wang, B. (2009). Exploring Chinese user's acceptance of instant messaging using the theory of planned behavior, the technology acceptance model, and the flow theory. *Computers in Human Behavior*, 25(1), 29-39.
- Manning, M., & Bettencourt, B. A. (2011). Depression and medication adherence among breast cancer survivors: Bridging the gap with the theory of planned behaviour. *Psychology and Health*, 26(9), 1173-1187.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 27, 415-444.
- McWilliams, L. A., Cox, B. J., & Enns, M. W. (2003). Use of the coping inventory for stressful situations in a clinically depressed sample: Factor structure, personality correlates, and prediction distress. *Journal of Clinical Psychology*, 59(4), 423-437.
- MERCY Malaysia. (2016). Retrieved June 24, 2016, from <http://mercy.org.my/about-us/our-history/>
- Morrison, E. W. (2002). Newcomers' relationships: The role of social network ties during socialization. *Academy of Management Journal*, 45(6), 1149-1160.
- Nour, D. (2011). *Relationship Economics: Transform Your Most Valuable Business Contacts into Personal and Professional Success*. New Jersey, USA: John Wiley & Sons, Inc.
- Pavlova, M. K., & Silbereisen, R. K. (2014). Coping with occupational uncertainty and formal volunteering across the life span. *Journal of Vocational Behavior*, 85(1), 93-105.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731.
- Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: quantitative strategies for communicating indirect effects. *Psychological Methods*, 16(2), 93-115.
- Rothmann, I. (2011). Retrieved from Kappa-squared: Mediation Effect Size: <http://stats.myresearchsurvey.com/kappasquared/>
- Rothstein, B., & Uslaner, E. M. (2005). All for all: Equality, corruption, and social trust. *World Politics*, 58(1), 41-72.
- Savage, S. (2005). Retrieved September 26, 2016, from Task-oriented versus emotion-oriented coping strategies: The case of college students: http://www.redorbit.com/news/health/141147/taskoriented_versus_emotionoriented_coping_strategies_the_case_of_college_students/
- Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling*. New York: Routledge.
- Siegrist, M., & Cvetkovich, G. (2000). Perception of hazards: The role of social trust and knowledge. *Risk Analysis*, 20(5), 713-719.
- Stukas, A. A., Hoye, R., Nicholson, M., Brown, K. M., & Aisbett, L. (2016). Motivations to volunteer and their associations with volunteers' well-being. *Nonprofit and Voluntary Sector Quarterly*, 45(1), 112-132.
- Stukas, A. A., Snyder, M., & Clary, E. G. (2016). Understanding and encouraging volunteerism and community involvement. *The Journal of Social Psychology*, 156(3), 243-255.
- Van Ingen, E., & Bekkers, R. (2015). Generalized trust through civic engagement? Evidence from five national panel studies. *Political Psychology*, 36(3), 277-294.
- Westaby, J. D., Woods, N., & Pfaff, D. L. (2016). Extending dynamic network theory to group and social interaction analysis Uncovering key behavioral elements, cycles, and emergent states. *Organizational Psychology Review*, 6(1), 34-62.
- Wilson, J. (2000). Volunteering. *Annual Review of Sociology*, 26, 215-240.
- Wing, S. C., & Lai, S. C. (2008). Social network, social trust, and shared goals in organizational knowledge sharing. *Information & Management*, 45(7), 458-465.
- Yamagishi, T., Cook, K. S., & Watabe, M. (1998). Uncertainty, trust, and commitment formation in the United States and Japan. *American Journal of Sociology*, 104(1), 165-194.

TECHNICAL STUDENTS' ATTITUDE TOWARDS MATHEMATICS

¹Mislina Atan & ²Fauziah Kasmin

¹Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka

² Faculty of Information and Communication Technology, Universiti Teknikal Malaysia Melaka

mislina@utem.edu.my

ABSTRACT

Technical education has been highlighted as a focus component in developing more experts in Malaysia. The growth in numbers of expert in technical area for one country has been said as one of the indicator toward developed country. As a foundation to produce more experts technologist in technical area, mathematics has been identify as a major subject that technical students need to mastered. Thus, the purpose of this study is to investigate university technical students' attitude towards mathematics. The data were collected from 278 university technical students which the participants were assigned to complete Student Attitude Survey (SAS). The data was analysed using descriptive statistics and factor analysis. The finding shows there were four components extracted from the factor analysis, which are positive attitude, anxiety towards mathematics, required support systems and prefer collaboration in learning mathematics. The findings leads mathematics educators in technical higher learning institution to have better view and readiness to plan their teaching method according to technical students attitude towards mathematics.

Keywords: Attitude, Mathematics, Technical students, TVET, factor analysis.

Introduction

Malaysia is moving toward high income country and seriously moulding a creative and innovative generation. To achieve this objectives, Mathematics seems to be one of the important foundation since most of knowledge regarding technologies and science in innovations emerge from Mathematics. Even, to obtain a sustainable development in our country, Mathematics play an important role as research has shown that, mathematical model can describe and solve many developmental challenges. Furthermore, mathematics helps and allows us to sustain most of human activities. However, most of the students unable to relate mathematical concept in solving real life problems. Some of them only learn mathematics to fulfill the minimum requirements for finishing their high school. This kind of mind set should be transformed since it affects the development of the society. From a study by Organisation for Economic Cooperation and Development (OECD), it is stated that the proficiency of mathematics and science among 15 year old Malaysians is low among developed countries in 2012. In 2015, Malaysia have been ranked in 52nd out of 72 countries in Programme for International Student Assessment (PISA) results (Jackson, 2016). Students who are weak in learning mathematics will influence the process of making a developed Malaysians in 2020 (Zakaria, Zain, Ahmad, & Erlina, 2012). Some of the consequences of failing Mathematics subject are include disable to grasp ambitions in professional and academic efforts. In the study of students' interest in science-related careers, it is found that 67% respondents chose careers that were unrelated to science. Some actions need to be taken to rectify this issue.

Currently, Ministry of Education instill science, technology, engineering and mathematics (STEM) in a curriculum to equip students and graduates that fulfill the needs of industry. STEM assimilates learning paradigm that nurture logical reasoning, inquiring minds and collaboration skills based on real-world applications. These competencies includes deep knowledge of a subject, problem solving, creativity, critical thinking and communication skills play an important role to a wide range of employments. International research show that 75% of the fastest growing occupations now require STEM skills and knowledge (Office of the Chief Scientist, 2014). Apart from STEM, technical education also has been highlighted as a focus component in developing more experts in Malaysia (Mahazir I., Norazah, Ridzwan, & Rosseni, 2013). The growth in numbers of expert in technical area

for one country has been said as one of the indicator to be developed country. Hence, in order to build a foundation for understanding the scientific basis of technology, mathematics and science are mandatory to be introduced into the TVET curriculum, especially for the engineering trades (Gamble, 2013).

Mathematics learning generally involve both cognitive and affective domain. However, recent study emphasis more on affective domain than the cognitive (Maltese & Tai, 2011). Attitudes, motivation, beliefs, emotion and interest are among the constructs in the affective domain that contribute as important determinants of the quality and depth of learning process, participation of the classroom activities, student persistence on a given task, their way of studying, as well as their future preferences (Hidi & Renninger, 2006; Maltese & Tai, 2011; Schloglmann & Wedege, 2007). Sustainability in teaching and learning processes of mathematics also require further investigation in students' attitude towards mathematics. It is due to the finding that reveals positive attitude will increase the success of the students in mathematics (Farooq & Shah, 2008). Positive attitude also has a significant impacts on students' effective engagement, participations and achievements in mathematics (Khoo & Ainley, 2005).

Many research have been done to investigate attitude of students towards mathematics. Most of researchers (Farooq & Shah, 2008) (Mohamed & Waheed, 2011)(Ashby, 2009)(Belbase, 2013)(De Lourdes Mata, Monteiro, & Peixoto, 2012) agree that attitude towards mathematics play an important role in the process of teaching and learning mathematics. In the long term, understanding and achievement of mathematics will be effected. From the work done by (Farooq & Shah, 2008) and (De Lourdes Mata et al., 2012), they indicate there are no difference on the attitude towards mathematics among gender. Literature done by (Mohamed & Waheed, 2011) found that there are few factors that have been categorized into three different groups which affect students' attitude towards mathematics. The first factor are factors related to the students for example students' self-efficacy and concept, extrinsic motivation and their own experiences. The second factor includes factors about school, teacher and teaching. While the third factor involves factors associated with students' surroundings for example home and society.

Mathematics anxiety is considered as one of serious problem that affect mathematics education (Yaratan, & Kasapoğlu 2012) (Zakaria, Zain, Ahmad, & Erlina, 2012) (Belbase, 2013). In a study done by (Zakaria et al., 2012), they have found that there are differences exist among secondary school students in terms of level of mathematics anxiety. Level of mathematics anxiety at the end will affect students' achievement in mathematics. Higher anxiety toward mathematics have made students avoid and refuse to attend meaningful learning process and eventually they fail in exams (Yaratan & Kasapoğlu, 2012). Researchers come to a conclusion that teaching and learning strategies need to be enhanced to help students overcome their mathematics anxiety.

One of the main priorities in education policy is investments on infrastructure. Infrastructure in educational institutions such as ICT infrastructure which includes computers, whiteboards, connectivity, software and etc are very important as nowadays teaching and learning can be done via online. As time flies towards globalization era, internet technology and social media grow sophisticatedly and enable virtual interaction between teachers and students. Hence, there are many learning model anticipates the usage of internet have been developed. One of the learning model used nowadays is blended learning model which is the combination of an e-learning system and traditional approach of teaching (Lin, 2017). At first, a teacher will conduct classes and after the students have grabbed basic fundamentals of the courses, the students shall proceed to learn via online. This kind of teaching approach need a very good infrastructure and fast network. Using efficient support system can boost up positive attitude towards mathematics (Al-Nefae, 2015) (Zuljan & Janez Vogrinc, 2010).

Learning in small groups have positive impact towards students' performance, knowledge development, thinking skills, social skills and course satisfaction in some of key areas (Davidson &

Major, 2014). Some of the research done by (Samuelsson, 2010) (Curtis, 2009) (Davidson & Major, 2014) indicate that peer collaboration have affected the students' progress in quantitative concepts. In research done by (Curtis, 2009), they found that, longer period of time need to be given to the group for them to work together as they perform better. Gillies and Boyle (Gillies & Boyle, 2010) indicate that teachers have reflected positively about cooperative learning. Cooperative learning should be used more widely as they said students responded well to their own group. However, in order to implement peer collaboration effectively, it require commitment from teachers and teachers need to be trained with skills as the tasks are complex and challenging.

With the belief that attitude plays an important role in learning mathematics (Neala, 1969), it becomes an important research area in mathematics education due to several reasons. Attitude can explain the reasons of many behaviours as well as it reflects persons' perception towards one particular subject. Apart from that, attitude give clues about unconscious determinants of the behaviours and a basis for all social behaviour. Hence, due to these reasons, then further research that seeks to understand the attitude of students towards mathematics need to be done. This will aid us to strategize future movement to increase mathematics achievement among TVET students. The objectives of this paper is to examine the factor structure of technical students' attitudes towards mathematics.

Methodology

The study used a quantitative research methods. A total of 278 technical university students from three faculties participated in this study. The respondents were Diploma and Degree students in one of the technical university in Malaysia. The study concentrated on collecting and analysing data to examine the factor structure of technical students' attitudes towards mathematics. This study was using questionnaire survey, The Students Attitude Survey (SAS) for data collection. The questionnaire consists of two parts; demographic backgrounds and the 26 items that measure students' attitude toward mathematics. The descriptive statistics and factor analysis were used to analyse the data.

Research Finding

The result of the data analysis reports a demographic background of the respondents and reports the findings on the factors extracted from factor analysis procedure. The factors extracted represents students' attitude towards mathematics among the technical students.

Table 1 shows a demographic background of the respondents.

Table 1. Descriptive Statistics of Demographic Background

		Frequency	Percentage
Gender	Male	127	45.7
	Female	151	54.3
Ethnics	Malay	216	77.7
	Chinese	49	17.6
	Indian	2	.7
	International/others	11	4.0
Technology Faculty	Faculty of Information and Communication Technology	100	36.0

	Faculty of Technology Management and Technopreneurship	112	40.3
	Faculty of Engineering Technology	66	23.7
Entrance To University	Diploma	90	32.4
	Matriculation	98	35.3
	Sijil Tinggi Pelajaran Malaysia (STPM)	90	32.4
Current Level of Education	Degree	195	70.1
	Diploma	83	29.9
Have You experience learning mathematics using any computer technology?	No	74	26.6
	Yes	204	73.4

A total of 278 respondents was volunteered to be as a sample in this study. From the total, 45.7% was male students and 54.3% was female students. Majority of the respondents were Malays students, which was 77.7%, followed by Chinese (23.7%), International students (4%) and Indian (0.7%).

This study only involved technology faculties at one of the technical university in Malaysia, and the proportion of volunteers to be respondents were as followed; 40.4% from Faculty of Technology Management and Technopreneurship, 36% from Faculty of Information and Communication Technology, and the rest 23.7% were from Faculty of Engineering Technology. The proportion of entrance to the university were almost the same, i.e. 35.3% were enter the university after completed their matriculation course, 32.4% were enter university based on their diploma qualification and 23.7% were enter the university based on their Sijil Tinggi Pelajaran Malaysia (STPM) result. Currently, the respondents were studying in a diploma level (29.9%) and degree level (70.1%). Majority of them were having an experience using technology in learning mathematics (73.4%) and also 26.6% of them were not having any experiences in learning mathematics using any technology.

The study used confirmatory factor analysis to validate the hypothesized factor structure of The Student Attitude Survey (SAS).

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.766
Bartlett's Test of Sphericity	Approx. Chi-Square	2073.258
	df	325
	Sig.	.000

The Bartlett test of sphericity and Kaiser-Meyer-Olkin test were performed to support the use of factor analysis for the data. As shown in Table 2, Bartlett's test of sphericity was significant ($\chi^2 = 2073.258$; $df = 325$, $p < 0.000$) and the KMO index of sampling adequacy was 0.766. It is suggested that if the Bartlett's test of sphericity is significant, and if the Kaiser-Meyer-Olkin measure is greater than 0.6, then factorability is assumed [19]. Thus, based from the results, it is appropriate to proceed

with Factor Analysis to examine technical students' attitude towards mathematics.

Table 3 displays the total variance explained at four stages for examine technical students' attitude towards mathematics. Four factors were extracted with eigenvalues greater than 1.

Table 3. Total Variance Explained

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.729	18.187	18.187	4.729	18.187	18.187	4.289	16.496	16.496
2	2.947	11.335	29.521	2.947	11.335	29.521	2.638	10.145	26.642
3	2.098	8.069	37.590	2.098	8.069	37.590	2.555	9.826	36.467
4	1.484	5.709	43.300	1.484	5.709	43.300	1.776	6.832	43.300

Extraction Method: Principal Component Analysis.

Table 4 shows the rotated factor matrix for the questionnaire. Tabachnick and Fidell [28] stated variable with factor loadings more than 0.45 were chosen in this study because loadings equals to 0.45 is considered average, whereas loadings 0.32 is considered less good.

Table 4. Rotated Factor Matrix

Rotated Component Matrix ^a				
	Component			
	1	2	3	4
1 I think mathematics is important in life	.660			
2 I learn more about mathematics when I working on my own	.496			
3 I do not like to speak in public when doing mathematics		.408		
4 I prefer working alone rather than in groups when doing mathematics	.266	.186	.153	
5 I get anxious in school when learning Mathematics		.443		
6 I learned mathematics more from talking to my friends than from listening to my teacher			.455	

7 Technology can make mathematics easier to understand			.629	
8 Hand phones are an important technology in my life			.415	
9 I like my own space outside university on the majority of the			.351	
10 I enjoy being part of large groups outside classroom			.361	
11 I do not participate in many group activities outside classroom		.609		
12 I do not like attending mathematics lectures		.529		
13 I like math	.862			
14 I feel confident in my abilities to solve mathematics problem	.766			
15 In the past, I have not enjoyed math class		.349		
16 I receive good grades on math tests and quizzes	.599			
17 When I see a math problem, I am nervous		.534		
18 I am not eager to participate in discussions that involve mathematics		.519		
19 I enjoy working in groups better than along in math class				.646
20 I like to go to the board or share my answers with peers in				.393
21 I enjoy hearing the thoughts and ideas of my peers in math class				.564
22 Mathematics interests me	.841			
23 I sometimes feel nervous talking out-loud in front of my class		.411		
24 I enjoy using a computer when learning mathematics			.692	
25 When using technology for learning mathematics, I feel like			.614	
26 I am not comfortable using technology in math class		.676		
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization. ^a				
a. Rotation converged in 8 iterations.				

There were four components extracted from the factor analysis. The components represent the student's attitude towards Mathematics. The first attitude belongs to a group that having positive and motivated towards Mathematics subject. Basically, there is not much problem arise by this group of students and they capable to catch up Mathematics syllabus that structured by the faculty.

The second components extracted from factor analysis was anxiety towards Mathematics subject. Mathematics lecturers should aware on this anxiety issue among students so that further action can be planned to this particular group. This is important for both parties in order to have effective knowledge transfer in producing better expert in technical areas. Thus, further research can be maneuvered to study on the challenges and effective solutions for this particular group.

Having efficient support system was identified as a third component on the TVET students' attitude towards Mathematics. The support system for students to learn Mathematics better can be come from human itself and also human computer interaction. Students receive human support system from their friends and study group outside Mathematics classroom, meanwhile students receive human computer interaction support system from the computer, hand phones, and technology tools. Students who required support system are likely to enjoy learning using technology tools compared to the other loading factors extracted.

The fourth components extracted was collaboration among their peers in learning mathematics. They enjoy working in groups and hearing the thought and ideas of their peers when they study Mathematics. They also like to go to the board for sharing their answer with their peers. However, there was one item which is 'I prefer working alone rather than in groups when doing mathematics', did not show good reliability in the fourth components.

With the finding, it may benefits the technical students, the Mathematics lecturer who are teaching at the technical institutions, as well as the institution itself. The students basically can understand themselves better when discuss about their ability in learning Mathematics. Those who are having positive attitude and motivated in learning Mathematics may help those who are having anxiety towards Mathematics by provide or become support systems and doing some collaborate among them in a same group. This could triggered interest among them and does not left out the group who are having trouble in learning Mathematics.

Mathematic lecturers should aware on the each attitude criteria formed by students when learning Mathematics. This can guide the lecturers to identify the right and effective ways to motivate students on learning more about Mathematics. By doing so, the students able to grasp learning objective of each Mathematics topics faster, deeper and more enjoyable.

The technical institutions also can play their part with the findings that reveal in this study. Since students required to have support systems in both human and computer interaction, as well as collaboration and sharing thought among students in Mathematics discussion, the institution may provide better setting and facilities in term of technology and vibrant environment.

Discussion

The finding benefits to the technical students, the Mathematics lecturer who are teaching at the technical institutions, as well as the institution itself. The students basically can understand themselves better when discuss about their ability in learning Mathematics. Those who are having positive attitude and motivated in learning Mathematics may help those who are having anxiety towards Mathematics by provide or become support systems and doing some collaborate among them in a same group. This could triggered interest among them and does not left out the group who are having trouble in learning Mathematics.

Mathematic lecturers should aware on the each attitude criteria formed by students when learning Mathematics. This can guide the lecturers to identify the right and effective ways to motivate

students on learning more about Mathematics. By doing so, the students able to grasp learning objective of each Mathematics topics faster, deeper and more enjoyable.

The technical institutions also can play their part with the findings that reveal in this study. Since students required to have support systems in both human and computer interaction, as well as collaboration and sharing thought among students in Mathematics discussion, the institution may provide better setting and facilities in term of technology and vibrant environment.

References

- Al-Nefaie, S. (2015). *Investigating factors influencing students' attitude and performance when using web-enhanced learning in developing countries : The case of Saudi Arabia*. Brunel University.
- Ashby, B. (2009). Exploring children's attitudes towards mathematics. *Proceedings of the British Society for Research into Learning Mathematics*, 29(1), 7–12.
- Belbase, S. (2013). Images, Anxieties, and Attitudes toward Mathematics. *International Journal of Education in Mathematics Science and Technology*, 1(4), 230–237.
- Curtis, S. J. (2009). Improving Achievement and Attitude through Cooperative Learning in Math Class, 64. Retrieved from <http://digitalcommons.unl.edu/mathmidactionresearch>
- Davidson, N., & Major, C. H. (2014). Boundary Crossings : Cooperative Learning, Collaborative Learning, and Problem-Based Learning, 25, 7–55.
- De Lourdes Mata, M., Monteiro, V., & Peixoto, F. (2012). Attitudes towards Mathematics: Effects of Individual, Motivational, and Social Support Factors. *Child Development Research*, 876028(10). <http://doi.org/10.1155/2012/876028>
- Farooq, M. S., & Shah, S. Z. U. (2008). Students' Attitude towards Mathematics. *Pakistan Economic and Social Review*, 46(1), 75–83.
- Gamble, J. (2013). Why improved formal teaching and learning are important in technical and vocational education and training (TVET). *Revisiting Global Trends in TVET: Reflections on Theory and Practice*, 204–238.
- Gillies, R. M., & Boyle, M. (2010). Teachers' reflections on cooperative learning: Issues of implementation. *Teaching and Teacher Education*, 26(4), 933–940. <http://doi.org/10.1016/j.tate.2009.10.034>
- Jackson, A. (2016). The latest ranking of top countries in math, reading, and science is out — and the US didn't crack the top 10. Retrieved from <http://www.businessinsider.my/pisa-worldwide-ranking-of-math-science-reading-skills-2016-12/?r=US&IR=T#iTeZyKbm8wtW4x1y.97>
- Lin, Y.-W. (2017). The Effect of Blended Learning in Mathematics Course. *EURASIA Journal of Mathematics, Science and Technology Education*, 13(3), 741–770. <http://doi.org/10.12973/eurasia.2017.00641a>
- Mahazir I, I., Norazah, M. N., Ridzwan, C. R., & Rosseni, D. (2013). The Acceptance of AutoCAD Student for Polytechnic on Mobile Learning. *Procedia - Social and Behavioral Sciences*, 102(Ifee 2012), 169–176. <http://doi.org/10.1016/j.sbspro.2013.10.730>
- Mohamed, L., & Waheed, H. (2011). Secondary Students' Attitude towards Mathematics in a Selected School of Maldives. *International Journal of Humanities and Social Science*, 1(15), 277–281.
- Office of the Chief Scientist. (2014). *Science, Technology, Engineering and Mathematics: Australia's Future. Septiembre*. Australian Government, Canberra. Retrieved from http://www.chiefscientist.gov.au/wpcontent/uploads/STEM_AustraliasFuture_Sept2014_Web.pdf
- Samuelsson, J. (2010). The Effect of Peer Collaboration on Children's Arithmetic And Self-Regulated Learning Skills. *Necatibey Faculty of Education Electronic Journal of Science and Mathematics Education*, 4(2), 130–153.
- Yaratan, H., & Kasapoğlu, L. (2012). Eighth Grade Students' Attitude, Anxiety, and Achievement Pertaining to Mathematics Lessons. *Procedia - Social and Behavioral Sciences*, 46, 162–171. <http://doi.org/10.1016/j.sbspro.2012.05.087>

- Zakaria, E., Zain, N. M., Ahmad, N. A., & Erlina, A. (2012). Mathematics anxiety and achievement among secondary school students. *American Journal of Applied Sciences*, 9(11), 1828–1832. <http://doi.org/10.3844/ajassp.2012.1828.1832>
- Zuljan, M. V., & Janez Vogrinc. (2010). *Facilitating Effective Student Learning through Teacher Research and Innovation. Advances in Mathematics*. Faculty of Education, University of Ljubljana, Slovenia. [http://doi.org/10.1016/S0001-8708\(11\)00086-7](http://doi.org/10.1016/S0001-8708(11)00086-7)

VOLUNTEERISM IS A VEHICLE FOR SUSTAINABLE DEVELOPMENT

Nur Husnina, Azizan Asmuni & Ismi Arif Ismail
Faculty of Educational Studies, Universiti Putra Malaysia
husnina@upm.edu.my, azizanas@upm.edu.my, ismi@upm.edu.my

ABSTRACT

Youth are human capital used by a nation for a long term investment. Youth play important role in shaping the future of politics, economy and society in Malaysia. Volunteers devoted to their life to help others regardless their time and effort. However, in 2010, the numbers of volunteers dropped significantly. It is important to study what predictors that contribute intention to volunteers among youth. Volunteering is the course of action that individual's willing to perform without anticipating any payment to help other people, community and organization. A vast literature was conducted using through various database such as Emerald, Goggle Scholar, Science Direct, Psychological and Behavioral Science Collection and reference list from key studies used to locate information relevant to the study. Articles were used to define volunteerism, and development theoretical model for predictors in volunteerism among youth. Continued studies of predictors of volunteering behavior can promote participation in volunteering activities.

Keywords: Volunteering, Youth Volunteering, predictors of volunteering, theoretical/model of volunteering

Introduction

"We make a living by what we get but we make a life by what we give". A famous quote by Winston Churchill. Volunteerism is powerful impact because it helps mobilize resources and make specific contribution in well-being for the benefit of own community. Each year, individual spending their time and effort to participate in activities that require voluntary action. Volunteer need to be engaged for charitable, educational or any activity. However, the numbers of volunteer's participation significantly dropped in 2010. (Ismail, 2014). There is a lack of volunteers in societies. (Kamaludin, Muhammad, Abdul Wahat, & Ibrahim, 2013). Participation in volunteering activities continued to drop each year with a marked decline in 2010.

The Minister of Youth and Sports revealed that about 80 percent or 3,796 youth associations are not active in Malaysia. Youth volunteers in Malaysia are considered low compared to developed country such as The United States whereby nearly 56 % of the population are involved in volunteering activities such as charitable and other volunteering service. (Ibrahim et al., 2015). One of the reasons is poor participation among youth in volunteering is because they lack of serve of responsibility and dedication towards volunteering behavior. (Ismail, 2014). The Malaysian government is focusing on youth development issues especially in volunteering and social engagement. (Abdulelah, Sallam, Safizal, & Osman, 2015).

There is deficit of research in youth involvement in volunteering area. (Raba'ah, Suandi, Ismail, & Shah, 2015). This practical gap can call for specific research to investigate further in youth involvement in volunteering activities. New findings may promote volunteerism among youth. The volunteerism is a powerful meaning to college student into the field. Thus, this research due on college student and help them to realize their full social economic and human potential.

This study is unique because it analyses the motivating factors that lead to volunteering behavior among youth and by synthesizing the theories, frameworks, models and predictors, result of which and be useful to both academicians and practitioners.

The objective of this paper is to fill the gaps in the past literature and to understand the predictors of volunteering among youth. The specific objectives of this paper are:

- To identify and synthesize the predictors of volunteering behaviour:
- Provide framework for volunteering behaviour based on previous studies:
- Identify the theories, models and framework used in order to synthesize the predictors in various research:

Methodology

A search for published literature was conducted through various database such as Emerald, Goggle Scholar, Science Direct, Psychological and Behavioral Science Collection and reference list from key studies used to locate information relevant to the study. Approximately 70 documents were reviewed, 26 are used in the final literature. Journals were limited to primary peer-reviewed journals, with scholarly works included to provide background and support information in between 2008 to 2016. The reference lists of key articles were searched to add support for several discussion throughout the paper which was obtained by conducting Goggle search by the title. The following keywords were searched: youth volunteering, intention to volunteer, theory to predict volunteering behavior, theory of reasoned action in volunteering, theory of planned behavior in volunteering and integrated behavior model in predicting intention. Most journals specifically detailed on how to make youth longevity in volunteerism, which is a motivation factor for youth to volunteer. There are abundant articles related to volunteer inventory factor (VIF) instead of intention to volunteers.

Volunteering defined

Volunteering is the course of action that individual's willing to perform without anticipating any payment to help other people, community and organization. (Mykletun & Himanen, 2016). Activities in volunteering often take place in long term and planned strategically and involved social activities that benefit the community in organization. (Alias & Ismail, 2015). As volunteers, they perform volunteering behavior at their own will. They carry out volunteering behavior in order to help others who are in need. They are individuals who do not expect any reward from their behavior and often occur in formal organization. (Omoto & Snyder, 2016; Wilson, 2012).

Generally, volunteers are individuals who are willing to help others, community and organization. They are lending their hands without expecting any monetary rewards or recognition based on their action. As volunteers, they are willing to participate in any activity that demands their time and effort. Volunteering is a long term activity, which need to be planned effectively in order to serve community and organization.

Development of theoretical framework

Theory of Reasoned Action (TRA)

Fishbein and Ajzen suggested this theory is constructed by attitude and subjective norms, both these predictors will in turn influence intention.

The first predictor of intention is attitude which can be defined as individual's feeling, either favorable or unfavorable and how they evaluate their feelings. (Lujja, Omar, & Hassan, 2016). Attitude can be described as individual behavioral belief. (Hassandoust, Logeswaran, & Kazerouni, 2011). The attitudinal factors were established by two belief systems which are behavioral belief in behavioral outcome and evaluation of the behavioral outcome. When individual believe performing a behavior will have a positive effect, (behavioral belief), then his attitude towards it will become favorable meaning he evaluates the behavioral outcome as positive.

The second predictor of intention is subjective norm, that can be described as through the individual feels like he is receiving social pressure from important people around him them to carry out or not to carry out the behavior. (Lada, Tanakinjal, & Amin, 2009). This beliefs called normative belief.

Normative factor is constructed by two beliefs which are normative belief on referent individuals or on what group thinks and the motivation to comply with these referent beliefs. (King & Thatcher, 2014). The individual will receive social pressure to perform the behavior (normative belief) if he or she believes the referent is supporting the behavior and hence motivated to perform the action.

Even though TRA had been applied in various research scope, however it had several limitations and several author criticized the model. (Joshi et al., 2015; White, Thomas, Johnston, & Hyde, 2008). Most of them agreed that TRA is dependent only on attitude and subjective norm as antecedent factor that predicts human behavior. Next, individual has full control on volitional control. For example, if an individual lacks of skills or knowledge, or interest, volitional control will prevent the individual to perform the behavior. Lastly, attitude and subjective norms are independent of each other. Many authors argued by stating that subjective norms have influence on attitudes. (Tsai, Chin, & Chen, 2010). Due to criticism, Fishbein and Ajzen expanded this theory in 1985 and proposed new theory called Theory of Planned

Behavior

Theory of Planned Behavior (TPB)

The TPB was proposed in 1985 ten years after the Theory of Reasoned Action (TRA) was introduced. (Morrison et al., 2010). TPB consists of attitude, subjective norms and perceived behavior control (PBC).

Attitude factors influenced by behavioral belief, in which the individual recognizes the consequences of participating in the behavior and evaluate the consequence. (Darker, French, Eves, & Sniehotta, 2010). If the individual is aware of the effect of participating in the behavior, they evaluate the outcome of behavior and it will generate intention whether to perform or not to perform the behavior.

Next, another antecedent factor for intention is subjective norms. The social norm belief can be described as perceptive of individual that they have been coerced by people surrounding including friends, parents, family and society to carry out certain behavior. (Sutter & Paulson, 2013; Joshi et al., 2015).

Lastly, PBC is also one of the predictors of intention. PBC is when individual gained level of difficulties to carry out a behavior. The Individual control his behavior, even in a difficult circumstance. (Sutter & Paulson, 2013; Joshi et al., 2015). PBC is determined by control belief, in factors or circumstances in whether or easy state for the individual to perform the behavior, aligned with individuals have self-control on these factors or circumstances whether to proceed with the behavior or to hinder the behavior. (Darker et al., 2010).

The concept of TRA and TPB is somehow similar, however, in TRA the individual have full volatility control (e.g., skills), and he will have a less control in his behavior. The higher the volatility control, the less control individual have. PBC help individual to control their behavior in order to perform the behavior.

Integrated Behavioral model (IBM)

This model was constructed by Theory Reasoned Action (TRA) and Theory of Planned Behavior (TPB). This theory added model such as Social Cognitive Theory by Bandura, (1986) and Health Belief Model by Becker, (1974). (Ciesinski, 2012). This model proposed by Montano and Kasprzyk. This model had been developed through extensive series of studies, including collaboration studies with Fishbein. (Rahman & Noor, 2016).

The element in attitudes are attitude instrumental attitudes and experiential attitudes. Many researchers illustrated that attitude constitutes from affective and cognitive dimensions. Instrumental attitude concept, is similar with behavioral belief which had been applied in TRA and TPB. In

Experiential attitude, if he has a positive emotional feedback from the behavior, he will tend to perform the behavior, whereas by having negative emotional feedback, individual may not carry out the behavior.

The second construct in this model is, perceived norms which focus on social acceptance. Perceived norms are influenced by injunctive and descriptive norms. Injunctive norm, similar with subjective norms have the same meaning as has been explained in TRA and TPB. IBM added descriptive norms, which is perception from the referent who carry out the similar behavior. (Ciesinski, 2012; Braun, 2012)

The third construct of IBM is Personal Agency, which is influenced by Perceived Control and Self- efficacy. In perceived control, the individual believes that he is able to carry out behavior without any environmental constraint. Self- efficacy is added in TPB, whereby the individual believes that he is able to perform behavior in any level of performance. (Ciesinski, 2012; Beville, 2010). In IBM, environment and self- efficacy are factors that affect intention in personal agency, which expand TPB and TRA which only discuss self- efficacy.

Predictors in Volunteering

Experiential Attitude and Instrumental Attitude

Attitudes is one of the factors that determines behavior by predicting intention and is influenced by one's instrumental attitudes and experiential attitudes. Experiential attitudes based on emotional (affective dimension) response of the behavior. (Ciesinski, 2012; Montano & Kasprzyk, 2008). The experiential attitudes is known for affective dimension, which focus on emotions of the individual to perform the behavior. (French et al., 2005). When the individual has positive or negative idea in carrying out the behavior, it come from his attitudes. In experiential attitude, the individual has emotion evaluation whether to perform or not to perform the behavior. (Montano & Kasprzyk, 2008). If the individual has a positive emotional response in performing the behavior, it will be a high chance that he will perform the behavior. Instrumental attitudes can be defined as what individual believe (cognitive dimension) towards outcome from the behavior. (Ciesinski, 2012; Montano & Kasprzyk, 2008). Instrumental attitude can be described as cognitive dimension whereby the individual is likely to involve in the behavior will have advantage over the behavior. (French et al., 2005). Another definition for instrumental attitude is what the individual believe is the outcome of his behavior.

Injunctive Norms and Descriptive Norms

Injunctive norms can be illustrated as what people think about the behavior and how they want the behavior to be executed by individual in certain circumstances.(Stok, De Ridder, De Vet, & De Wit, 2014) . Another definition for injunctive norms reflect what perception from other people who have power to approve action and what are the actions that should be taken to perform the behavior.(White, Smith, Terry, Greenslade, & McKimmie, 2009). In this context, the volunteers need to gain support from people who are considered to be important in their life. They receive social pressure from the people to perform the behavior. Support from parents and friends increases the intention to perform volunteerism. (Stok et al., 2014). Descriptive norms define behavior of other people who have already performed and want to influence the individual which one is normal or typical behavior in certain circumstances.(Stok et al., 2014). Another author suggested that descriptive norms should be perception from people who actually carry out the behavior. The way that they encourage people to perform the behavior is by informing people what they should do, or how they should adapt in certain circumstances and provide alternatives when individual need to choose what is the best behavior to act. (White et al., 2009). The volunteers will have high probability to engage in volunteering activities when they have referent who are volunteers and actively involved in volunteering activities. At here, the referent will give support like what they should act when undergo volunteering activities.

Self- efficacy and Perceived Control

Self- efficacy is individual's confidence to perform the behavior when faced different with challenges.(Montano & Kasprzyk, 2008). In this context, the volunteers need to have confidence when performing their duties as volunteers. They need to have confidence that they will be able to overcome any obstacles in helping communities. Perceived control can be illustrated as the individual have control over his behavior in his environment. The individual has perception on his own capability when related to environmental factors whenever he feel an easy or difficult to perform the behavior. (Montano & Kasprzyk, 2008). Environmental factor in this context is refer to issues like whenever any objection from community to perform the behavior and his capability to overcome the obstacles.

Conclusion and Recommendation

As been presented in the literature, volunteering number are dropping and causing a concern to the nation. This literature review was created to facilitate what factors contribute towards intention to volunteer among youth. The literature presented had navigated the author to examine area for future research as discussed below. This review discussed a volunteer as an individual who are willing to participate in any activities that demand their time and effort. The theory applied in this paper are TRA, TPB and IBM which are integrated three theories to become predictors of volunteering behavior. A possible area for future research would be to discover if there are other predictors that can contribute more in volunteering behavior. Past research that applied IBM model are focused more on health area, limiting the model to psychological area. For future purposes, researchers can apply this model to another area of discipline, not only youth volunteerism. Continued studies of predictors of volunteering behavior can promote participation in volunteering activities.

References

- Abdulelah, A., Sallam, A., Safizal, M., & Osman, a. (2015). The key drivers of volunteering intention among undergraduate Malaysia students. *International Journal of Economics, Commerce and Management, III*(2), 1–13.
- Alias, S. N., & Ismail, M. (2015). Antecedents of philanthropic behavior of health care volunteers. *European Journal of Training and Development, 277–297*. <https://doi.org/10.1108/EJTD-01-2014-0005>
- Beville, J. M. (2010). a Theory-Based Investigation of Leisure Time Physical Activity Among College Students.
- Braun, R. E. (2012). Using the Integrated Behavioral Model to Predict Binge Drinking among College Students. *ProQuest Dissertations and Theses*, 189. Retrieved from http://ezproxy.nottingham.ac.uk/login?url=http://search.proquest.com/docview/1033503141?accountid=8018%5Cnhttp://sfx.nottingham.ac.uk/sfx_local/?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&genre=dissertations+&+theses&sid=ProQ:ProQue
- Ciesinski, A. K. (2012). Health Care Providers' Intention to Provide Culturally Competent Health Care to Somali Based Upon the Indirect Measures of the Integrated Behavioral Model.
- Darker, C. D., French, D. P., Eves, F. F., & Sniehotta, F. F. (2010). An intervention to promote walking amongst the general population based on an "extended" theory of planned behaviour: A waiting list randomised controlled trial. *Psychology and Health, 25*(1), 71–88. <https://doi.org/10.1080/08870440902893716>
- French, D. P., Sutton, S., Hennings, S. J., Mitchell, J., Wareham, N. J., Griffin, S., ... Kinmonth, A. L. (2005). The Importance of Affective Beliefs and Attitudes in the Theory of Planned Behaviour: Predicting Intention to Increase Physical Activity. *Journal of Applied Social Psychology, 35*(9), 1824–1848.
- Hassandoust, F., Logeswaran, R., & Kazerouni, M. F. (2011). Behavioral factors influencing virtual knowledge sharing: theory of reasoned action. *Journal of Applied Research in Higher Education, 3*(2), 116–134. <https://doi.org/10.1108/17581181111198665>
- Ibrahim, M., Dara, A., Manam, M., Abdul, A., Sontang, M., Arif, N., ... Csd, S. (2015). Factors Determining the Efficiency of the Drug Prevention Program of Youth Volun- Teers in Kuala Terengganu , Malaysia, *8*(3), 767–776.

- Ismail, S., Samat, N. A., Parnabas, V., ... Hamid, N. A. (2014). Youth Volunteerism In Chow kit, Malaysia: Factors of Involvement. *Global Illuminators*.
- Joshi, G., Gezan, S., Delisle, T., Stopka, C., Pigg, M., & Tillman, M. (2015). Intentions of College Students to Serve as Informal Caregivers for Their Older Relatives: Theory of Planned Behavior Approach. *Educational Gerontology*, 41(5), 384–396. <https://doi.org/10.1080/03601277.2014.974391>
- Kamaludin, K. M., Muhammad, M., Abdul Wahat, N. W., & Ibrahim, R. (2013). Challenges in volunteering from cancer care volunteers perspectives. *Asian Pacific Journal of Cancer Prevention*, 14(8), 4795–4800. <https://doi.org/10.7314/APJCP.2013.14.8.4795>
- King, B., & Thatcher, A. (2014). Attitudes towards software piracy in South Africa: Knowledge of Intellectual Property Laws as a moderator. *Behaviour and Information Technology*, 33(3), 209–223. <https://doi.org/10.1080/0144929X.2012.688870>
- Lada, S., Tanakinjal, G. H., & Amin, H. (2009). Predicting intention to choose <IT>halal</IT> products using theory of reasoned action. *International Journal of Islamic and Middle Eastern Finance and Management*, 2(1), 66–76. <https://doi.org/10.1108/17538390910946276>
- Lujja, S., Omar, M., & Hassan, M. R. (2016). Modelling public behavioral intention to adopt Islamic banking in Uganda : the theory of reasoned action. *International Journal of Islamic and Middle Eastern Finance and Management*, 9(4), 1–25. <https://doi.org/10.1108/IMEFM-08-2015-0092>
- Montano, D. E., & Kasprzyk, D. (2008). *Theory of reasoned action, theory of planned behavior and the integrated behavioral model. Health behavior and health education*. <https://doi.org/http://hdl.handle.net/2027/spo.10381607.0007.102>
- Morrison, D. M., Lohr, M. J., Beadnell, B. a, Gillmore, M. R., Lewis, S., & Gilchrist, L. (2010). Young mothers' decisions to use marijuana: a test of an expanded Theory of Planned Behaviour. *Psychology & Health*, 25(5), 569–587. <https://doi.org/10.1080/08870440902777554>
- Mykletun, R. J., & Himanen, K. (2016). Volunteers at biking race events Antecedents of commitment and intention to remain volunteering at future events. *Sport, Business and Management: An International Journal*, 6(3), 2016. <https://doi.org/10.1108/SBM-12-2014-0051>
- Omoto, A. M., & Snyder, M. (2016). The Context and Process of Volunteerism, 45(5), 846–867.
- Raba'ah, H. S., Suandi, T., Ismail, I. A., & Shah, J. A. (2015). Understanding the reasons for Malaysian youth participation in volunteering activities. *Athens Institute for Education and Research*, (January), 1–14.
- Rahman, K. M., & Noor, N. A. M. (2016). In search of a model explaining organic food purchase behavior The overlooked story of Montano and. *British Food Journal*, 118(12), 2893–2910. <https://doi.org/10.1108/BFJ-02-2016-0060>
- Stok, F. M., De Ridder, D. T. D., De Vet, E., & De Wit, J. B. F. (2014). Don't tell me what i should do, but what others do: The influence of descriptive and injunctive peer norms on fruit consumption in adolescents. *British Journal of Health Psychology*, 19(1), 52–64. <https://doi.org/10.1111/bjhp.12030>
- Sutter, N., & Paulson, S. (2013). Predicting College Students ' Intention To Graduate : a Test of the Theory of Planned Behavior. *College Student Journal*.
- Tsai, M.-T., Chin, C.-W., & Chen, C.-C. (2010). The effect of trust belief and salesperson's expertise on consumer's intention to purchase nutraceuticals: Applying the theory of reasoned action. *Social Behavior and Personality: An International Journal*, 38(41), 273–287. <https://doi.org/10.2224/sbp.2010.38.2.273>
- White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behaviour: the role of descriptive, injunctive, and in-group norms. *The British Journal of Social Psychology / the British Psychological Society*, 48(Pt 1), 135–158. <https://doi.org/10.1348/014466608X295207>
- White, K. M., Thomas, I., Johnston, K. L., & Hyde, M. K. (2008). Predicting attendance at peer-assisted study sessions for statistics: role identity and the theory of planned behavior. *The Journal of Social Psychology*, 148(4), 473–491. <https://doi.org/10.3200/SOCP.148.4.473-492>
- Wilson, J. (2012). *Volunteerism Research: A Review Essay. Nonprofit and Voluntary Sector Quarterly* (Vol. 41). <https://doi.org/10.1177/0899764011434558>

IRANIAN INTERNATIONAL STUDENTS' TEXT STRUCTURE AWARENESS

Fatemeh Amiri
Universiti Teknologi Malaysia (UTM)
famiri80@gmail.com

ABSTRACT

The purpose of this study is to investigate students' awareness on text structure. The text structures in focus are compare/contrast and cause/effect expository texts via responses to a 14 items questionnaire. Sixty six intermediate and advance level Iranian international students at a Malaysian university were assigned to respond to the questionnaire. Results from the analysis indicate that both groups demonstrated an average level of text structure awareness. Although there are not many differences between advanced and intermediate students in their text structure awareness, the advanced level seems to demonstrate slightly more awareness on text structure and the preferences on reading in respected text structures. Findings of this study could provide significant insights for both teachers and students to understand how different reading texts can be organized in terms of difficulty. Finally, the study encourages the use of technology in order to enhance students' awareness and performance in expository text structure.

Keywords: Text structure, awareness, technology, international students

Introduction

The most comprehensive research in text structure was carried out by Meyer (1975). The researcher investigated the structures of expository text and specified the logical connections in text. According to Meyer (1975), text structure provides organizational patterns that help reader identify and link together the most indispensable related propositions, and specifies the subordination of some ideas to others. Meyer's classification system provided the basic organizational structures for authors of expository text. The categories of the system comprise attribution (description), sequence (collection), adversative comparison, and response (problem/solution) and covariance (cause/effect). Meyer postulated that various semantic and syntactic techniques signal the relationships of these top-level structures to the reader. For example, temporal indicators such as "first," "second," "then," and "finally," signals syntactically the sequence structure whereas the comparison structure is signaled through indicators such as "in contrast to," "like," and "similarly."

Previous studies indicated that students display different sensitivity to various text structures. For instance, in study conducted by Meyer and Freedle (1980) among adults, participants were presented with passages representing four text structures (covariance, adversative, response, and attribution). The written recall protocols produced by the participants after reading indicated that they performed better in adversative and covariance than attribution passages. In another study, Amiri et al. (2012) investigated two groups of Iranian students' performance on two types of text structure: compare/contrast and cause/effect. The results indicated that Iranian students performed better in compare/contrast than in cause/effect text structure.

Saadatnia et al (2016) compared students' literal and inferential comprehension of descriptive and enumerative expository. The results revealed that the participants' performance was meaningfully superior on the descriptive texts at both levels of literal and inferential comprehension. The results also indicated that literal comprehension considerably outweighed inferential comprehension in both text structures of description and enumeration.

Elfrieda et. al acknowledged the importance of knowledge of text structure particularly among university students since they are required to do extensive amount of reading materials, term papers and

examinations which are produced in expository test. The researchers also indicated that knowledge of text structure enhanced students' performance in their writings by controlling the writer in producing sentences consistent with the given topics and text structures. To this end, investigating international students' awareness of text structure is primary step in assisting them in study journey which thesis writing is their main objective.

Methodology

This paper is part of a larger research work on the effect of text structure on readers' reading comprehension.

Participants

The respondents of the study are 68 Iranian international students at a public university in Malaysia including 34 advanced and 34 intermediate levels of English proficiency. The population sampling of this research is purposive sampling. In purposive sampling, the researcher selects the subjects based on the variable which suggests that this group of students meet the criteria of the study. The criteria for this study include two groups of Iranian origin studying in masters or PhD levels. The first group refers to those Iranian postgraduates who have IELTS band score of 6 and above which are called advanced level. The second group refers those attending preparatory English courses (one English module); these students are called intermediate level. They would provide the required data for the researcher (Frankel, Wallen, Hyun, 2012).

Research Instrument

The questionnaire is designed to elicit students' awareness on the following; (i) whether the students are aware of compare/contrast text structure (items 4,7, 12, 13), (ii) whether the students are aware of cause/effect text structure (items 3, 9, 14), (iii) whether the students have general awareness of text structure (items 1, 5, 10), and (iv) whether the students have awareness of text structure with content (items 2, 6, 8, 11). The questionnaire is administered in bilingual, English and participants first language which is Persian, in order to minimize any ambiguity and misunderstanding of the variables. It is validated via a pilot study. The test papers along with the questionnaire are attached.

In order to assess the reliability of the questionnaire, a pilot study was conducted in that 13 students from advanced and intermediate levels participated in the pilot study. First, they answered the provided tests in compare/contrast and cause/effect text structures in order to be exposed and have insight for the variables in the questionnaire. Then, they completed the 14 item questionnaire. For the analysis, the Cronbach Alpha Coefficient is implemented. Cronbach's Alpha measures how well a set of items (or variables) measure a single unidimensional latent construct. Cronbach's Alpha is not a statistical test, rather it is a coefficient of reliability (or consistency), and the reliability coefficient of 0.7 or higher is considered "acceptable" in most social science research situations (Coakes and Steed, 2003). As indicated in the table 1 the results of the pilot study is .774 which is considered satisfactory.

Table 1. Reliability Statistics

Cronbach's Alpha	N of Items
.774	14

Results

Awareness of Text Structures

The advanced and intermediate subjects' responses to a 15 item questionnaire regarding text structure awareness were analyzed in order to identify:

Research objective: Are there any differences between advanced and intermediate students in their text structure awareness?

There were 15 items designed in the attempt to obtain the students' awareness of text structure in reading comprehension. The aspects of awareness elicited from the students' in this study are intended to find out the following; (i) whether the students are aware of compare/contrast text structure, (ii) whether the students are aware of cause/effect text structure, (iii) whether the students have general awareness of text structure, and (iv) whether the students have awareness of text structure with content. The responses obtained from these items were tabulated using T-test and results as explained through descriptive statistics using mean score and standard deviation.

Table 2. Awareness of Compare/contrast Text Structure

Questionnaire Item		Level	Mean	Std. Deviation
Q4_R	I am confused when I read text in compare/contrast structure	Intermediate	3.0574	1.13611
		Advanced	2.9583	1.04170
Q7	I am aware of organization of compare/contrast text structure	Intermediate	3.3429	.83817
		Advanced	3.7500	.67566
Q11	I prefer to read text in compare/contrast text structure	Intermediate	3.4286	.91670
		Advanced	3.5833	.82970
Q13_R	I rate the compare/contrast reading passage as a difficult text.	Intermediate	3.2571	1.09391
		Advanced	3.3750	1.20911

Table 2 shows the results of the items 4, 7, 11, 13 regarding awareness of compare/contrast text structures in both levels. The result for item 4 '*I am confused when I read text in compare/contrast structure*' shows that the mean score for intermediate group is 3.0574 (s.d. 1.13611) and for advanced group is 2.9583 (s.d. 1.04170). This indicates that advanced group faces less difficulty than their intermediate counterparts when reading compare/contrast text structure. In item 7 '*I am aware of organization of compare/contrast text structure*' for intermediate group, the mean score is 3.3429 (s.d. .83817) and for advanced level, the mean score is 3.7500 (s.d. .67566). It represents that both groups have an average awareness of compare/contrast text structure as they meet the value of 3 which is regarded as a desirable level of measurement in statistics. As for item 11 '*I prefer to read text in compare/contrast text structure*' in intermediate level, the mean score is 3.4286 (s.d. .91670) and for the advanced group, the mean score is 3.5833 (s.d. .82970). It shows that there are not much differences between advanced and intermediate groups in their preference for reading in compare/contrast text structure and both groups represented desirable value for this item. The result for item 13 '*I rate the compare/contrast reading passage as a difficult text*' in intermediate group, the mean score is 3.2571 (s.d. 1.09391) and for advanced level the mean score is 3.3750 (s.d. 1.20911). In this item, the advanced group indicated a higher value regarding the text as being difficult compared to intermediate group.

The results of awareness on compare/contrast text structure indicate that both advanced and intermediate groups have a desirable level of awareness of the respective text structure. However, the advanced group slightly indicated higher value on their awareness on compare contrast text structure, preference for reading this text structure, and considering the respective text as a difficult text structure and lower value of being confused when reading this text structure.

Table 3. Awareness of Cause/Effect Text Structure

Questionnaire		Level	Mean	Std. Deviation
Item				
Q3	I prefer to read a text in cause/effect text structure	Intermediate	3.4857	.98134
		Advanced	3.5833	1.28255
		Advanced	4.1250	.74089
Q12	I am aware of organization of cause/effect text structure	Intermediate	3.4000	.91394
		Advanced	3.7917	.83297
Q14_R	I rate the cause/effect reading passage as a difficult text.	Intermediate	3.0000	1.02899
		Advanced	3.5833	.88055

Table 3 presents data analysis for items 3, 12 and 14. Item 3 '*I prefer to read a text in cause/effect text structure*' in intermediate level the mean score is 3.48 (s.d. .98134) and for advanced level the mean score is 3.58 (s.d. 1.28255). Although both groups demonstrated desirable value for this item, there is not much difference in subjects' preference from different level of proficiency on reading in cause/effect text structure. In item 12 '*I am aware of organization of cause/effect text structure*' at intermediate level the mean score is 3.40 (s.d. .91394) and for advanced level the mean score is 3.79 (s.d. .83297). In this item, except for minor superiority of advanced group for their cause/effect text structure awareness, both groups indicated a desirable value. In item 14 '*I rate the cause/effect reading passage as a difficult text*' for intermediate level the mean score is 3.00, (s.d. 1.02899) and for advanced level the mean score is 3.58 (s.d. .88055). Again in this item, the advanced group seems to regard the cause/effect text structure more difficult compared to intermediate group.

Data analysis of cause/effect text structure shows that both advanced and intermediate groups have an average level of awareness of cause/effect text structure. However, advanced level presented higher value on regarding the cause/effect text as being difficult as they did in compare/contrast text.

Table 4. General Awareness of Text Structure

Questionnaire Item		Level	Mean	Std. Deviation
Q1	I am aware of organization of text structure	Intermediate	3.3429	1.10992
		Advanced	4.3750	.64690
Q5	I prefer to read text with organized text structure	Intermediate	3.9143	1.12122
		Advanced	4.4167	.50361
Q9_R	I am not sure of the text structure type when I read a text	Intermediate	3.3143	.86675
		Advanced	4.0000	.72232

Table 4 represents results of the general awareness of text structure in items 1, 5 and 9. In item 1 '*I am aware of organization of text structure*' in which for the intermediate level the mean score is 3.34 (s.d. 1.10992) and for advanced level, the mean score is 4.37 (s.d. .64690). In this item the advanced group significantly represented higher value compared to their intermediate counterparts regarding awareness on text structure organization. In item 5 '*I prefer to read text with organized text structure*' the mean score is 3.91 (s.d. 1.12122), for the advanced group, the mean score is 4.41 (s.d.

.50361). Similarly in this item, the intermediate group, unlike the advanced ones, tend to keep their stand around the desirable level of the measurement while the advanced group indicates high preference for reading text in an organized structure. Results of item 9 ‘*I am not sure of the text structure type when I read a text*’ for the intermediate group, the mean score is 3.31 (s.d. .86675) and in the advanced group, the mean score is 4.00 (s.d. .72232). The same trend continues for this item in which the value is higher for advanced group than intermediate ones.

The results from general awareness of text structure shows that advanced group presents higher value on all three items than intermediate group regarding awareness of organization of text structure, preference to read in organized text structure and not being sure of text structure type. The intermediate group, on the other hand, tends to remain in the same trend as presented for almost other items which is the average level.

Table 5. Awareness on Organization of Ideas

Questionnaire Item		Level	Mean	Std. Deviation
Q2	I am alert of organization of main ideas in the text	Intermediate	3.5429	1.03875
		Advanced	4.0833	.71728
Q6	I am sure of organization of detailed ideas in the text	Intermediate	2.9714	1.01419
		Advanced	3.3333	.76139
Q8_R	I am not alert of organization of main Ideas in the text	Intermediate	3.4286	1.00837
		Advanced	3.9583	.80645
Q10_R	I am confused with organization of detailed ideas in the text	Intermediate	2.9429	1.10992
		Advanced	3.2917	.99909

Table 5 represents the analysis of items on awareness organization of ideas in items 2, 6, 8, and 10. Results for item 2 ‘*I am alert of organization of main ideas in the text*’ in intermediate group, the mean score is 3.54 (s.d. 1.03875), and for advanced level, the mean score is 4.08 (s.d. .71728). The results reveal that advanced group has higher awareness on organization of main ideas than intermediate group. In item 6 ‘*I am sure of organization of detailed ideas in the text*’ in intermediate level, the mean score is 2.97 (s.d. 1.01419) and for advanced level, the mean score is 3.33 (s.d. .76139). The results of this item show that both groups have difficulty in recognizing the detailed ideas. It is challenging especially for the intermediate group that the value represented is lower than desired level. In item 8 ‘*I am not alert of organization of main Ideas in the text*’ in intermediate level, the mean score is 3.42 (s.d. 1.00837) and for advanced level, the mean score is 3.95 (s.d. .80645). The results for both groups are above the average value, however, the advanced group indicated a higher value considering not being alert of organization of main ideas. In item 10 ‘*I am confused with organization of detailed ideas in the text*’ the result for intermediate level, the mean score is 2.94 (s.d. 1.10992) and for the advanced group, the mean score is 3.29 (s.d. .99909). In this item the intermediate group indicates lower value than advanced group considering the confusion with the detailed ideas which contradicts their value represented in item 6 which is related to the same issue.

The results from (Table 4.7) show that the advance group is more aware of main and detailed ideas in the text than intermediate group. However, the intermediate group presented lower value for confusion with the detailed ideas in the text than their advanced counterparts.

Discussions and Conclusion

In this paper, the researcher aimed to see whether there are any differences between advanced and intermediate students in their text structure awareness. Results from the analysis (tables 2 to 5) indicate that both groups demonstrated an average level of text structure awareness. Although there are not many differences between advanced and intermediate students in their text structure awareness, the advanced level seems to demonstrate slightly more awareness on text structure and the preferences on reading in respected text structures.

The fact that advanced level is more aware of text structure can be explained by their result on reading comprehension test. For example, in item 14 '*I rate the cause/effect reading passage as a difficult text*' the values represented by advanced group are considerably higher than the values indicated by intermediate group. Because the advanced group scored higher in compare/contrast test than cause/effect one, it can be concluded that they are actually aware of text structure difficulty and consequently are careful in answering the questionnaire items that make their choice more in accordance with their performance.

The intermediate group, on the other hand, tends to indicate the same value for almost all items and there are not much difference regarding a text as being more difficult or preferring a particular text structure for reading. In addition, it seems that there is a contradiction between their questionnaire item response and text performance. For example, they represented higher value for item 13 '*I rate the compare/contrast reading passage as a difficult text*', with the mean of 3.25 than item 14 '*I rate the cause/effect reading passage as a difficult text*', with the mean of 3.00, while they had better performance in compare/contrast than cause/effect text structure. It can be argued that the less students are aware of text structure, the less they can decide on the level of text difficulty.

The reason for the intermediate students to remain in the average value of the scale may be due to the limitation of the questionnaire items that makes use of five Likert scale. The scale allows the students to become indecisive by choosing '3' as the middle range scale. This may have an effect on the overall result.

In relation to the constructivist theory it can be noted that item 5 '*I prefer to read text with organized text structure*' refers to the facilitative role of the cues and connectives that relate the different ideas, phrases, clauses, and also the paragraphs in organized manner that help the readers to better remember and connect the ideas to understand the intended meaning. Moreover, in item 10 '*I am confused with organization of detailed ideas in the text*' sometimes the length and the existence of complexity in the sentence to deliver the writers intended meaning may cause confusion for the readers. As it was the case for the cause/effect text of this study, reading deficiency and poor awareness of text structure especially in intermediate group lead to failure to accomplish this procedure of meaning construction.

This finding is in line with the results of studies carried out by Carrell (2006) and Joanna P. Williams (2017) postulated that found good readers are more aware of text structure compared to poor readers. However, it contradicts with the result of Ghaith and Harkouss (2003) that stated there is no significant difference between proficient and less proficient readers in their text structure awareness.

Traditionally, reading strategy instruction including "*determining the main messages as in summarization, using text enhancements such as illustrations, text structure representations, and mental images, question and answer drills like self-questioning, and meta-cognition such as comprehension monitoring (p.9).*" had been accounted as the effective way in order to enhance students' awareness in text structure and improve their reading performance (Sung, Chang, and Huang, 2008, cited in Carter et al (2014). This study encourages applying technology in order to enhance students' awareness and performance in text structure as: informational technology diminishes the dilemmas of reading strategy instruction (Sung, Chang, and Huang, 2008); technology helps students to become effective information manager. This is particularly important by virtue of the amount of growing

information they have to disseminate (Heider, 2009); Web reading assists adult language learners who lack sufficient prior knowledge in their acquisition of language

(Murray and McPherson, 2006); Internet-based reading Software increases students' achievement (Cobb, 2010); student show better achievement when presented with information by a computer than paper text (Kerr and Simons, 2006); Internet provides teachers to implement authentic learning strategies in the classroom where students are free to choose reading materials based on their own interests. This also showed that reading and writing strategies blended with available technology improved students' self-esteem and motivation (Castellani and Jeffs, 2001); and through technology students demonstrate improved comprehension of reading and writing and create more elaborate writing as technology motivates their curiosities as they accessed resources and embellish their work; and finally technology enables students to better communicate with texts and visuals, improve their writing by synthesizing expository text, and develop their knowledge of technology (Lawrence, McNeal, and Yildiz, 2009).

References

- Amiri, F., Zainal, Z., and Abdul Samad, A. (2012). Effects of text structure on the Iranian students' reading comprehension performance. *Procedia - Social and Behavioral Sciences*, 66, 402–409.
- Carrell, P. L., (2006). "Introduction: Interactive Approaches to Second Language Reading," *Interactive Approaches to Second Language Reading*, ed. by P. L. Carrell, J. Devine, and D. E. Eskey, Cambridge University Press, New York, 2006, pp. 1-7.
- Carter, C. S. (2014). Using Technology and Traditional Instruction to Teach Expository Text in the Sixth Grade Reading Classroom: A Quasi-Experimental Study.
- Castellani, J. & Jeffs, T. (2001). Emerging reading and writing strategies using technology. *Teaching Exceptional Children*, 33(5), 60-68.
- Cobb, A. (2010). To differentiate or not to differentiate? Using internet-based technology in the classroom. *Quarterly Review of Distance Education*, 11(1), 37-45.
- Cook, L. K., & Mayer, R. E. (1988). Teaching readers about the structure of scientific text. *Journal of Educational Psychology*, 80(4), 448.
- Ghaith, G.M., and Harkouss, S.A. (2003). Role of text structure awareness in the Recall of expository discourse. *Foreign Language Annals*, 36(1), 86-96.
- Heider, K. (2009). Informational literacy: The missing link in early childhood education. *Childhood Education Journal*, 36(6), 513-518.
- Hiebert, E. H., Englert, C. S., and Brennan, S. (1983). Awareness of text structure in recognition and production of expository discourse. *Journal of Literacy Research*, 15(4), 63-79.
- Kerr, M. and Symon, S. (2006). Computerized presentation of text. Effects of children's reading of informational material. *Reading and Writing*, 19(1), 1-19.
- Joanna P. Williams. (2017). Teaching Text Structure Improves Reading Comprehension.
- Lawrence, S., McNeil, K. & Yildiz, M. (2009). Summer program helps adolescents merge technology, popular culture, reading, and writing for academic purposes. *Journal of Adolescent & Adult Literacy*, 52(6), 483-494.
- Murray, D. and McPherson, P. (2006). Scaffolding instruction for reading the view. *Language Teaching Research*, 10(2), 131-156
- Saadatnia, M., Ketabi, S., and Tavakoli, M. (2016). EFL Learners' Levels of Comprehension across Text Structures: A Comparison of Literal and Inferential Comprehension of Descriptive and Enumerative Expository Texts. *Journal of psycholinguistic research*, 45(6), 1499-1513.
- Sung, Y. T., Chang, K. E., and Huang, J. S. (2008). Improving children's reading comprehension and use of strategies through computer-based strategy training. *Computers in Human Behavior*, 24(4), 1552-1571.

WHY EMPLOYEES STAY? DOES GENDER PLAY A ROLE?

Yong See Chen, Roziyah Mohd Rasdi, Maimunah Ismail & Azizan Asmuni
Faculty of Educational Studies, Universiti Putra Malaysia
vincentysc2011@gmail.com, roziyah.mr@gmail.com, mismail379@gmail.com,
azizanas@upm.edu.my

ABSTRACT

The purpose of this paper is to test the influence of pay and compensation, career advancement, performance appraisal, and the moderating roles of gender on intention to stay among executive employees in Malaysian manufacturing organizations. Research data were collected from a sample of 456 executive employees in Malaysian manufacturing organizations. Structural equation modeling was used to test the influences of organizational-related factors and moderator on intention to stay. The results show that pay and compensation and career advancement are viewed as potential predictors of intention to stay. Gender significantly moderates the relationships between pay and compensation, and intention to stay among executive employees.

Keywords: Pay and compensation, Career advancement, Intention to stay.

Introduction

Employees are an asset to organization. However, in today's organizations, organizations are facing with employees turnover which incur certain cost to organizations (Taylor, 2002). Most organizations are aware of the important of human capital in achieving the success of their businesses. From the perspective of human capital management, employees are equipped with skills, abilities, and experiences that have economic value for organizations (Kontoghiorghes & Frangou, 2009). Thus, organizations would face difficulties in meeting its desired goals without human capital capabilities (Taylor, 2002; Mobley, 1982).

Voluntary employee turnover is one of the critical issue in the Malaysian manufacturing organizations and able to destroy the company competitiveness in the marketplace. The survey conducted by Malaysian Employers Federation (MEF) on 143 manufacturing organizations across various sub-sectors between July 2010 and June 2011 reported high average yearly turnover rate of executive employees (Goh, 2012). This may especially the case when high turnover rate is rampant among valued groups of employees (Allen & Bryant, 2012). Joyce and Slocum (2012) highlighted that executives are the key assets in the organizations for their role in ensuring consistent work operation, thus creating significant organizational success. The nature is related to the responsibilities in executive position is dealing with both operations and management function. Frazee (1996), in the study of fast growth companies, found that 47 percent out of 434 chief executive officers (CEOs) declared that lack of valuable employees can limit their companies' development.

Employees will exit their current employment if they are not satisfied with factors such as related to their organization and job. According to Thompson and Terpening (1983), investigation into employees' intention to stay is more crucial. Termination of employment cannot be taken as the absolute

reason due to the tendency of the employees to fabricate information for various motives.

Efforts in retaining employees who have decided to leave are already too late (Allen & Bryant, 2012; Mosley & Hurley, 1999). Thompson and Terpening (1983) again highlighted that existing employees can provide appropriate information concerning their decision to stay.

Managing Workforce Gender Diversity

The challenge of managing diverse employee groups in a workforce environment is critically emerging as a significant factor impacting the complexity of decision making in increasing employees' turnover intention. Gender diversity in organization is also on the rise, as reflected in growing female labor participation rates across the globe (Vaiman, Scullion & Collings, 2012). Therefore, a solution to the workplace manpower complexity that is under way need to be developed.

The objective of this study is to examine the predictors of intention to stay among executive employees in Malaysian manufacturing organizations and to determine the moderation effect of gender on the said relationships. The paper begins by reviewing the literature in relation to the study constructs. Next, methodological aspects of the research are discussed, followed by research findings and discussion. Finally, conclusion, implications for research and practices are outlined.

Review of Literature

Intention to Stay

Intention to stay refers to employees' willingness to remain in the organization, and they are aware of their decision after a careful consideration (Tett & Meyer, 1993). In a similar manner, intention to stay mirrors employee's level of tenure of employment relationship with present employer (Johari, Tan, Adnan, Yahya & Ahmad, 2012). Employees staying within their current organizations also demonstrate their interests and needs to be fulfilled by the employers. The high tenure of one employee continuing his or her employment relationship reflects the success of the organization in building strong intention to stay among employees.

Pay and Compensation

Pay is defined as the extrinsic monetary rewards and is often described in the form of salaries and wages (Hausknecht, Rodda & Howard, 2009). Anis, Rehman, Nasir and Safwan (2011) found that compensation is a significant predictor of employees' retention. Chew and Chan (2008) in their study also found that remuneration and recognition are positively associated with intention to stay. Therefore, this study proposes:

H_{a1}: Pay and compensation has significant influence on employees' intention to stay.

Career Advancement

Career advancement is a process in employees' career movement to be offered the chances to upgrade themselves in terms of new knowledge and skills through various learning methods and thus, have the opportunities to produce further outstanding results in work performance and fulfil personal

career commitment (Norzaidi, Anis, Faiza & Intan, 2013). Kroon and Freese (2013) and, Cardy and Lengnick-Hall (2011) conclude the organizations that provide development opportunities as a way to demonstrate care over their employees' career advancement can increase their commitment to stay within the current workplace. Stichler (2005) also found the characteristic of high retention culture is derived from development opportunities that encourage continuous learning. Thus, this study proposes:

H_{a2}: Career advancement has significant influence on employees' intention to stay.

Performance Appraisal

Performance appraisal in most organizations is a formal system and practice in reviewing employees' job achievements and is also a method to increase better organizational performance (Roberts, 2003). Employees' work behavior such as intention to stay can be reflected in their performance appraisal (Johari, Tan, Adnan, Yahya & Ahmad, 2012). Effective performance appraisal may lead to higher perceived fairness of employees and most likely to influence their intention to stay in current job and organization (Dailey & Kirk, 1992). Thus, this study proposes:

H_{a3}: Performance appraisal has significant influence on employees' intention to stay.

Gender

From the labor participation rates across the globe, there is a growing number of female in the workforce (Vaiman, Scullion & Collings, 2012). The importance of examining gender due to the differential responsiveness on intention to stay between men and women which has implications for understanding the relationships between endogenous and exogenous constructs. Men and women dissimilarity experiences in the workplace whereby women were being treated differently in terms of salary increment, promotions and learning opportunities. Hence, this study proposes:

H_{a4}: Gender moderates the relationship between pay and compensation (H_{a4a}), career advancement (H_{a4b}), performance appraisal (H_{a4c}), and employees' intention to stay. The correlations are weaker for women than for men, and vice versa.

Research Framework

Based on reviews of relevant literature, this study proposes a research framework of executive employees' intention to stay in Malaysian manufacturing organizations. Figure 1 portrays the research framework for the present study.

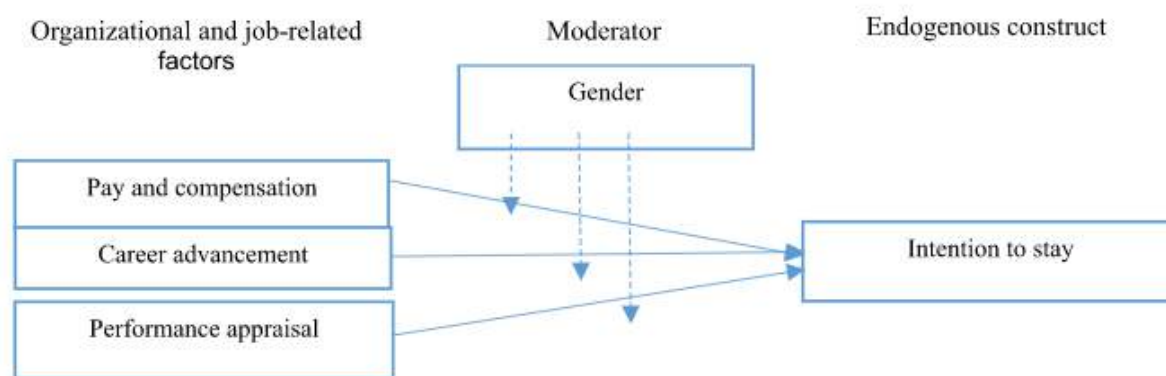


Figure 1. A research framework for predicting executive employees' intention to stay

Research Methodology

Descriptive correlational study was conducted on executive employees in Malaysian manufacturing organizations. Structural equation modeling (SEM) through using analysis of moment structures (AMOS) statistical software was engaged to generate the findings of this study. Average variance extracted (AVE) was used to determine the convergent validity of construct. Convergent validity defines as the items of a specific variable which should share or converge a large proportion of variance in common (Hair, Black, Babin & Anderson, 2010). In SEM, internal consistency refers to construct reliability (CR) and was measured according to the latent construct reliability.

Instrumentation

A total of 55 items with five-point Likert response options ranging from 1 “strongly disagree” to 5 “strongly agree” and seven-point Likert scale of 1 “strongly disagree” to 7 “strongly agree” were applied to all continuous endogenous and exogenous constructs in the questionnaire. Specifically, intention to stay was measured using eleven-item scale adapted based on the employees' retention scale of Kyndt, Dochy, Michielsen and Moeyaert (2009). The sample item was “I love working for this company”. The CR and AVE for intention to stay in the present study were .922 and .597, respectively.

A nineteen-item compensation scale from the work of Abeysekera (2007) was employed to measure employees' pay and compensation. The sample item was “I have a clear understanding of our pay policy”. The CR and AVE for pay and compensation in present study were .955 and .587, respectively. Career advancement factor was measured by four-item scale of perceptions of career development opportunities developed by Liu (2004). The sample item was “My organization provides me with the opportunity to achieve my career goals”. The CR and AVE for career advancement in the present study were .889 and .668, respectively. A seven-item scale of performance appraisal was adapted from Meyer and Smith (2000) to measure performance appraisal factor. The sample item was “I am satisfied with the way my organization provides me with feedback”. The CR and AVE for performance appraisal in the present study were .930 and .657, respectively.

Data Collection

The sampling frame encompassed Malaysian manufacturing organizations from three sub-sectors, known as palm oil, electrical and electronics, and refined petroleum products located in

Malaysia. This cross-sectional survey research utilized double stage sampling techniques to determine the present research samples. Boomsma (1983) suggested the sample size at least 400 when employing Structural Equation Modeling (SEM). The suggested sample size for this study is in the range between 250 and 500, as recommended by Lei and Lomax (2005) that this range is mostly used in SEM applications. A total of 500 structured self-administered questionnaires were distributed to executives and 456 were successfully collected, resulting 91.2 percent of response rate. This study involved 83.8 percent male and 16.2 percent female respondents. Based on executive position levels, 45.2 percent of the respondents are supervisors, 44.5 percent are executives and 10.3 percent are managers.

Data Analysis

SEM analyses were conducted in order to answer the research hypotheses. All three stages of data analysis involving goodness-of-fit (GoF) assessment were conducted based on Hair et al.'s (2010) model fit criteria.

Confirmatory Factor Analysis

The first stage of data analysis was confirmatory factor analysis (CFA) and it was conducted to confirm the underlying variable of each construct applied in the present study. Each latent construct in the CFA model was tested against the convergent validity, construct reliability and model fit. Convergent validity of construct was determined by AVE. AVE of .5 or above for each construct should suggest satisfactory convergent validity (Hair et al., 2010). As aforementioned, the AVE values for all constructs in the present study were in the ranged from .587 to .668, which met the convergent validity criteria. Additionally, the CR values for all constructs were in the range from .889 to .955, which exceeded the CR cut-off point of .7 indicating good reliability for the measurement (Hair et al., 2010). Finally, each CFA model met Hair et al.'s (2010) model fit criteria.

Measurement Model Analysis

Once the CFA completely met the suggested requirements, the second stage of data analysis involving preparation for the measurement model to examine discriminant validity, normality, outliers and model fit. Discriminant validity should be assessed with correlation coefficient between any two constructs less than .9 as suggested by Hair et al. (2010). The result of discriminant validity generated from the present model did not violate the criteria ($r < .9$). Moreover, the result of normality assessment showed that all unobserved constructs in the measurement model met the criteria of skewness (-2 to +2) and kurtosis (-7 to +7) (Byrne, 2010). Hence, the data in the present study were normally distributed which fulfilled the requirement for conducting SEM (Byrne, 2010). Finally, the test for outliers concluded that there was no potential outliers in the data set. The fit indices of the present model also met the required goodness-of-fit criteria (Hair et al., 2010).

Structural Model Analysis

In the present study, the final stage of SEM was to transfer all the unobserved constructs in the measurement model to structural model after the assessment and validation. The preparation of structural model was aimed to answer the proposed research hypotheses. Table 1 shows the result of the hypothesized individual path from structural model analysis.

Table 1. Result of Structural Model

Hypothesis	Hypothesized individual path	B	S.E.	Beta (β)	C.R.	<i>p</i>
H _{a1}	Pay and compensation → ITS	.455	.078	.521	5.854	.000*
H _{a2}	Career advancement → ITS	.085	.090	.088	2.468	.014*
H _{a3}	Performance appraisal → ITS	.116	.115	.113	1.006	.314

Note: ITS = intention to stay; * = $p < .05$

Findings of the Study

Table 1 shows that pay and compensation (H_{a1}) and career advancement (H_{a2}) have significant influence on executive employees' intention to stay. Pay and compensation contribute significantly towards intention to stay at .05 level of significance ($\beta = .521$, C.R. = 5.854, $p = .000$). Career advancement also contributes significantly towards intention to stay at .05 level of significance ($\beta = .088$, C.R. = 2.468, $p = .014$). Nonetheless, performance appraisal does not contribute significantly towards intention to stay at .05 level of significance ($\beta = .113$, C.R. = 1.006, $p = .314$).

Multi-group Analysis

Multi-group analysis was used to determine the moderation effects of gender in the present study. Two stages of moderating test were involved in the multi-group analysis.

First Stage

Table 2 and Table 3 present the findings of the moderation effect of gender on the overall model. This is the first stage of the moderation analysis.

Table 2 indicates that both models were significant ($p < .05$). Furthermore, it meets the requirement that unconstrained model was better than measurement residuals model when compared the CMIN value of unconstrained model (3337.836) was smaller than CMIN value of measurement residuals model (3730.013). Table 3 presents the result of the CMIN difference $\{\Delta \text{CMIN} = 392.177 (3730.013 - 3337.836); \text{DF} = 105 (1965 - 1860); p = .000\}$. Since the difference was significant ($p < .05$), it concludes that there was moderation effect of gender on the overall model.

Table 2. Moderating Effects of Gender on Overall Model

Model	CMIN	DF	P	CMIN/DF
Unconstrained	3337.836	1860	.000	1.795
Measurement residuals	3730.013	1965	.000	1.898

Note: CMIN = chi-square

Table 3. Assuming Unconstrained Model to be Correct

Model	CMIN	DF	P
Measurement residuals	392.177	105	.000

Note: CMIN = chi-square

Second Stage

Subsequently, the second stage of the analysis is to test the moderation effect of gender on individual paths. The analysis answers the research hypotheses H_{a4}. Based on Hair et al. (2010), the path was moderated by the moderator if it meets one of these two criteria. The first criteria was if beta for group 1 was significant while beta for group 2 was insignificant or vice versa. The second criteria was if beta for both groups were significant but one was positive while another was negative.

Table 4 exhibits that gender moderates the relationship between pay and compensation, and executive employees' intention to stay. The moderation effect shows that beta for male ($p < .05$) was significant at .05 level of significance, and beta for female ($p > .05$) was insignificant at .05 level of significance. The relationship between career advancement and performance appraisal and executives' intention to stay were not moderated by gender.

Table 4. Result of Moderating Test on Individual Path (Gender)

Hypothesis	Individual path	B	Beta (β)	C.R.	p	Final result
H _{a4a}	Pay and compensation → ITS					Supported
	Male	.586	.650	5.928	.000	
	Female	.052	.072	.314	.753	
H _{a4b}	Career advancement → ITS					Not supported
	Male	.054	.057	.567	.571	
	Female	.178	.156	.472	.637	
H _{a4c}	Performance appraisal → ITS					Not supported
	Male	.023	.022	.176	.861	
	Female	.924	.873	1.307	.191	

Note: ITS = intention to stay

Discussion

The purpose of this present study is to examine the effect of organizational-related factors on executives' intention to stay, and to determine the moderation effect of gender on the studied relationships. This results of the study indicate the important of pay and compensation towards intention to stay of executives in the manufacturing sector. The findings of the study are in agreement with earlier studies by Anis et al.'s (2011), and Chew and Chan's (2008) studies. Employees who are satisfied with the value and number of increments in pay and compensation often generate stronger fuel in intention to stay. The present study has further found that career advancement is also pertinent to executives' intention to stay. The finding is consistent with Kroon and Freese's (2013), Cardy and Lengnick-Hall's (2011) studies. Organizations that always give support to their employees in career development by facilitating them in achieving personal career goals can influence their intention to stay.

However, performance appraisal did not predict intention to stay. Despite the importance of performance appraisal as part of human resource development practices, this study found its insignificant toward executives intention to stay. Possible explanation was that performance appraisal was conducted annually, which in most cases, results could not be provided to them instantly.

Therefore, the effect of performance appraisal was probably not really felt among the executives. Further, it was less probably taken as a consideration in their decision making with regard to staying within existing employment if there was another attractive job awaiting them. On the other hand, the findings of the study support the findings of Johari, Tan, Adnan, Yahya and Ahmad's (2012). Johari et al. (2012) also found that performance appraisal was not predicting intention to stay among Malaysian manufacturing employees in the Northern region.

With regard to the moderation analysis, only the relationships between pay and compensation, and intention to stay was moderated by gender. Male employees were more inclined to staying in the same organization when they feel happy with their pay and compensation. However, female employees' intention to stay were not influenced by pay and compensation. The findings also revealed that career advancement and performance appraisal are not a factor for either men or women employees' intention to stay. It also indicates that there are no differences between male and female executives in terms of career advancement and performance appraisal factors towards intention to stay. The results may probably signify the meaning of job satisfaction among both gender which differentiates men and women, and how they react in their perceptions toward organization.

Conclusion and Implication

Based on this study, we conclude that pay and compensation, career advancement are pertinent organizational factors influencing employees' retention in Malaysian manufacturing organizations. Besides, gender is also an important factor in today's diversity workforce which affect how intervention and solutions to the retention issues are being carried out by organization.

Employees' retention has been an integral topic in today's working organizations (Shim, 2008) as employees have their autonomy to make decision of their organizational well-being. This has led to the growing importance of human resource development personnel or division to emphasize on what factors that would make their employees stay and be loyal to the organization. Organization investment on each employees especially among potential and talented employees is quite costly, and further actions need to be taken to ensure employees retain in the organization. To all organizations, this direction is crucial to remain competitive in the marketplace, Factors such as pay and compensation and career advancement of employees need to be revised and look into to safeguard employees' well-being in the organizations.

Apart from that, gender is also a factor which need to be considered in organizational intervention. Organization need to be more gender sensitive and not assuming that men and women are similar in terms of perceptions, values and beliefs, which would greatly affecting the way they react in the organization.

References

- Allen, D. G., & Bryant, P. (2012). *Managing employee turnover: Dispelling myths and fostering evidence-based retention strategies*. New York, NY: Business Expert Press.
- Anis, A., Rehman, I., Nasir, A., & Safwan, N. (2011). Employee retention relationship to training and development: A compensation perspective. *African Journal of Business Management*, 5(7), 2679-

2685.

- Abeysekera, R. (2007). The impact of human resource management practices on marketing executive turnover of leasing companies in Sri Lanka. *Contemporary Management Research*, 3(3), 233-252. doi.10.7903/cmr.94
- Boomsma, A. (1983). *On the robustness of LISREL (Maximum Likelihood Estimation) against small sample size and non-normality*. Rijksuniversiteit Groningen, Amsterdam: Sociometric Research Foundation.
- Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. New York, NY: Taylor and Francis Group.
- Chew, J., & Chan, C. C. A. (2008). Human resource practices, organizational commitment and intention to stay. *International Journal of Manpower*, 29(6), 503-522. doi.10.1108/01437720810904194
- Cardy, R. L., & Lengnick-Hall, M. L. (2011). Will they stay or will they go? Exploring a customer-oriented approach to employee retention. *Journal of Business and Psychology*, 26(2), 213-217.
- Dailey, R. C., & Kirk, D. J. (1992). Distributive and procedural justice as antecedents of job dissatisfaction and intent to turnover. *Human Relations*, 45(3), 305-317.
- Frazee, V. (1996). Why do employees feel free to steal? *Personnel Journal*, 75, 21.
- Goh, L. (2012, February 19). Why job-hoppers hop. *The Star* pp.24.
- Hausknecht, J. P., Rodda, J., & Howard, M. J. (2009). Targeted employee retention: performance-based and job-related differences in reported reasons for staying. *Human Resource Management*, 48(2), 269-288. doi.10.1002/hrm.20279
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Joyce, W. F., & Slocum, J. W. (2012). Top management talent, strategic capabilities, and firm performance. *Organizational Dynamics*, 41(3), 183-193.
- Johari, J., Tan, F. Y., Adnan, Z., Yahya, K. K., & Ahmad, M. N. (2012). Promoting employee intention to stay: Do human resource management practices matter? *International Journal of Economics and Management*, 6(2), 396-416.
- Kontoghiorghes, C., & Frangou, K. (2009). The association between talent retention, antecedent factors, and consequent organizational performance. *SAM Advanced Management Journal*, 29-36.
- Kroon, B., & Freese, C. (2013). Can HR practices retain flexworkers with their agency? *International Journal of Manpower*, 34(8), 899-917.
- Kyndt, E., Dochy, F., Michielsens, M., & Moeyaert, B. (2009). Employee retention: Organizational and personal perspectives. *Vocations and Learning*, 2, 195-215. doi.10.1007/s12186-009-9024-7
- Liu, W. (2004). *Perceived organizational support: Linking human resource management practices with important work outcomes*. Unpublished PhD Dissertation, University of Maryland, College Park, United States.
- Lei, M., & Lomax, R. G. (2005). The effect of varying degrees of non-normality in structural equation modeling. *Structural Equation Modeling*, 12(1), 1-27.
- Meyer, J. P., & Smith, C. A. (2000). HRM practices and organizational commitment: Test of a mediation model. *Canadian Journal of Administrative Sciences*, 17, 319-331.
- Mobley, W. H. (1982). Some unanswered questions in turnover and withdrawal research. *Academy of Management Review*, 7, 111-116.

- Mosley, V., & Hurley, M. (1999). IT skill retention. *Information Management & Computer Security*, 7(3), 129-132. doi.10.1108/09685229910279425
- Norzaidi, M. D., Anis, M. A. N., Faiza, N. A. I., & Intan, S. M. (2013). Determining retention factors influencing executives to remain in Malaysian organization. *Journal of Applied Sciences Research*, 9(9), 5502-5511.
- Roberts, G. E. (2003). Employee performance appraisal system participation: A technique that works. *Public Personnel Management*, 32(1), 89-98.
- Stichler, J. F. (2005). Recruitment and retention strategies creating the best workplace for women's services. *AWHONN Lifelines*, 9(5), 404-407.
- Shim, J. (2008). Concept exploration of workplace incivility: Its implication to HRD. Retrieved from <http://numeros.files.wordpress.com/2012/04/concept-exploration-of-workplace-incivility.pdf>
- Taylor, C. R. (2002). The talent focus. *Training and Development*, 56(12), 26-31.
- Thompson, K. R., & Terpening, W. D. (1983). Job-type variations and antecedents to intention to leave: A content approach to turnover. *Human Relations*, 36, 655-682.
- Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings. *Personnel Psychology*, 46, 259-293.
- Vaiman, V., Scullion, H., & Collings, D. (2012). Talent management decision making. *Management Decision*, 50(5), 925-941. doi.10.1108/00251741211227663

UNDERSTANDING CHALLENGES OF PARENTAL INVOLVEMENT FROM THE PERSPECTIVE OF THE PARENTS OF VISUALLY IMPAIRED LEARNERS IN PAKISTAN

Shazia Malik, Umi Kalthom Abdul Manaf, Nor Aniza Ahmad & Maimunah Ismail
Faculty of Educational studies, Universiti Putra Malaysia
shazia11malik@hotmail.com, umizat90@upm.edu.my, nor_aniza@upm.edu.my,
mismail379@gmail.com

ABSTRACT

Parental involvement, as one of the most widely researched and discussed issues. It has been characterized by a variety of meanings, definitions and frameworks. Such notions and definitions provide a foundation for solving parental involvement challenges in the education of the visually impaired learners. This research discusses the parental involvement challenges from the perspectives of the parents of visually impaired learners by using a qualitative approach with semi-structured interviews of selected parent participants from two public secondary level institutes of the visually impaired learners Lahore, Pakistan. This paper endeavors to answer the questions like: What are the parental involvement challenges as faced by parents of visually impaired learners? What are the ways to cope with parental challenges? The findings of the paper indicate that deepen understanding of parental challenges that inhibit parental involvement of the parents of visually impaired learners in their education. There are five basic challenges emerged from data as the main themes, which are being parents of visually impaired learners, No acceptance in society, less parental involvement, parental grief, and parental intentions. These parental challenges show that parents of visually impaired learners are facing very difficulty in handling their disabled children and they need to cope with parental challenges with the teachers' efforts collaboratively. Finally, the suggestions are put forward to cope with parental challenges towards their involvement in the education of their visually impaired learners.

Keywords: Parental involvement, parental involvement challenges, visually impaired learners.

Introduction

Worldwide, a large amount of research indicates that parental involvement mostly has a significant influence on children's academic success (Jeynes, 2011; Holloway, Yamamoto, Suzuki, & Mindnich, 2008). In kindergarten, children's experiences and first grade place a foundation, and parents play a key role to decide their children's experiences (Turney & Kao, 2009). Parental involvement helps to build strong parents and school partnerships with students success. Research indicates parent's involvement in their children's education is beneficial to students and parents as well as to the educator (Sohn & Wang, 2006). Students can increase motivation and achievement in education and improve self confidence. Parents can understand school curriculum and activities more profoundly and also can get opportunities to work closely with educators. Teachers can take advantage from parental involvement by learning family perspectives (Sohn & Wang, 2006). Many experimental studies show strong relationships between higher student achievement and parental involvement (Wong & Hughes, 2006).

There is a positive link between parental involvement and student competence, grades and achievement scores (Shah, 2009). However, parental involvement keeps parents socially active, such as knowing other parents, teachers, and administrators (Turney & Kao, 2009). Moreover, where parental involvement programs are established in early childhood programs, the benefits are apparent throughout the child's school career (Bridgemohan et al., 2005). Looking for policy perspectives, parental involvement is important because one of the goals of the No Child Left Behind Act of 2001 is to increase parental involvement in elementary and secondary school (Turney & Kao, 2009). The goal of this study is to explore parental challenges from the perspectives of the parents of visually impaired learners.

Literature Review

Parental Involvement

Morrison (2007) stressed that, at school the children's performance is affected by parental involvement. Similarly, Kindiki (2009) explained that academic achievement and increased motivation can be observed when there is sufficient parental involvement in a child's education. Parental involvement is defined as an active participation and combination of commitment on the part of the parent (Gonzalez-Mena, 2011). So, parents need to be actively involved in the education of their visually impaired children to support them in their independent movement and to cope with parental challenges. Furthermore, Anyikwa and Obidike (2012) stressed that parental involvement is the parent participation and support at home and school, which impacts on the educational performance of their children. In this way, parent participation is important not only in school related activities, but they should help their visually impaired children at home.

Parental involvement is described as active participation of parents in the learning of their children's development and making sure that parents know about their children's progress at school (Williams & Ullman, 2002). Chan's (1995) definition is, "parental involvement is not something that is 'done' to parents" (p. 19). Several researches are the evidences of parental interests and involvement relating to their child's achievement and learning (Ali, 2012; Curriculum for Excellence 2010; Reynolds, 2007; Sylva, Scott, Totsika, Ereky-Stevens & Crook, 2008). The findings of the research of Anyikwa and Obidike (2012) identified that there is required parental involvement to maximize the potential of visually impaired children from their schooling.

Parental involvement contributes to visually impaired children's academic success (Anderson & Minke, 2007). Several studies showed the connection in exploring parental involvement in educational programs and student academic achievement, cognitive growth, and emotional well-being (Epstein, 2010). Insufficient parental involvement may result in less responsive to the visually impaired children's needs and creates parental challenges towards their involvement.

Parental Challenges

Parents of visually impaired when met with demographic characteristics such as low socioeconomic status, lack of social supports, impoverished environments, and little or no education, scored the range in terms of parenting ability as compared to parents with normal sight (Ehlers-Flint, 2000). In fact, almost all studies found a considerable percentage of parents to be functioning within or near normal limits (Greenspan & Budd, 1986). This statement supports the notion that visual impairment alone may not account for the observed challenges of parenting with visual impairment (McConnell & Llewellyn, 2002).

Another factor that contributes to parenting challenges for parents with visual impairment is that they have high stress due to their disability and the inherent challenges associated with it (Feldman et al., 2002). For instance, students with visual impairment may experience extraordinary stress resulting from a history of abuse, low socioeconomic status, stigmatization, history of failure and learned helplessness, unemployment, and social isolation (Feldman et al., 1997).

Parental stress can be reduced by equipping parents with tools to change parent-child transactions that may provide the setting events or establishing operations for the development or maintenance of getting the training of orientation and mobility for their visually impaired children (Sing, 2006). One issue that is often overlooked when parental practices are scrutinized is the childhood history of parents with visual impairment. Many parents of children with visual impairment have endured difficult, traumatic experiences in their childhoods and have been exposed to poor parenting by their own parents.

In Pakistan, there is a traditional family system, especially in rural areas, where only the mother is responsible for caring her child. During this process, when a mother brings up a disabled child, she is faced with several socioeconomic problems. A study was conducted by Iqbal, Jabeen and Maan (2014) in District Faisalabad (Punjab), Pakistan. The study identified some of the socioeconomic factors and the relationship with the parents' problems of their disabled children by using quantitative methods with a sample of 120 rural mothers' respondents. Results revealed that the mother's age, education and income were the main causes of developing problems for disabled child's parents. However the findings also showed that that in rural area, only mothers had to bear all problems of their disabled children as they were alone to take care of their disabled child.

At times, this has resulted in psychiatric problems. Results from a program evaluation conducted by Through the Looking Glass, an agency in Berkeley, California, has suggested that 87% of parents with visual impairment were exposed to multiple stresses; history of trauma was reported in 77% of mothers of visually impaired children; 56.5% showed the evidence of dual diagnosis. Difficult early experiences are unlikely to have provided them with opportunities to learn about successful parenting. Many have been brought up in institutions or out-of-home placements such as residential housing facilities, group homes, or foster care, while others have certainly received less than optimal care at the hands of relatives. Childhood experiences as well as current social situations may be considered as significant influences on parents' Caregiving practices and beliefs (Ehlers-Flint, 2000).

Ehlers-Flint (2000) also agreed that emotional disturbance in the mother of a visually impaired is a large factor contributing to parenting difficulty, but it was also stated that the mother's history of chronic health problems, marital conflict, low income and the presence of more than one child in the family also have a large impact (Walton-Allen, 1993).

In addition, Parents' low self-esteem has been connected to the failure of praising children, decreased parental responsiveness, and lack of attainment (Espe-Scherwindt & Kerlin, 1990; Feldman et al., 1986; McGaha, 2002; Tymchuk & Andron, 1992). Unfortunately, many of these challenges are a by-product of the culture and often beyond parent's control. When people are differently socialized because of their disability, they became the victims of stigma, stereotypes, and engrained beliefs that society holds. It is as if people think that disability means the same for everyone or that it is universal in nature.

However, this is not the case as in some cultures and languages; there is not even a term for disability as social differences are categorized in many various ways (Barnes, Mercer, & Shakespeare, 2003). In many traditional societies such as the Masai and Punan Bah, the key 'disabling' condition is failure to have children; parenthood is the key to adult status. Those without children of their own, including people with physical impairments or learning difficulties are given the children of other members in their family so that they could acquire full personhood (Barnes et al., 2003). Watkins (1995) confirmed the notion that many challenges faced by parents with intellectual disabilities are a by-product of culture, rather than their intellectual disability. He claimed that when parents do struggle, it is often because of social experiences rather than their intellectual disability (Watkin, 1985).

Parental Challenges towards Orientation and Mobility

Several challenges are identified in respect to parental involvement in orientation and mobility, which are hindering parents to be involved in their children's education (Constantino, 2003; Jesse, 1986; National Parent Teacher, 2000; Patrikakou, et al, 2003). Such barriers could be included like, teacher's insufficient knowledge about cultural challenges, time, lack of information about the system of education, transport problems, less parental involvement, parental grief. Some studies identified culture a more important barrier in making less chances of parental involvement in school activities (Kottler & Kottler, 2002; Noguera, 2003; Singleton & Linton, 2006). These barriers are inhibiting parents to get involved in the orientation and mobility of their visually impaired children.

In addition to this, Constantino (2003); Kottler & Kottler (2002), discussed that there are a limited number of parents, who do not understand the school requirements and also unaware about the grading system of schools. In this way, they feel depressed themselves considering disrespected during a talk with the teacher of their children. This also hindered parental involvement in orientation and mobility and creates a feeling in parents that the school personnel have no efforts in understanding their culture. Parents who cannot speak English, feel frightened by the school boundaries and are unable to get proper information from the schools (Kottler & Kottler, 2002; Muldrow, Cano, Kimmel, 1999; Noguera, 2003). So, there is a need to understand parental problems to make sure a successful parental involvement in the orientation and mobility of visually impaired children to make them independent in their environments. In this way, school administration and teachers need to play their roles to involve parents in school related activities. To sum up this discussion, all these barriers are the biggest hindrance in creating independent in their visually impaired children's education.

Methodology

Research Design

The main purpose of this study is to understand parental challenges of parental involvement from the perspective of the parents of visually impaired. So, this study uses semi-structured interviews to answer the research questions outlined. The study also employs a qualitative research method in an attempt to describe the challenges with coping strategies that parents of visually impaired face in Pakistan. According to Willig (2001), qualitative research seeks to understand the experiences from the perspective of respondent's, and acknowledges the researcher's experience as being bias are attached parts of the process of analysis, and this leads to a better interpretation of the respondents' views. The study employs a case study method to deal with the research problem. Two government secondary levels visually impaired institutes selected in Lahore Pakistan. Case studies are the preferred approach when (why) or (how) questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context.

Research Respondents

Qualitative research methodology is asserted by Merriam (1988). According to Merriam (1988), qualitative research methodology focuses on quality rather than quantity, further she assumes that in qualitative research methodology, the main goals to investigate are understanding, description, discovery, and generation of hypothesis (Merriam, 1988). Some of the other factors of qualitative methodology are its setting, a sample, and the researcher as the primary instrument of data collection (Merriam, 1988). The data are collected through semi-structured interviews with using purposive sampling techniques. Merriam described that purposive sampling is based on the assumption when one wants to discover, understand, gain insight; he needs to select a sample from which he can get the most (p. 48). With this aim, the respondents were chosen purposefully by drawing on five semi-structured interviews with parents of visually impaired. They were from two secondary level public institutes of visually impaired Lahore, Pakistan. The respondents were mothers of visually impaired with different educational level and ages. Their details are described in the following table 3.1.

Table 3.1. The Profile of Parent Respondents (n=5)

Number	Parents	Age	Education	Children	Description	Gender
1	P1	45	Uneducated	Two	Housewife	Mother
2	P2	47	B.A	One	Housewife	Mother
3	P3	48	M.A	One	Housewife	Mother
4	P4	30	Primary	One	Housewife	Mother
5	P5	32	M.A	Two	Housewife	Mother

Collection of Data

The data used in this study were generated using an interview guide developed by the researcher in the light of research questions. Semi-structured interviews were conducted with five parent respondents gave detailed description of the parental challenges towards their involvement from their prospective. The interview lasted between 30 to 40 minutes and, were made at their convenience places. The advantage of semi-structured interview are: to help and facilitate rapport and empathy that leads to gain rich and interesting data (Smith, Flowers, & Larkin, 2009). Semi-structured interviews dealt with asking respondents about parental challenges as they face in handling their visually impaired children and also help them find a way to cope with their challenge. In this study, the interview protocols provided a consistent framework; including the topics like what are the parental challenges, what are the strategies to solve parental challenges and their opinions about orientation and mobility (O&M) to reduce their parental challenges. All interviews were recorded, allowing the researcher to take necessary notes and guide the subject into deeper areas or those areas that appeared to be superior to the current subject. Once all the interviews were conducted, the researcher started to hear the recordings and reviewing the notes to find what main themes emerged.

Analysis of Data

Qualitative data analysis is one of the feature that begins from the very start of research project prior to data collection (Berg, 2007). The qualitative data analysis process begins with the early phases of data collection. Coding and memo writing is the most important techniques for qualitative data analysis. In the present study, the interviews were recorded, transcribed verbatim, coded and analyzed according to the emerged themes. In qualitative data, coding process involved organization of themes with data reduction; making a link between themes to reach a possible conclusion. Finally, to ensure the validity of the study, some of the procedures were incorporated like field note and member checking (Merriam, 2009) by asking respondents for confirmation, clarification and completion.

Ethical Issues

Ethical issues deal with the involvement of respondents voluntarily. It includes with designing of informed consent forms, procedures to provide the parents of visually impaired children with sufficient information to raise their awareness towards the potential risks and benefits of their participation in the interviews. This study follows the principles of confidentiality, such as, the respondents' information keeping with appropriately and anonymously. Parents selected with the help of head of the institutes and their permissions were obtained through informed consent forms.

Finding of the Study

This section presents the findings regarding the parental challenges of the parents of visually impaired about their involvement. This is accomplished by ideas generating and eliciting information from respondents about their understanding of parental involvement and parental challenges as they faced being parents of visually impaired. Data from semi-structured interviews were analyzed using cross case analysis methods. Parents of visually impaired in this study shared their challenges about their involvement with their own perspectives. All the respondents agreed that they are facing parental challenges as being parents of visually impaired and upon solving parental challenges their involvement can be enhanced. As a result, five major themes which emerged from the data on challenges of parental involvement are: parenting, time barriers, cultural challenges and less acceptance of these children in society. Parents interview transcripts are interpreted in a table format with their views.

- A) Being parents
- B) No acceptance in society
- C) Less parental involvement in O&M
- D) Parental grief
- E) Parental intentions

These are the themes which are explained by the parent. All themes are not discussed by all parent respondents, interpretations and discussions are presented from the themes of parent respondents. In the present study, these challenges are worthy of attention as they look to attained certain results in making the visually impaired learning effectively. In the context of the present study, parental challenges refer to those hurdles that they face in handling and supporting their visually impaired. According to their occurrence, the themes are presented.

Being Parents

Interviews with parent respondents showed that the parents have to face some challenges as being the parents of visually impaired. Being parents of visually impaired is itself a big challenge. There are different views about parental challenges. The following are the excerpts from field data on being parents of visually impaired as a big challenge.

Table 4.1. Excerpts from Field Data on ‘Challenge as being parents’

Theme: Challenge as being parents
P1: When my two daughters were born, I wept a lot and I was much worried. It was a big challenge for me, after that I prepare myself to help my daughters. (INT1: 15.10.2016)
P2: At the age of four months, we came to know that our daughter has no sight and we get terrified as this is a big responsibility. (INT2: 16.10.2016)
P3: Doctor told us our daughter had no vision. This was our first and foremost challenge towards the disability of our daughter as it was a first case in our family. (INT3: 22.10.2016)
P4: I have two challenges, first being a mother of VIL and secondly no understanding about her studies. (INT4 P4: 24.10.2016)
P5: Our daughter was born and after some time, we came to know about her blindness. That time was very critical because it is a big challenge to be parents of a blind child. (INT5: 25.10.2016)

Source: Field Data

Parents shared their views that being a parent of a visually impaired is itself a big challenge. Upon asking the question about parental challenges, two of the mother started to weep bitterly, it was also showing their feelings and expressions that how they are worried and how they are facing some challenges. Parents also discussed that after a birth of the visually impaired, they were facing parental grief. All parents were hoping to get back the eyesight of their children, but as time passed the hopes were ended, all parents got medical check ups for their children.

The findings of the present study indicate that the parent respondents are facing different challenges in handling their visually impaired children and one of them is to be parents of such children. The parent respondents in the study revealed their descriptions about challenge as being parents. The following part presents cross case analysis on ‘no acceptance in society’.

No acceptance in Society

No acceptance in society was the second big challenge faced by the parents of visually impaired. The excerpts from transcripts communicate the challenges as explained by the parent participants that in society, there is no acceptance for their visually impaired. Table 4.2 provides the excerpts from which the data are derived.

Table 4.2. Excerpts from Field Data on ‘no acceptance in society’.

Theme: No acceptance in society
P1: As parents of VIL, we have to face the society because in society there is less acceptance towards these disable children. (INT1: 15.10.2016)
P2: We parents cannot change the society. Whatever parents feel and face the challenges of VIL, they only can understand them. We parents are facing such type of problems and we cannot imagine that there will come any awareness in society, especially in our society. (INT2: 16.10.2016)

P4: There are no awareness and acceptance in society towards the disability and curriculum of VIL. Even I do not know braille. (INT4: 24.10.2016)

P5: I bring my daughter everywhere. In our society, now is some awareness, but there is no acceptance for VIL. People questioned me, what happened to my daughter, why she lost her eyes. Then many, many times, I disturbed with behavior of society. (INT5: 25.10.2016)

Source: Field Data

The way each parent described their views differs from one another. This challenge is seen as a second big hurdle to parent respondents provide in order to aid their challenges as they face in handling their visually impaired. In this respect, parents face difficulty in moving society. It seems that in society, there is no acceptance of such disabled and this is a big challenge to the parents visually impaired.

In comparison, P3 was noted to give the different description of the target words. She helped her daughter in O&M. Her daughter is an expert in doing all her required tasks. She added her comments in these words: "*Her father is very supportive. I never faced any problem in society. I bring my daughter to everywhere. I never left her at home*". (INT3 P3: 22.10.2016).

The findings of the present study indicate that the parent respondents face many challenges in society being a parent of the visually impaired. In society, they are questioned about the lost vision of their children. Being parents is not the responsibility to provide sight to their children. They are unable to answer to society, and they feel and face, there is no acceptance in society for their disabled child. In the context of the present study, parents face many difficulties that are the challenges of parents, they face these challenges in handling their visually impaired children. The following part presents the cross case analysis on 'less parental involvement in O&M'

Less Parental Involvement in O&M

In the present study, the parent respondents were interviewed to discuss their challenges as they face in handling their visually impaired children. The excerpts from the interview and transcript data illustrates the views for each parent respondent. Table 4.3 provides the excerpts from which the data is derived.

Table 4.3. Excerpts from field data on 'less parental involvement in O&M'.

Theme: Less parental involvement in O&M

P1: We parents do not learn proper O&M and we cannot attend the school on a daily basis. (INT1: 15.10.2016)

P2: With O&M practices, parental challenges can be reduced and we parents show our involvement in O&M. (INT2: 16.10.2016)

P3: Parents learn O&M from school and practice more and more at home to make their children independently in the surroundings. (INT3: 22.10.2016)

P4: Parents want to help their children in the independent movement, but our involvement is not proper. (INT4: 24.10.2016)

P5: We parents can see O&M practices at school with our involvement in O&M practices and learn O&M. (INT5: 25.10.2016)

Source: Field Data

Interviews with parents show that parents feel that they have less involvement in O&M and they want good O&M for their visually impaired children. So, parents face challenges in handling their children and their independent in the environment seem a big challenge. In this way, parents feel that they should go to school and learn O&M practice. As parents want the independent movement of their visually impaired children.

In sum, the parent respondents made sure that their involvement was less that could make less independent movement of their visually impaired children. To practice O&M with the teachers and with parental involvement provides the effective independence to their children. For the present study, parents were noted to benefit from their own involvement in O&M as they could learn O&M from teachers. In the context of the present study, it could be the less parental involvement in O&M, which was seemed as a challenge for the parents. It seems necessary in reducing the parental challenges to actively involve in the O&M practices in school. The following is the description of the parental grief and feelings of having visually impaired child and seems a challenge for parents.

Parental Grief

Parents in the study were interviewed to state their challenges in handling their visually impaired children. Evidences on the challenges explained by the parents for each of the parent is presented to give a clear picture of the problem. Table 4.4 provides the description of the parent respondents on parental grief.

Table 4.4. Excerpts from field data on 'Parental grief'

Theme: Parental Grief

P1: When my two daughters were born without sight, I wept a lot and every time. Then I got ill. It was a big shock with facing this situation. (INT1: 15.10.2016)

P2: My daughter was at the age of four months and we know that she id blind. We get terrified and it was very terrible for us. (INT2: 16.10.2016)

P3: Our daughter is totally blind and the doctor told us that she has no back eye. And her eyes cannot be replaced. It was a big grief for us. (INT4: 22.10.2016)

P4: The doctor told us after the birth of three months, that our daughter has no retina in the back side of the eye to make a focus to see. It was a very bad news for us. We remain in a shock for some time. (INT4: 24.10.2016)

P5: My daughter is blind by birth, at her birth, we were very upset how we will face the challenges about her birth. It was a big grief for us.(INT5: 25.10.2016)

Source: Field Data

Parents were interviewed with an explanation about parental grief as parents face challenge. All the parent respondents were found to face a challenge as named parental grief with the birth of a visually impaired child. This indicates that parents faced a lot of hurdles and barriers in bringing up their visually impaired child. This also indicates to be provided what parents expect in the free movement of their children. All parents want to see their children as independent persons in society and they want to see their visually impaired children the persons to help them by themselves. This could perhaps, with the effective provision of O&M practices to make them independent in their surroundings.

All the parents were found by facing the challenge of parental grief. They all helped and tried their best to bring the vision of their children. All parents were seen very upset at all the stages of their visually impaired children. This challenge provides with some ways to cope with this challenge to parents. This is in line with the parental challenges and with the effective provision of O&M this parental challenge can be reduced. The following describes the cross case analysis on the theme 'parental intentions'.

Parental Intentions

Interviews with parents showed that they were facing challenges in handling their visually impaired children. Parents were also found with some parental intentions as being the challenge for their parenthood. This probably indicates that the parents were facing many difficulties to discuss their input about the challenges as they faced. Table 4.5 illustrates the data from each parent respondent on the related theme.

Table 4.5. Excerpts from Field Data on ‘parental intentions’

Theme: Parental Intentions

P1: I face the health issues of my daughter, they do not eat properly and I face difficulty with this problem. (INT1: 15.10.2016)

P2: As a mother, I try my best to move my daughter. I want to build up her confidence, but she does not want to go outside. (INT2: 16.10.2016)

P3: I want to explain that independence needs more practices. I practice the skills to my daughter again and again and now she can do some works by herself. But in every new task, I get afraid about the movement of my daughter. (INT3: 22.10.2016)

P4: I want more courage for my VIL. I want their more confidence and good attitude. I want more attention of teachers towards the study of my child. (INT4: 24.10.2016)

P5: Our these disable children want more attention and proper time of parents. We as parents have so many responsibilities to handle our VIL. (INT5: 25.10.2016)

Source: Field Data

Parents described the challenges as they face in handling their visually impaired children. Presenting the description about challenges indicating that these challenges are big hurdles for parents in providing with confidence and independence in movement to their visually impaired children.

All excerpts from interview transcripts show that parental intentions are different, but with the disability the focus goes to one destination about the independence of all visually impaired children. The findings of this study could perhaps explain how these challenges affect the life of the parents of such children. In the present study, when all parent respondents discussed about challenges, they mentioned almost same problems to think and this aspect may enable the parents to cope with these challenges better.

In the context of the present study, the parent participants were interviewed for parental challenges as they face in handling their visually impaired children. Parents expressed their high expectations about the independence movement of their disabled children. In the context of the present study, it is important to know about the parental challenges to provide them some ways to cope with those challenges. In sum, cross case analysis reveals a variety of challenges faced by the parent respondents in handling their visually impaired children. Whenever possible as evidenced from the field data presented in the shape of interview reviews.

Conclusion

There are discussed major parental challenges that emerged as the main themes of this study. These challenges show that teachers’ role is significant with responsibilities to overcome these parental challenges with collaboratively working with parents. Teachers and school administrators should find appropriate ways to contact parents to get them involved. McWilliam, Maxwell, and Sloper (1999) explain advocacy as guiding parents to advocate for themselves. In this respect, all parental challenges, which inhibit parental involvement for parents of visually impaired children. For parental encouragement, teachers and school administrators should arrange some collaborative meetings in school boundaries. If teachers get in contact with parents who are not involved due to cultural challenges, teachers and school personnel can create an environment in school that is a place that nurtures parental involvement and allows all parents to feel comfortable (Ariza, 2002). All parents need support, advocacy, and guidance from teachers, no matter their parental challenges hinder them from their involvement but they want their children to be successful at school and they are enthusiastic to involve in their visually impaired children’s O&M practices.

References

Ali, M. (2012). The shadow of colonialism on relations between immigrant parents and their children’s teachers. *Alberta Journal of Education*, 53(2), 198-215.

- Ali, R., & Hameed, H. (2015). Dealing with Visual Impairment: Experiences of Youth in Tertiary Education. *Social Sciences Review*, 3 (1), 1-24.
- Ames, C., Khoju, M., & Watkins, T. (1993). *Parent involvement: The relationship between school-to-home communication and parents' perceptions and beliefs*. Baltimore, MD: Johns Hopkins University.
- Anderson, K., & Minke, K. (2007). Parent involvement in education: Toward an understanding of parents' decision making. *The Journal of Educational Research*, 100(5), 311-324.
- Anyikwa, N., & Obidike, N. (2012). Mothers' constructions of their roles in the literacy education of their children. *Africa Development*, 37(3), 57-67.
- Aziz, H., & Madani, M. (2007). Parental involvement in the education of their school going disabled children: *Reflexions; Journal of Studies and Research in Islam*: Pakistan Al-Suffah Centre of Education and Research Trust, Karachi, 7, 26-28.
- Barnard, W. M. (2004). Parental involvement in elementary school and educational attainment. *Children and Youth Service Review*, 26, 39-62.
- Bischof, E. M. (2008). *Practices for Determining the Provision of O&M Instruction for Students with Low Vision*. ProQuest.
- Bledsoe, C. W. (1997). Originators of O&M training. In B. B. Blasch, W. R. Weiner, & R. L. Welsh (Eds.), *Foundations of O&M* (2nd Ed., pp. 580- 623). New York: American Foundation for the Blind.
- Chan, W. (1995). *The impact of the Parent-Teacher Association (PTA) on a secondary school in Hong Kong*. Unpublished Dissertation University of Hong Kong.
- Constantino, S. (2003). *Engaging all families: Creating a positive school culture by putting research into practice*. Lanham, MA: Scarecrow Education.
- Cooper-Baker, G. (2009). *Parental involvement: a generational case study with families of diverse backgrounds* (Doctoral dissertation, University of Missouri--Columbia).....
- Corn, A. L., Hatlen, P., Huebner, M. K., Ryan, F., & Siller, M. A. (1995). *The national agenda for the education of children and youths with visual impairments, including those with multiple disabilities*. New York: AFB Press.
- Creswell, J. (2005). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage Publication, Inc.
- Curriculum for Excellence. (2010). *Curriculum for excellence in action: Bringing life to learning and learning to life*.
- DeMario, N. (1990). Non-academic competencies for elementary level students with visual impairments. Paper presented at the 68th annual CEC convention, Toronto, Canada.
- Epstein, J. L. (2010). School/family/community partnerships: Caring for the children we share. *Phi Delta Kappan*, 76, 701-712.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review*, 1, 1-22.
- Fehrmann, P. G., Keith, T. Z., & Reimers, T. M. (1987). Home influence on school learning: Direct and indirect effects of parental involvement on high school grades. *Journal of Educational Research*, 80 (6), 330-337.
- Gonzalez-Mena, J. (2011). *Foundations of early childhood education: Teaching children in a diverse setting*. New York: McGraw-Hill.
- Hale, J. (2001). *Learning while Black: Creating educational excellence for African American children*. Baltimore, MA: John Hopkins University Press.
- Hatlen, P. (1996). The core curriculum for blind and visually impaired students, including those with multiple disabilities. *Review*, 28 (1), 25-32.
- Hill, E. W., & Ponder, P. (1976). *O&M techniques: A guide for the practitioner*. Amer Foundation for the Blind.
- Ho, E. S., & Willms, D. J. (1996). Effects of parental involvement on eighth-grade achievement. *Sociology of Education*, 69 (2), 126-141.

- Hazekamp, J., & Huebner, K.M. (Eds.). (1989). *Program planning and evaluation for blind and visually impaired students: National guidelines for educational excellence*. New York, NY: American Foundation for the Blind.
- Huebner, K. M., Merk-Adam, B., Stryker, D., & Wolffe, K. (2004). *The national agenda for the education of children and youths with visual impairments, including those with multiple disabilities*. New York: AFB Press.
- Izzo, C. V., Weissberg, R. P., Kaspro, W. J., & Michael, F. (1999). A longitudinal assessment of teacher perceptions of parent's involvement in children's education and school performance. *American Journal of Community Psychology*, 27 (6), 817-839.
- Individuals with Disabilities Education Act Amendments of IDEA (2004).
- Individuals with Disabilities Education Act (IDEA), (2006).
- Jacobsen, W. H. (1993). *The art and science of teaching O&M to persons with visual impairments*. New York: American Foundation for the Blind.
- Jesse, D. (1986) *Increasing parental involvement: A key to student achievement*. *Mid-Continent Research for Education and Learning*.
- Kindiki, J. (2009). Effectiveness of boards of governors in curriculum implementation in secondary schools in Kenya. *Educational Research and Reviews*, 4(5), 260- 266.
- Kirk, S., Gallagher, J., Coleman, M. R., & Anastasiow, N. J. (2011). *Educating exceptional children*. Cengage Learning.
- Kottler E., & Kottler, J., (2002) *Children with limited English: Teaching strategies for the regular classroom*. Thousand Oaks, CA: Sage.
- Lohmeier, K., Blankenship, K., & Hatlen, P. (2009). Expanded Core Curriculum: 12 years later. *Journal of Visual Impairment & Blindness*, 103 (2), 103-112.
- Lowenfeld, B. (1964). *Our blind children, growing and learning with them* (2nd Ed) Springfield, IL: Charles C. Thomas.
- Lowenfeld, B. (1969). Psychological considerations. In B. Lowenfeld (Ed.), *The visually handicapped child in school* (pp. 27-60). New York: John Day.
- Marsh, R. A., Hartmeister, F., & Griffin-Shirley, N. (2000). Legal issues for O&M specialists: Minimizing the risks of liability. *Journal of Visual Impairment & Blindness*, 94 (8), 495-507.
- McDonough, H., Sticken, H., & Hack, S. (2006). The Expanded Core Curriculum for Students who are Visually Impaired. *Journal of Visual Impairments & Blindness*, 596-598.
- Measuring Up (1999). The state of Texas education: *Parental involvement in education*.
- Merriam, S. B. (1998). *Qualitative research and case study application in education*. San Francisco: Jossey-Bass.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd Ed.). Thousand Oaks, CA: Sage Publications.
- Morrison, G. S. (2007). *Early childhood education today*. Upper Saddle River, New Jersey: Pearson MerrillPrentice Hall.
- Muldrow, D., Cano, R. & Kimmel, H. (1999). *Where have all the parents gone?*
- National Parent Teacher Association. (2000). *Building Successful Partnerships: A guide for developing parents Family involvement programs*. Bloomington, IN: National Educational Service.
- Noguera, P. (2003). *City schools, and the American dream*. New York: Teacher College Press.
- Patton, M. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.
- Patirkakou, E., Wessiberg, R., Manning, J., Redding, & Walberg. (2003). *School family Partnerships: promoting the social, emotional, and academic growth of children*. Philadelphia, PA., The Mid-Atlantic Regional educational laboratory, 1-3.
- Reynolds, J. (2007). *Parents' involvement in their children's learning and schools: How should their responsibilities relate to the role of the state?* Bristol: Policy Press.

- Rosen, S., & Joffee, E. (1999). Motor development. In K.M. Huebner, J.G. Prickett, T.R. Welch, & E. Joffee (Eds.), *Hand in hand: Essentials of communication and O&M for your students who are deaf-blind* (pp. 493-520). New York: AFB Press.
- Reynolds, J. (2007). *Parents' involvement in their children's learning and schools: How should their responsibilities relate to the role of the state?* Bristol: Policy Press.
- Ruzickova, K., & Hordejckova, T. (2015). Modern devices to support early development of children with visual impairment. *Procedia-Social and Behavioral Sciences*, 171, 950-960.
- Sapp, W., & Hatlen, P. (2010). The Expanded Core Curriculum: Where we have been, where we are going, and how we can get there. *Journal of Visual Impairment & Blindness*, 104 (6), 338-348.
- Singleton, G. & Linton, C. (2006). *Courageous conversations about race*. Thousand Oaks, CA. Corwin Press.
- Suterko, S. (1973). Life adjustment. In B. Lowenfeld (Ed.), *The visually handicapped child in school* (pp. 279-317). New York: John Day.
- Tuncer, T., & Altunay, B. (1999). Görme engelli öğrencilere yönelim ve bağımsız hareket öğretiminde rota analizi. (Route analysis for the instruction of O&M skills to the visually impaired students). *9. Ulusal Özel Eğitim Kongresi'nde sunulmuş bildiri*, Eskişehir.
- Turnbull, A. P., & Turnbull, H. R. (1997). *Families, professionals, and exceptionality: A special partnership*. Upper Saddle River, NJ: Prentice Hall/Merrill.
- ThomPavey, S., Douglas, G., McLinden, M., & McCall, S. (2003). An investigation into the mobility and independence needs of children with visual impairment. Part 1: The development of a mobility and independence curriculum framework. *British Journal of Visual Impairment*, 21 (1), 4-9.
- U.S. Department of Education. (2007). *Table 1-3. Students Ages 6 through 21 Served Under IDEA. Part B, By Disability Category and State: Fall 2006*.
- Weiner, W. R., & Siffermann, E. (1997). The development of the profession of O&M. In B. B. Blasch, W. R. Wiener, & R. L. Welsh (Eds.), *Foundations of O&M* (2nd Ed., pp. 553-579). New York, NY: AFB Press.
- Williams, B., Williams, J., & Ullman, A. (2002). *Parental Involvement in Education*. London: Queen's Printer.
- Yin, R. K. (2008). *Case Study Research Design and Methods*. USA: Sage Publications, Inc.

UNRAVELLING THE LINKAGE BETWEEN CAREER STRATEGIES, CAREER SUCCESS AND JOB PERFORMANCE AMONG ACADEMICIANS

Johanima Johari, Tan Fee Yean & Edora Ismail

School of Business Management, College of Business, Universiti Utara Malaysia 06010 Sintok
Kedah

johanima@uum.edu.my, feeyean@uum.edu.my, edora@uum.edu.my

ABSTRACT

The primary aim of this study is to determine the influence of career strategies, which comprised of creating opportunities, extended work involvement, self-nomination, seeking social support and interpersonal attraction, on job performance among academicians. Furthermore, the mediating role of career satisfaction is also examined in the posited relationship. A total of 256 academicians from public universities reported on their career strategies, career satisfaction, and job performance. Data was analyzed using SPSS and Smart PLS. The findings reported that creating opportunities are significantly related to job performance and career satisfaction significantly mediate the relationship between creating opportunities and job performance. Overall, the key findings provided marginal support for the model proposed. Discussion, implications as well as limitations of the study are also addressed.

Keywords: career strategies, career satisfaction, job performance, academicians

Introduction

There has been increasing interest in the careers of university academicians over the last few years. The growing interest stems, in part, from the recognition of the World Bank that “education” is one of the parameters in the knowledge economy index (World Bank, 2008). Knowledge-intensive sectors such as universities have been found to have more economic value. In this regard, universities (an important component of the education system) that functioned as innovation centres, research centres, training centres and consultancies that consist of large groups of educated and well-trained individuals who create and share knowledge through new technologies had been recognized as a valuable sector that can be contributed to the wealth creation of a nation (Arokiasamy, Maimunah, Aminah & Jamilah, 2011). An important group of these educated and well-trained individuals in universities is the academicians (i.e., tutors, lecturers, senior lecturers, associate professors and professors) who are also generally known as knowledge workers or k-workers. This group of people is very well-versed with the utilisation of knowledge and information as strategic resources for commercialisation purposes in all socio-economic activities.

As indicated by the Ministry of Science, Technology and Innovation (Malaysian Science and Technology Information Centre, 2010), Malaysia is currently moving towards being a knowledge-based economy (k-economy) by focusing on the development of the country’s capacity for increasing knowledge, creativity and innovation. The ability of human resources to generate new knowledge and technology for commercialisation is the key predictor in determining the success of a k-economy (Malaysian Science and Technology Information Centre, 2010). Hence, academicians of Malaysian public universities who are involved in the conception and creation of new knowledge, theories, models, practices, systems and methods, can be considered as one of the important groups of human capital to contribute to the k-economy. In addition to the main teaching responsibilities, academicians also assume the role as researchers by being involved in various research and development (R & D) activities and commercialising research output. Therefore, academicians are considered as key k-workers with the ability to promote wealth creation for the universities, in particular, and country in general.

The above discussion shows that academicians are one of the key resources for a country to develop a k-economy. Therefore, the issues of career management of university academicians need to be highlighted as it can directly impact academicians’ commitment towards their job responsibilities, and indirectly affect universities’ ability to generate new knowledge and technology required for a k-economy. In order to ensure that academicians are able to effectively manage their own careers, support from the university’s management

is essential. Career self-management means one regularly gathers job information and plans for problem-solving and decision-making. This includes developmental feedback and job mobility preparedness (Kossek, Roberts, Fisher & Demarr, 1998). Relying on one's own efforts to manage his/her career is not sufficient because such efforts may fail to match the said individual's career development needs with the organisational development plans. Universities should not only make performance, remuneration and promotional information available for academicians, but should also offer a more formal career management support, such as career counselling, mentoring and planning systems to help academicians take greater responsibilities for their own careers.

Successfully motivating academicians to engage in career self-management activities depends on the willingness of universities to make the necessary resources and support available to help them manage their careers. Through the university's career management support, academicians can be more committed to manage their careers and motivated to realise their career aspirations as they will then have a clearer picture on how to fit their career plans with the university's development plans. Efforts of academicians to realise their career aspirations can positively influence university performance. Their career outcomes can benefit the university through the creation of new knowledge, theories, models, practices, systems and products that can contribute to a k-economy. The cooperation from both sides (i.e., academicians and university) is needed to bring about a win-win situation. Hence, there is a dire need to perform an empirical study that examines how career self-management behaviours serve as an important human resource development function to improve academicians' career satisfaction and job performance and ultimately contribute to the university's development plans and the k-economy. Drawing on this, the objective of this study is to examine the influence of career strategies on job performance of academicians. Additionally, the mediating role of career satisfaction is also assessed in the hypothesized link.

Literature Review

Conceptual Background of Career Strategies

Career strategies are career-related behaviours that may be developed by an individual to decrease the time required and uncertainty in the environment in order to meet his/her career developmental needs (Gould & Penley, 1984). Lau and Pang (2000) defined career strategies as a sequence of activities designed to help an individual attain a career goal. Kuo (2006) agreed with this definition; he defined career strategies as a person's method or behaviour to achieve his/her career goals in an organisation. In general, career strategies are tactics that can be used by employees to help them attain their career objectives. This research categorises career strategies into five main types, namely: creating opportunities; extending work involvement; self-nomination; seeking social support; and interpersonal attraction, as suggested by Gould and Penley (1984), and Gould and Penley (1984). The five career strategies are briefly discussed below.

Creating Opportunities

One way to increase the number of career options is to create opportunities through skills and expertise development (Gould & Penley, 1984). Recommended strategies are developing marketable skills, enrolling in further education and obtaining more working experience (Gould & Penley, 1984; Lau & Pang, 2000). This is because such strategies could equip employees with the expertise that they might need for their future career positions. In particular, developing marketable skills and expertise is considered essential and important for employees who have high career aspirations, especially in today's labour market where job vacancies are only reserved for candidates who possess the requisite knowledge, skills and abilities. According to Yamamoto (2006), due to the current global competitiveness, most employers only welcome employees with knowledge, skills, abilities, expertise and experience that could help to increase business revenue. This means that most organisations are not willing to offer jobs to inexperienced employees who might become a liability for the organisation. In light of the above discussion, this study defines creating opportunities as developing skills and acquiring experiences that are critical for an individual's career success.

Extended Work Involvement

One way to show high commitment at work is working overtime and taking work home (Gould & Penley, 1984; Yamamoto, 2006). This may also entail a preoccupation with work-related issues outside the working environment (Gould & Penley, 1984). Employees should not consider extended work involvement as something that has taken away their personal relaxation time, but see this as a strategy that would be beneficial for them to gain valuable work experience. If employees desire to perform better, they must spend more time in their work, which will help them build their competencies. According to Hansen (2006), workplace is like an incubator that can enable employees to learn how to do things effectively. The time spent at the workplace and beyond the working hours, may increase their opportunities to enhance their skills and expertise.

Self-nomination

Self-nomination is a strategy aimed at communicating to superiors the desire to assume greater job responsibility in the organisation (Gould & Penley, 1984). The tactics that maybe utilised include making superiors aware of one's accomplishments, presenting oneself as a person who can get things done and making superiors cognizant of one's career aspirations and objectives (Gould & Penley, 1984). According to Hansen (2006), one of the key factors for great job performance is employees' ability to let others know what capabilities they have and how they can contribute effectively to the organisation. This means employees should not be reluctant to communicate their abilities and plans that can contribute to the organisation's goals and objectives. In addition, employees can also regularly share their accomplishments with their superiors so that superiors are more aware of what the employees have achieved. It will then be easier for the employees to pick up significant assignments that may further their careers.

Seeking Social Support

Seeking social support means getting strong emotional support and guidance through consultation with experienced and sincere people (Gould & Penley, 1984), such as superiors, mentors, friends, colleagues and subordinates within and outside the organisation. Seeking social support can provide the employees with several advantages, including advice on career decisions and easier entry into the social structure of the organisation so as to get organizational sponsorship, such as training opportunities (Gould & Penley, 1984; Linehan, 2001; Van Emmerik et al., 2006; Linehan & Scullion, 2008). These advantages could result in rapid career advancement because experienced people could provide valuable information and guidance that can help employees overcome obstacles that hinder their career development. According to Lau and Pang (2000), having a mentor who can guide and help is an advantage to employees' career progression. This is because mentors can share their ideas, experiences and information with employees (mentee) and they in turn, can use these ideas and information as a guide to develop good career plans.

Interpersonal Attraction

Zellars and Kacmar (1999), and Lau and Pang (2000) emphasised the importance of superiors' judgment of an individual's job performance. This is because most superiors will make selection and promotion decisions based solely on their own judgment. Therefore, enhancing one's interpersonal attraction may be a useful career strategy. According to Gould and Penley (1984), interpersonal attraction consists of two tactics: opinion conformity (agreeing with superiors' major ideas, but carefully disagreeing with the minor ones to avoid overtly praising them); and ingratiation (developing close relationship and favourable image with superiors). Past studies such as Deluga and Perry (1994), Zellars and Kacmar (1999), Kacmar, Carlson and Bratton (2004), Varma, Toh and Pichler (2006), and Harvey, Stoner, Hochwarter and Kacmar (2007) indicated that a sincere investment in nurturing interpersonal attraction by consistently communicating high job performance and staying in touch with superiors' interest would pay-off when the person asks for a favour in the form of promotion or salary increment. However, excessive ingratiation of superiors can have dysfunctional career results as superiors may think that the individual is a toady who wants to get benefits without working hard. This means that controlled ingratiation strategies (not overtly pleasing superiors) can be a useful strategy to enhance an individual's career.

Conceptual Background of Job Performance

Job performance generally refers to an individual's output and achievement which are accredited by the organisation or system in which he or she works (Syed Saad, Ahsan, Jabran, Wasiq, Ihsan & Syed Neiman, 2011). Thus, job performance is largely composed of task completion. In other words, it concerns the efforts and abilities of an employee to effectively perform the job. Therefore, job performance can be defined as behaviour that can be measured by the extent of an individual's contribution to his/her job (Oh & Berry, 2009). Typically, job performance shows the ability of employees to fulfill their respective job expectations as well as attain performance standards that are set by their organisation. Hence, job performance can be considered as an individual's scalable action, outcome and behaviour which contribute to organisational goals (Viswesvaran & Ones, 2006).

According to Ferris, Lian, Brown, Pang and Keeping (2010), and Seyed Mehdi and Meysam (2013), job performance is a set of an employee's behaviours that are related to the goals of the organization in which he or she works. In addition, Seyed Mehdi and Meysam (2013) indicated that job performance can be perceived as individual's behaviour, i.e., how he or she reacts to work related to organisational goals. Silverthorne (2008) defined job performance as an output or rating score achieved by an employee after being evaluated by his/her immediate superior. Mawoli and Babandako (2011) referred to job performance as the capability of an employee to accomplish the tasks assigned in accordance to the pre-determined standards. As can be seen, there are various definitions for job performance. However, this research defines job performance as the quantity and quality of work produced by an employee as indicated in the study of Hoobler et al. (2010).

Conceptual Foundation of Career Satisfaction

In the context of careers, career satisfaction can be defined as the level of one's satisfaction towards his/her wealth and needs achievement. Past studies such as Hall and Chandler (2005), and Heslin (2005) have generally agreed that career satisfaction is a form of subjective construct, which is can be referred as emotional reactions of one towards his/her own career, and is most commonly recognized as psychological success. According to Nabi (2001), career satisfaction is complex to understand since it depends on an individual's personal perception of the level of satisfaction, which is more difficult to observe and measure in objective terms, such as salary. Further, Nabi (2001) found that many individuals, despite having low salaries and status, can still feel satisfied and sense success in their careers due to other factors, such as good relationship with superiors or colleagues, excellent work environment and challenging tasks. Thus, a high salary can strengthen one's status, but it is not the only requirement for an individual to succeed in his/her career. Individuals with high career satisfaction will feel happier and more successful relative to their own internal standards.

Career Strategies and Job Performance

According to Counsell and Popova (2000), the origin of the literature on career strategies can be traced to the 1950s. The studies of Dalton (1951) revealed that managers in the United States (US) are officially engaged in several strategic career behaviours, such as joining social groups that could improve their performance at work. Gould and Penley (1984) concurred with this concept when their study suggested that those individuals who made greater use of career strategies made rapid advancements in their careers compared to those who did not. This suggestion concurs with the study of Patrick and Kumar (2011) that individuals who have specific career strategies will perform more successfully than those who do not have career strategies. The study of Kuo (2006) indicated that high performance employees adopt career strategies more frequently than low performance employees do. This shows that career strategies are one of the key factors that influence employees' job performance. This is because individuals who are engaged in high level of particular strategies, such as networking with external social groups, can gain several advantages, including maintaining career flexibility and establishing beneficial relationship with significant persons, who may provide them with specific tasks to enhance their performance at work. Gould and Penley (1984) advocated that conveying a positive and acceptable image to superiors by making them aware of their accomplishments, working longer hours and conforming to superiors' expectations or opinions are important for employees to influence their superior's perception when evaluating their job performance. This is because superiors have the power to decide the standards for employees' performance based on their own judgment. If superiors have

positive impression about employees, they will be more likely to give higher marks to them, thus indicating relatively high job performance.

Researchers, such as Chang (2002) and Nabi (2003) revealed that the tactics of continually developing skills, knowledge and expertise are useful tools for individuals to preserve their employability and marketability. Knowledge, skills and expertise which are aligned with the employer's needs can ensure individuals' career progression and performance. For example, in this era of Information and Communications

Technology (ICT), where there is a constant evolution of tools, such as computer software and hardware, employees need to constantly update their skills and knowledge. If they fail to update themselves with the current skills and knowledge needed by the employers, they might not be able to carry out the assigned tasks well and thus achieve low performance. Following the above discussion, it is proposed that:

Hypothesis 1: Career strategies are significantly and positively related to job performance.

Hypothesis 1a: Creating opportunities are significantly and positively related to job performance.

Hypothesis 1b: Extended work involvement is significantly and positively related to job performance.

Hypothesis 1c: Self-nomination is positively significantly and positively related to job performance.

Hypothesis 1d: Seeking social support is significantly and positively related to job performance.

Hypothesis 1e: Interpersonal attraction is significantly and positively related to job performance.

Career Satisfaction and Job Performance

Job performance is essential to organisations because once employees are recognised for their good performance, they will feel more satisfied and be willing to put extra effort to carry out their jobs. It is very important to make employees realise their potential and worth to the organisation, so that they will feel they are valuable and appreciated. An excellent job performance can be a source of happiness for employees as they may receive invaluable rewards from their superior. However, job performance can also be a source of fretfulness and frustration among employees if they fail to perform the job effectively. This means if employees repeatedly fail to meet the performance standards, it could influence their emotional state and result in career dissatisfaction. Therefore, employees' career satisfaction can be reflected in their level of job performance. Hence, it is hypothesized that:

H2: Career satisfaction significantly mediates the relationship between career strategies and job performance.

Hypothesis 2a: Career satisfaction significantly mediates the relationship between creating opportunities and job performance.

Hypothesis 2b: Career satisfaction significantly mediates the relationship between extended work involvement and job performance.

Hypothesis 2c: Career satisfaction significantly mediates the relationship between self-nomination and job performance.

Hypothesis 2d: Career satisfaction significantly mediates the relationship between seeking social support and job performance.

Hypothesis 2e: Career satisfaction significantly mediates the relationship between interpersonal attraction and job performance.

Research Framework

The main purpose of this study is to propose a framework on the relationship between career strategies and job performance in the context of academicians. Hence, this research coordinates the Hall and Foster's (1977) psychological success cycle and Gould's (1979) career planning model to expand the knowledge on how employees may strive for success in job performance based on their personal efforts in relation to their career. As suggested by Hall and Foster's (1977) psychological success cycle, a primary influence on an individual's career efforts is the identification of personal goals. A need to achieve the goal will increase an individual's level of effort and thus relative performance. An individual may gain psychological success through good performance and such feelings can lead to enhanced self-esteem and involvement in the chosen career role as depicted in Figure 2.1.

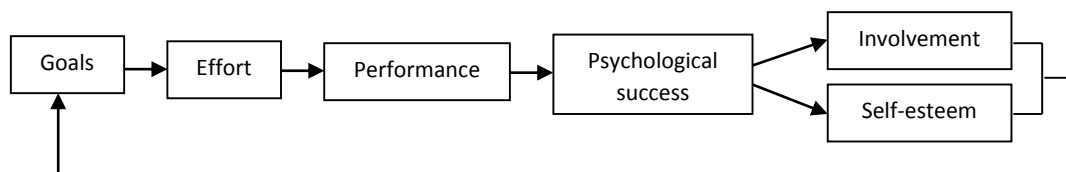


Figure 1: Hall and Foster's (1977) Psychological Success Cycle

Gould (1979) also developed a conceptual model, known as career planning model, to explain the relationship between career planning, implementation and career performance as depicted in Figure 2.2. The model is predicted on the assumption that career planning has a crucial influence on career behaviour, i.e., engaging in particular career strategies, which in turn can help to attain high level of career performance (career success). The reason is that career planning assists individuals to identify their career goals, strengths, weaknesses, opportunities and constraints, arising in the work environment, that act as a cognitive mechanism. When individuals have set their career goals, they tend to start thinking how they can achieve these goals. Therefore, the next step in the model is the development and implementation of particular career strategies (such as skills development, continuing studies, enrolment in professional bodies, seeking social support and career guidance). The implementation of career strategies can help individuals to enhance their career performance, and ultimately promote their level of self-esteem and involvement in their careers.

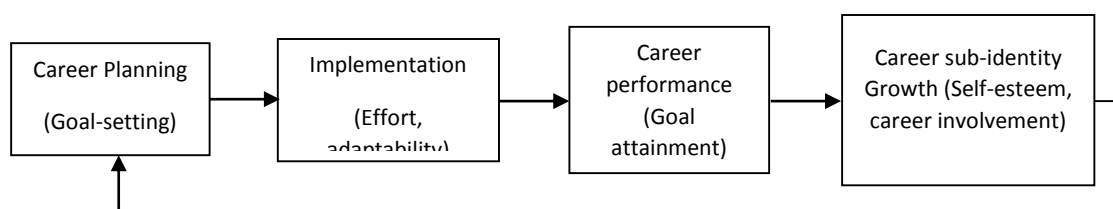


Figure 2: Gould's (1979) Career Planning Model

The above discussion led to the formulating of the research framework of this study as illustrated in Figure 2.3. As shown in Figure 2.3, this study proposes that career strategies will influence individuals' career satisfaction. Therefore, individuals' feeling of satisfaction will influence them to be more committed to their careers, which may boost their performance level at work.

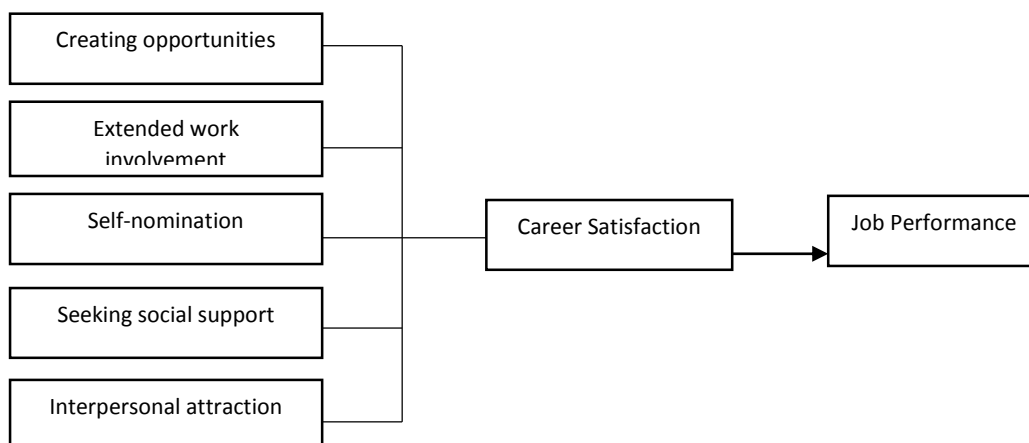


Figure 3: Framework of the Study

Methodology

Research Design

A correlational study is involved in this research since it permits the testing of the research proposition, especially to examine the relationship between the independent and dependent variables.

According to Cavana et al. (2000), correlational study is a study that is specifically used to identify the relationship between important factors (i.e., independent variable) and the problems (i.e., dependent variable). In order to gather valuable data to fulfil the objectives of this research, a quantitative method is employed. This study is conducted in a cross-sectional manner, which means that the data is gathered just once over a pre-determined period and all the study variables are measured simultaneously (Cavana et al., 2000; Wong, 2002). Questionnaires is used to gather data because it allows the researcher to collect primary data from a large targeted sample.

Population and Sample

The population of this research comprises academic staff of Malaysia's public universities. The samples are drawn from eight public universities located in the northern, central, southern and east coast regions of Peninsular Malaysia (i.e., two public universities randomly selected from each region of Peninsular Malaysia). The sample of this study only includes full-time academic staffs who have been working for a minimum of two years, based on the suggestion by Bozionelos (2003). The job tenure of two years or more is an ideal point to evaluate employees' perception of their career experiences since they had the time to familiarize themselves with the working conditions in their respective universities. Since some Registrars of the public universities were unable to provide the accurate number of academic staff as per pre-determined criteria, the rule of thumb suggested by Roscoe (1975), as cited in Sekaran (2003) was used. He proposed that sample size should be several times (preferably 10 times or more) greater than the number of variables in a multivariate analysis. Since this present study has 10 variables, thus the minimum sample size required is 100 (10 x 10). Besides that, G*Power 3.1.9.2 was also used to check the minimum sample size required for this study. A priori power analysis was performed with the effect size of 0.15 and the power of 0.80 (Cohen, 1988). The result showed that minimum sample size required is 92. However, to take care of non-responses that might affect the required sample size, this research decided to increase the sample size to 400 by dividing equally the number of questionnaires that is 50 set for each of the eight selected public universities.

Measurements and Questionnaire Design

A close-ended questionnaire was drawn to gather information about career planning, career strategies, job performance, career satisfaction, self-esteem and career commitment. The questionnaire is in English and divided into five sections with a total of 61 items (excluding the section of personal information). A cover letter stating the purpose of study, confidentiality of data, anonymity of identity and instructions on how to return the completed questionnaire to the representative was attached to the questionnaire. A total of 25 items adopted from Gould and Penley (1984); Chang (2002); Tan (2010) were used to measure career strategies, 10 items from Maimunah and Asma (1996) to measure job performance, and five questions from Greenhaus et al. (1990) were used to assess career satisfaction.

Pre-testing and Pilot Test

Although all instruments adapted in this research adapted from valid sources, a pre-test of questionnaire items was still deemed necessary since the adapted measurements had mainly been tested from the perspective of western countries, where respondents might have had different perceptions and understanding compared to respondents in non-western countries (in this case, Malaysia). Therefore, it is important to pre-test the items based on the perception and understanding of the targeted sample.

Six academic staffs, who are experts in the study of human resource management and organizational behavior, from two universities were contacted to participate in pre-testing. Each of these academic staff was given a copy of the questionnaire together with the operational definition of each variable. They were asked to answer and evaluate the items to check on clarity of questions and its meaning and whether or not it will create confusion, as well as the comprehensiveness of the questionnaire's items.

Fifty academic staffs were contacted for the pilot test. These 50 respondents were selected from a public university that was not included in the main sample of this research. The respondents' answers were entered into Statistical Package for the Social Sciences (SPSS) version 22.0 to carry out the

reliability analysis on the research instrument. As illustrated in Table 1, the reliability results for each variable ranges from 0.703 to 0.908. This is generally considered acceptable for research purposes as suggested by Sekaran (2003), who stated that the minimum acceptable reliability is 0.60. Therefore, the reliability scale for each variable can be considered reliable.

Table 1. Results of Reliability Analysis

Variables and Dimensions	Number of Items	Cronbach's alpha
Career strategies	25	0.703
Creating opportunities	5	0.879
Extended work involvement	3	0.799
Self-nomination	5	0.805
Seeking social support	5	0.829
Interpersonal attraction	7	0.806
Job performance	10	0.866
Career satisfaction	5	0.908

Data Collection Procedure

Initial contacts were made with the Registrars of each public university to obtain their approval for questionnaire distribution. A drop-off and collect method was applied in this research. This approach involved the researchers travelling to the participating public universities and handing the questionnaires to the selected respondents via the representative appointed by the university's Registrar. The representatives were reminded to distribute the questionnaires to 50 respondents and collect the questionnaires once the respondents had completed it. The representatives were also told to inform the respondents the purpose of this study, importance of their participation and the confidentiality of data, i.e., that this study is being conducted only for academic purposes. The researcher then collected the completed questionnaires from the representatives after two weeks from the date the questionnaires were distributed. Several follow-up calls were also made after a week of questionnaire distribution to ensure the progress of the data collection.

A total of 400 set of questionnaires were distributed. Out of 400 questionnaires distributed, 256 questionnaires were returned and usable for further analysis, which constitute of 64% response rate. The respondents included 107 male and 149 female. Most of the respondents were married (75.8%), and majority of respondents' age ranged from 36 – 45 years (42.9%). In terms of academic achievements, 127 or 49.6% respondents have Master's degree while 111 respondents or 43.4% have Doctoral degree. With regard to job position, 113 respondents are Lecturers, while 103 respondents are holding the position of Senior Lecturer. Most of the respondents (41.8%) indicated that they have worked in the current university for between two to seven years.

Assessing the Measurement Model

Table 2 depicts the results of measurement model. Convergent validity was assessed via factor loadings, composite reliability (CR) and average variance extracted (AVE) (Hair et al., 2017). Majority of the items reported a good loading values (Table 1) that ranged from 0.702 to 1.000. A total of 13 items were deleted from further analysis due to their low loading value of less than 0.70 (Hair et al., 2017). The value of CR for all variables ranged from 0.858 to 1.000 (i.e. above the cut-off value of 0.70). Meanwhile, all the AVE values were greater than cut-off value of 0.50 (Hair et al., 2017). In addition to that, the results of Heterotrait-Monotrait Ratio (HTMT) reported that the values of squared consistent construct correlations of all reflective constructs were below 1 (Henseler et al., 2016). Therefore, convergent and discriminant validity of the measurement model were well established.

Table 2. Results of Measurement Model

<i>Variable</i>	<i>Measurement item</i>	<i>Loadings</i>	<i>CR</i>	<i>AVE</i>	<i>HTMT confidence interval does not include 1</i>
Creating opportunities	Opp1	0.732	0.858	0.548	Yes
	opp2	0.767			
	opp3	0.737			
	opp4	0.762			
	opp5	0.702			
Extended work involve	ext1	1.000	1.000	1.000	Yes
Self-nomination	nom1	0.768	0.917	0.689	Yes
	nom2	0.774			
	nom3	0.910			
	nom4	0.873			
	nom5	0.817			
Seeking social support	supp3	0.844	0.890	0.730	Yes
	supp4	0.839			
	supp5	0.879			
Interpersonal attraction	att1	0.890	0.871	0.692	Yes
	att2	0.818			
	att3	0.784			
Career satisfaction	cs1	0.832	0.940	0.758	Yes
	cs2	0.899			
	cs3	0.832			
	cs4	0.919			
	cs5	0.867			
Job performance	perform1	0.745	0.884	0.604	Yes
	perform3	0.751			
	perform5	0.794			
	perform6	0.814			
	perform7	0.781			

Note: CR = Composite reliability; AVE = Average variance extracted (AVE); HTMT = Heterotrait-Monotrait Ratio.

Assessment of Structural Model

A structural model is formulated to test the previously addressed hypotheses. The coefficients of determination (R^2) of the dependent variables (i.e. career satisfaction and job performance) were gathered. The result found that 15.7% of the variance in career satisfaction was explained by the five dimensions of career strategies (i.e. creating opportunities, extended work involvement, self-nomination, seeking social support and interpersonal attraction). Meanwhile, career satisfaction only able to explain 7.5% of the variance in job performance. Then, the value of effect sizes (f^2) of exogenous variables on the endogenous latent variables were calculated. According to Cohen (1988), the effect size that fall between 0.02, 0.15 and 0.35 indicates small, medium and large effect respectively. The results of effect sizes are summarized in Table 3.

Table 3. Analysis of Effect Size and Predictive Relevance

Exogenous	f^2 on endogenous satisfaction)	(c) f^2 on endogenous performance)
Creating opportunities	0.127 (medium)	-
Extended work involvement	0.001 (small)	-
Self-nomination	0.000 (no)	-
Seeking social support	0.005 (small)	-
Interpersonal attraction	0.001 (small)	-
Career satisfaction	-	0.081 (small)

Note: $f^2 = (R^2_{included} - R^2_{excluded}) / (1 - R^2_{included})$

In addition to that, predictive relevance (Q^2), a criterion that evaluates how well endogenous variables are explained by predictors in a structural model (Chin 1998; Hair et al., 2017) were also determined. As suggested by Hair et al. (2017), if the Q^2 is greater than 0 then the model can be viewed as having enough predictive relevance. Using an omission distance of six with the sample size of 256, the result found that all endogenous variables (i.e., career satisfaction = 0.106; job performance = 0.038) have enough predictive relevance as all values are greater than 0. To test the hypothesized relationship. A bootstrapping (5000 resamples) procedure was employed to generate t -statistics (Hair et al., 2017). The results are summarized in Table 4.

Table 4. Results of Hypotheses Testing

Hypotheses	Relationship	Coefficient	t value	Supported
H1a	creating opportunities → career satisfaction	0.394	4.905**	Yes
H1b	extended work involvement → career satisfaction	0.036	0.504	No
H1c	self-nomination → career satisfaction	0.013	0.130	No
H1d	seeking social support → career satisfaction	-0.079	0.993	No
H1e	interpersonal attraction → career satisfaction	0.042	0.482	No
	career satisfaction → Job performance	0.273	3.474**	Yes

Note: t value > 2.33 = significant at ** $p < 0.01$

The results indicate that only creating opportunities ($\beta = 0.394$; $t = 4.905$; $p < 0.01$) have significant and positive influence on career satisfaction. Meanwhile, job performance was positively influenced by career satisfaction ($\beta = 0.273$; $t = 3.474$; $p < 0.01$). The mediation analysis as depicted in Table 5 further indicates that only the link between creating opportunities and job performance was mediated by career satisfaction. Therefore, only H1a, H2 and H3a posited earlier in this study are supported.

Table 5. The Result of Mediation Analysis

Hypothesis	Relationship	Indirect effect	t value	Percentile bootstrap confidence interval		Decision
				Lower	Upper	
H2a	Creating opportunities → career satisfaction → job performance	0.108	2.167**	0.051	0.211	Supported
H2b	Extended work involvement → career satisfaction → job performance	0.010	0.477	-0.027	0.057	Not supported
H2c	Self-nomination → career satisfaction → job performance	0.004	0.126	-0.033	0.085	Not supported
H2d	Seeking social support → career satisfaction → job performance	-0.022	0.909	-0.057	0.039	Not supported

Hypothesis	Relationship	Indirect effect	t value	Percentile bootstrap confidence interval		Decision
				Lower	Upper	
H2e	Interpersonal attraction → c satisfaction → job performance	0.012	0.455	-0.044	0.058	Not supported

Note: t value > 2.33 = significant at **p<0.01;

Discussions, Implications, Limitations, and Conclusion

The findings of this study showed that of the five dimensions of career strategies, only creating opportunities is related to job performance. This suggests that academic staff who engage in the strategies of creating opportunities are more likely to attain high level of job performance than those who do not. Interestingly, academic staffs' career satisfaction influenced their level of job performance. The findings of this study are supported by previous studies, such as Hall and Foster (1977), Nimlathasan and Brebete (2010), and Ismail and Abdul Rahman (2011). All their studies have proven that if employees are satisfied with their career, they are more likely to perform high quality work. Hence, career satisfaction can be considered as a primary factor in boosting the job performance level of academic staff.

In terms of theoretical and practical ramifications, the results of this study provides marginal support for the proposed framework. The findings of this research also provide some useful guidelines to present and future academicians. This is critical because academicians currently face limited resources provided by the university to support their career development needs. Thus, academicians must take charge of their own careers and not be too dependent on the university's support. This means academic staffs need to be proactive in the management of their career. The findings of this research indicate that in order to attain career effectiveness, career strategies are important to elevate academicians' effort to strive for better performance. Hence, in some way, this study offers suggestions to academic staff regarding the methods they can use to manage their own careers effectively even in the face of limited resources from the university.

On the other hand, several limitations of the study are worthy to note. First, this study only concentrated on academic staff in eight Malaysian public universities, and does not include academic staff of private universities. Different results might be obtained if the study also looked at career self-management behaviours of academic staff in private universities. Therefore, the results of this study cannot be generalised to those working in private universities as they might have different work cultures, practices, management systems and policies that might affect their career-related behaviours. Future research should widen the scope of investigation by incorporating academicians from private universities, thus expanding the application of the career self-management model tested in this study. Second, the data of this study was gathered only through questionnaire. Thus, the feedback depends on the voluntary cooperation of the academic staff. Therefore, to enhance the precision of findings, quantitative and qualitative methods of research could be incorporated to examine the issues of academic staffs' career self-management behaviours and outcomes. Finally, this study is cross-sectional in nature. A longitudinal study may help future researchers to validate the findings gathered from cross-sectional study since individuals' behaviours, cognition and perceptions could change over time.

In summary, the research results have provided support for the key propositions. Most importantly, this study has succeeded in providing empirical evidences pertaining to the applicability of a self-management model in Malaysian public universities.

References

Arokiasamy, L., Maimunah, I., Aminah, A., & Jamilah, O. (2011). Predictors of academics' career advancement at Malaysian private universities. *Journal of European Industrial*, 35(6), 589-605.

- Chang, P. B. L. (2002). Career goals and career management strategy among information technology professionals. *Career Development International*, 7(1), 6-13.
- Counsell, D. (1996). Graduate careers in the UK: An examination of undergraduates' perceptions. *Career development International*, 1(7), 34-41.
- Counsell, D., & Popova, J. (2000). Career perceptions and strategies in the new market-oriented Bulgaria: An exploratory study. *Career Development International*, 5(7), 360-368.
- Deluga, R. J., & Perry, J. T. (1994). The role of subordinate performance and ingratiation in leader-member exchange. *Group & Organization Studies*, 19(1), 67-86.
- Gould, S. (1979). Characteristics of career planners in upwardly mobile occupations. *Academy of Management Journal*, 22(3), 539-550.
- Gould, S., & Penley, L. E. (1984). Career strategies and salary progression: A study of their relationships in a municipal bureaucracy. *Organizational Behavior and Human Performance*, 34, 244-265.
- Ferris, D. L., Lian, H., Brown, D. J., Pang, F. X. J., & Keeping, L. M. (2010). Self-esteem and job performance: The moderating role of self-esteem contingencies. *Personnel Psychology*, 63, 561-593. <http://doi.org/10.1111/j.1744-6570.2010.01181.x>
- Harvey, P., Stoner, J., Hochwarter, W., & Kacmar, C. (2007). Coping with abusive supervision: The neutralizing effects of ingratiation and positive effect on negative employee outcomes. *The Leadership Quarterly*, 18, 264-280.
- Hoobler, J. M., Hu, J., & Wilson, M. (2010). Do workers who experience conflict between the work and family domains hit a "glass ceiling": A meta-analytic examination. *Journal of Vocational Behavior*, 77, 481-494.
- Kacmar, K. M., Carlson, D. S., & Bratton, V. K. (2004). Situational and dispositional factors as antecedents of ingratiation behaviors in organizational settings. *Journal of Vocational Behavior*, 65, 309-331.
- Kossek, E. E., Roberts, K., Fisher, S., & Demarr, B. (1998). Career self-management: A quasi-experimental assessment of the effects of a training intervention. *Personnel Psychology*, 51, 935-961
- Kuo, Y. F. (2006). Influences on employee career strategies adoption in the information service industry: Superior leadership style or employee achievement motivation. *International Journal of Management*, 23(1), 176-186.
- Lau, A., & Pang, M. (2000). Career strategies to strengthen graduate employees' employment position in the Hong Kong labor market. *MCB University Press*, 42(3), 135-149.
- Linehan M. 2000 Senior Female International Managers: Why so Few? Ashgate, Aldershot
- Linehan M. 2006. Women in International Management. In H. Scullion, D. Collings (eds.), *Global Staffing*. Routledge, London, pp. 178-195
- Linehan M., H. Scullion: 2002, 'Repatriation of European female corporate executives: An empirical study', *International Journal of Human Resource Management* 13(2), 254-267
- Malaysian Science and Technology Information Centre (MASTIC). (2010). National innovation model: Market and technology driven innovation for wealth creation and societal wellbeing. Retrieved October 20, 2011 from <http://www.mosti.gov.my/mosti/images/pdf/innovation%20model%20jtpin.pdf>.
- Mawoli, M.A. and Babandako, A.Y. (2011). An Evaluation of Staff Motivation, Dissatisfaction and Job Performance in an Academic Setting. *Australian Journal of Business and Management Research*, 1, 1-13.
- Nabi, G. R. (2003). Situational characteristics and subjective career success: The mediating role of career-enhancing strategies. *International Journal of Manpower*, 24(6), 653-672.
- Oh, I., & Berry, C. M. (2009). The five-factor model of personality and managerial performance: Validity gains through the use of 360 degree performance ratings. *Journal of Applied Psychology*, 94, 1498-1513.
- Patrick, H. A., & Kumar, A. (2011). Career management, employee development and performance in Indian information technology organizations. *Business Management Dynamics*, 1(5), 24-31.
- Seyed Mehdi Mousavi Davoudi, Meysam Allahyari (2013), Effect of Job Organization on Job Performance among Operating Staffs in Manufacturing Companies, *American Journal of Industrial and Business Management*, 3 (2).
- Silverthorne, J. C. C. (2008). The impact of locus of control on job stress, job performance and job satisfaction in Taiwan. *Leadership & Organization Development Journal*, 29(7), 572-582.

- Syed Saad, H. S., Ahsan, R. J., Jabran, A., Wasiq, E., Ihsan, U., & Syed Neiman, R. (2011). Workload and Performance of Employees. *Interdisciplinary Journal of Contemporary Research in Business*, 3(5), 256-267.
- Yamamoto, H. (2006). The relationship between employees' inter-organizational career orientation and their career strategies. *Career Development International*, 11(3), 243-264.
- Van Emmerik, I. J. H. (2004). The more you can get the better: mentoring constellations and intrinsic career success. *Career Development International*, 9(6), 578-594.
- Arup Varma, Soo Min Toh, Shaun Pichler, (2006) Ingratiation in job applications: impact on selection decisions, *Journal of Managerial Psychology*, 21(3), 200-210.
- Van Rooy, D. L., Viswesvaran, C., Dilchert, S., & Ones, D. S. (2006). Emotional intelligence. In J. H. Greenhaus, & G. A. Callanan (Eds.), *Encyclopedia of career development* (pp. 259-265). Thousand Oaks, CA: Sage.
- World Bank. (2008). *Measuring knowledge in the world's economies: Knowledge assessment methodology and knowledge economy index*. Retrieved October 20, 2011 from http://siteresources.worldbank.org/INTUNIKAM/Resources/KAM_v4.pdf.
- Zellars, K. L. & Kacmar, K. M. (1999). The influence of individual differences on reactions to coworkers' ingratiation behaviors. *Journal of Managerial Issues*, 11, 234-248.

THE RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC FACTORS, PARENTAL ATTACHMENT AND THE LEVEL OF HEALTH LITERACY AWARENESS AND PRACTICE AMONG MALAYSIAN ADOLESCENTS

Siti Raba'ah Hamzah, Turiman Suandi & Maimunah Ismail
Faculty of Educational Studies, Universiti Putra Malaysia
sitirabaahhamzah@gmail.com, tj@upm.edu.my, mismail379@gmail.com

ABSTRACT

This is a cross-sectional study was conducted to determine the relationship between the socio-demographic factors, parental attachment and the level of health literacy awareness and practice among Malaysian adolescents. Data were collected on a sample of 506 adolescents aged 15-17 years. The research instrument used was a self-administered questionnaire comprising of items eliciting information on health literacy (pertaining to awareness and practice), socio demographic factors and parental attachment. The results showed the level of health literacy awareness among Malaysian adolescents was moderate ($M=3.55$, $SD=0.54$) and the level of health literacy practice was high ($M=3.69$, $SD=0.56$). The study also revealed health literacy was influenced by gender, ethnicity, place of residence, household income and parental attachment. The study demonstrates there is a relationship between socio-demographic factors, parental attachment and the level of health literacy awareness and practice, thus to enhance the level of health literacy among adolescents, the government and other agencies related to health care should ensure demographic factors and parental attachment are taken into account when dealing with health literacy among adolescents.

Keywords: health literacy, parental attachment, demography, Malaysian adolescents.

Introduction

For the past decade, the definition of health literacy has been expanded to take on health promotion, health protection, disease prevention, health care and maintenance and systems navigation (Rudd et al. 2007). Health promotion perspectives define health literacy as the capacity to obtain, process, and understand basic health information and services required (Nielsen-Bohlman et al, 2004; Nutbeam 2000; 2009). The four domains are health protection (learning about products or practices to preserve one's health), disease prevention (understanding prevention and screening measures), health care and maintenance (seeking health care and complying with treatment regimens) and systems navigation (accessing health services and understanding one's rights) (Rudd et al, 2007). Health literacy is a complicated construct. As in general literacy studies, health literacy can be measured at different levels relating to acquisition, understanding and application of context in knowledge. According to Nutbeam (2000), the levels can be described as functional, interactive and critical health literacy. In terms of functional literacy, the definition implies sufficient basic skills in reading and writing. Interactive literacy indicates cognitive and social skills that can be used simultaneously in everyday activities to extract information. Critical health literacy on the other hand is an application of cognitive and social skills to analyse and use that information.

According to the World Health Organization (2013), health literacy is associated with cognitive and social skills which determine the motivation and ability of the individual to gain access, understand, and use information in ways which promote and maintain good health. It is important to improve people's access to health information and their capacity to use it effectively as health literacy is critical to empowerment especially for adolescents. People with poor literacy may have low awareness of health education, little knowledge on health services, and ignorant on how to deal with chronic diseases (Nutbeam 2009). Furthermore, low health literacy could eventually lead to poorer health outcomes (Massey et al. 2012). The relationship between the level of health literacy and the

individual's health level is becoming more apparent with increasing research in this area (Nutbeam 2009).

Adolescents have been assumed to be low users of health services and understood as the healthiest period of life compared to adults. However to date, there are many issues contributing to adolescents' health including population changes, the widespread initiation of health and self-management behaviors, injuries during adolescents, shift in health service use and psychosocial development.

With adolescents aged 10-19 making up 21.0% of the total population in Malaysia, adolescent health issues are very important to the country (Department of Statistics Malaysia, 2015). The Ministry of Health Malaysia introduced the National Adolescent Health Policy in September, 2001. This policy focuses on health services, counseling, and education for young people. The policy seeks to promote and ensure the development of adolescents so that they are aware of the responsibility of their own health, and to empower them with knowledge and skills to adopt robust or healthy lifestyles through active participations in specially designed programmes. Besides, the Malaysian Association for Adolescent Health (MAAH) also advocates education to maintain high standards of health care for young people. Adolescents are encouraged to participate actively in the activities of the association to better their own health and of their communities (Malaysian Association for Adolescent Health, 2016).

To date, there is little information regarding the level of health literacy among adolescents in Malaysia. As noted in the Country Health Plan Report 2011-2015 by the Ministry of Health, there is still a gap between the community's knowledge and the behaviors of its members. Ultimately, it is the communities, families and individuals who must change their behaviors in order to be healthier. These call for an effective and coordinated long-term public education program for health literacy.

Understanding Adolescent Health Literacy

There are many factors influencing the level of health literacy among adolescents that have been brought up in past researches in other countries. Socio-demographic factors (age, gender, ethnicity, place of residence, household income) play important roles in providing support for the acquisition of health awareness among young people. These influences are among the main predictors that impact on health literacy (Manganello 2008). It was noted in a study carried out in Australia, factors such as low socio economic status, a family history of language/literacy difficulties, and low phonological awareness among parents could lead to poor literacy outcomes in children (Heath et al. 2014). This present study among others, aimed at determining the extent of the relationship between health literacy and demographic factors among adolescents in the Malaysian context.

Past researches had identified individual characteristics associated with health literacy, such as low educational attainment, older age, lower income and ethnicity. The intersection of parents and teen health literacy is of particular importance during this transition period because both teens and their parents require adequate health literacy to understand information regarding management and care of the teens' illness and symptoms (Manganello and Shone 2013). Moreover, according to Salonna et al. (2012) father involvement seems to have the potential to mediate socioeconomic differences in health during adolescence. The socio-demographic factors such as gender, age, race/ethnicity, education, status of poverty, place of residence were also mentioned as a predictors (Martin et al, 2009).

Health status is influenced by individual characteristics and behavioral patterns such as lifestyles but continues to be significantly determined by the socialisation development. Attachment relationships between parents and adolescents serve to imprint behavior and attitude inclinations in the latter, starting from infancy, and extending into adolescence and adulthood (Ruhl et al. 2015). Parental monitoring and parent-adolescent attachment in interactions are some of the key aspects on how parents may influence their children's health. Close bonding and continual communications between parents and their children go a long way towards encouraging adolescents to turn to their parents for

information, guidance or advice on health. By sharing information with their children, parents may also help to prevent or reduce their exposure to health risks.

The ecological theory by Bronfenbrenner (1989) acknowledges the closest and most influential persons who have direct contact with adolescents are typically their parents and peers. According to Bronfenbrenner, the developing child is surrounded by layers of relationships. The importance of the various levels of ecological influence asserted by Bronfenbrenner has been widely studied to determine their influence on individual growth and behavior. The innermost layer, which is called the micro system, describes the immediate environment in which the child is immersed. In this connection, the child's development bears a direct relationship with people considered significant to him or her, such as parents, peers and teachers (Leonard 2011).

Based on the literature, the purpose of this study was threefold: (1) to determine the level of health literacy awareness and practice towards parental attachment among adolescents in Malaysia; 2) to investigate demographic factors on the level of health literacy practice among adolescents in Malaysia; and 3) to examine the relationship between health literacy awareness and practice with parental attachment.

Methods

Sample and Procedure

A survey was carried out using questionnaires. The targeted respondents were secondary school students aged between 15 to 17 years (M age=16.1, SD = .467). A total of 506 students from eight secondary schools in the Klang Valley and the state of Selangor in Malaysia participated in this study. Two phases of sampling techniques was used in selecting the respondents. For the first phase, cluster sampling technique was used in making selection of the secondary schools. Out of 102 secondary schools only 11 schools were participated in this study. Permission letters were sent to the principals of the participating schools to conduct the survey and the research had received approval from the Ministry of Education within the survey period from May to July 2016. In the second phase, systematic sampling technique was used among the selected secondary school. The researcher made an appointment (e.g. date, time, venue & volunteers) to meet the respondents. The researcher administered the questionnaires and assisted the respondents in answering the questionnaire. The respondents were given 20 – 30 minutes to respond to all the items in the questionnaire. Verbal consent was acquired from the respondents and they were assured all information given would be kept confidential or anonymous. A small token was offered to participants to encourage participation and cooperation.

Statistical Analysis

The data were analyzed using SPSS version 22. Descriptive statistics were utilised to compare mean scores of the study's variables. Bivariate analyses were employed to test the hypothesised relationships.

Measures

The research instrument used was adapted from Nutbeam (2000) and Osborne et al. (2013). A Health Literacy Questionnaire (HLS) with 40 items measuring two dimensions, namely health awareness (action taken to seek care) and health practices (action taken to increase control over one's health). This study investigated "the action taken to seek health care" by requiring the respondents to answer statements such as: "I have to find information on symptoms of illnesses that concern me"; "I have to find information on treatment of illnesses that concern me"; "I find out what to do in case of medical emergency"; "I understand what the doctor says to me"; "I understand the leaflets that come with the medicine"; "I assess whether the information on the illness in the media are reliable"; and "I find information on how to manage mental health problems like stress or depression".

Action taken to prevent the onset of illnesses/diseases was important to this study on health literacy. Hence, examples of the items selected are as follows: “I find information on vaccinations and health screenings that I should have”; “I understand why I need health screenings”; “I decide how I can protect myself from illness based on information in the media”; and “I find information on healthy activities such as exercise, healthy food and nutrition”.

The researcher also adapted the research instrument, the Inventory of Parents and Peer Attachment (IPPA) by Armsden and Greenberg (1989) with 18 items measuring the dimension on trust and communication. Statements on attachment to parents were as follows; “my parents can tell when I’m upset about something”, “my parents trust my judgement. “my parents help me to understand myself better, “my parents help me to talk on my difficulties”, “when I am angry about something, my parents try to be understanding”, and “I trust my parents”.

Responses were given on a five point Likert scale, ranging from (1) “strongly disagree” to (5) “strongly agree”.

Results

Demographic Variables

The demographic factors were age, gender, ethnicity, place of residence, and household income, as shown in Table 1. There were 385 (76.1%) respondents aged 16, followed by 102 respondents aged 17, and 19 respondents (3.8%) aged 15. There were 56.3% female respondents, while 43.7% respondents were male. The ethnicity of the respondents was as follows: Malay 68.2%, Chinese 13%, Indian 18.2% and others 0.6%. With regard to the place of residence, 49.6% of the respondents were from the city and 48.4 % of the respondents were from the town areas, with the remainder from the rural areas 1.2%. For the household income category, the biggest group (39.3%) were those earning below RM 3000 per month, followed by those (30.2%) with income from RM 3001– RM 5000, 9.9% were earning RM 5001–RM7000, while 20.3% earned more than RM 7000.

Table 1. Profile of the respondents

Demography	Frequency	Percent (%)
Age		
15	19	3.8
16	385	76.1
17	102	20.2
Gender		
Male	221	43.7
Female	285	56.3
Ethnicity		
Malay	345	68.2
Chinese	66	13
Indian	92	18.2
Others	3	0.6
Residence		
City	253	50
Urban	247	48.8
Rural	6	1.2
Household income		
Less RM 3000	200	39.6
RM 3001 – RM 5000	153	30.2
RM 5001 – RM 7000	50	9.9
More than RM 7000	103	20.3

Table 2 shows the level of health literacy awareness and practice among adolescents, utilising the following scores: low (1.00 - 2.33), moderate (2.34 - 3.66) and high (3.67 – 5.00). The results showed more than half of the respondents (56.3%) had a moderate level of health literacy awareness, followed by 42.1% high level and 1.6% a low level health literacy awareness. The results also showed more than half of the respondents (53.6%) had a high level of health literacy practice followed by 44.9% moderate level and 1.6% a low level health literacy practice. This study also revealed 58.6% high parental attachment level while 35.7% showed moderate level and 5.53% a low level parental attachment.

Table 2. Level of Awareness and Practice of Health Literacy and Parental Attachment among Adolescents (N=506)

Level	Low (1.00-2.33)	Moderate (2.34 -3.66)	High (3.67-5.00)	Mean	SD
Awareness of health literacy	8 (1.6%)	285 (56.3%)	213 (42.1%)	3.56	.54
Practice of health literacy	8 (1.6%)	227(44.9%)	271 (53.6%)	3.69	.56
Parental attachment	28 (5.53%)	181 (35.7%)	297 (58.6%)	3.72	.83

Health Literacy Practice Based on Demographic Factors

Table 3 shows a cross tabulation of demographic factors and levels of health literacy practice. Gender was cross-tabulated with levels of health literacy practice. This table shows the distribution by gender with more than half of the respondents (56.5%) being female and 43.5% male. Female respondents showed a higher level of health literacy practice (44.7%) compared to male respondents (38.6%). Table 4 also shows a cross tabulation of ethnicity and the levels of health literacy practice. According to the responses to the questionnaire, the Malays (51.9%) had a moderate level of health literacy practice while 46.4% of them had a high level. The Chinese respondents had moderate (75.8%), high (22.7%) and low (1.5%) levels of health literacy practice. More than half of the Indian respondents (59.8%) had a moderate level of health literacy practice while 39.1% had high level and 1.1% a low level of health literacy practice. The results of this cross tabulations were also examined to see if there was an association between place of residence and levels of health literacy practice among adolescents. More than half of the adolescents (51.4%) who lived in the city showed a moderate level of health literacy practice as did the respondents who lived in town (60.6%). The results also indicated 47.1% of respondents who lived in the city had a high level of health literacy practice (47.1%) which was slightly higher as compared to the respondents from the town (37.8%). The last cross tabulation was household income with levels of health literacy practice. Results showed 56.2% of households with income below RM3000 per month had a moderate level of health literacy practice while only 23.8% had a high level of health literacy practice. The results also indicated 52.2% of households with income above RM5000 showed a high level of health literacy practice.

Table 3. Cross Tabulation of Gender, Ethnicity, Place of Residence and Household Income with the Levels of Health Literacy Practice among Adolescents

		The practice of health literacy level			Total
		Low	Moderate	High	
Gender	Male	6 (2.73)	129 (58.64)	85 (38.64)	220 (43.5)
	Female	2 (0.70)	156 (54.55)	128 (44.76)	286 (56.5)
Ethnicity	Malay	6 (1.74)	179 (51.88)	160 (46.38)	345 (68.2)
	Chinese	1 (1.52)	50 (75.76)	15 (22.73)	66 (13.0)
	India	1 (1.09)	55 (59.78)	36 (39.13)	92 (18.2)
	Others	0 (0.0)	1 (33.33)	2 (66.67)	3 (0.6)
	Residential	City	4 (1.59)	129 (51.40)	118 (47.1)
	Town	4 (1.63)	149 (60.6)	93 (37.8)	246 (49.5)

Household income	Less RM 3000	2 (1)	120 (60.30)	77 (38.70)	199 (39.4)
	RM 3001 - RM 5000	3 (1.96)	86 (56.21)	64 (41.83)	153 (30.3)
	RM 5001 - RM 7000	0 (0.0)	23 (46)	27 (54)	50 (9.9)
	RM 7001 - RM 9000	0 (0.0)	18 (47.37)	20 (52.63)	38 (7.5)

Values are number (percentage) unless otherwise stated.

Relationship between Health Literacy Awareness and Practice with Parental Attachment

The relationship between health literacy awareness and practice with parental attachment were analysed using the Pearson Product-Moment Correlation coefficient. Preliminary analyses were performed to ensure there were no violations of the assumptions of normality and linearity. The results from Table 4 depicted the strongest linear relationship existed between parental attachment and health literacy practice, ($r = 0.716$, $n = 506$, $p < 0.01$) and a medium and positive linear relationship between parental attachment and health literacy awareness among adolescents ($r = 0.433$, $n = 506$, $p < 0.01$) according to Cohen (1988). Hence, the stronger their attachments are with their parents, the higher is the level of health literacy practice among adolescents.

Table 4. Bivariate Correlations between Health Literacy Awareness and Practice with Parental Attachment

Level	Parental attachment	Practice of health literacy	Awareness of health literacy
Parental attachment	1.00		
Practice of health literacy	.716**	1.00	
Awareness of health literacy	.433**	.360**	1.00

Asterisks indicate levels of statistical significance: ** $p < 0.01$ level

Discussion

This study identified the gap in research, practice and policies related to health literacy among adolescents in Malaysia. The findings from the present study on health literacy awareness revealed a moderate level. However, the level of health literacy practice among adolescents was high. This may be attributed to, or compounded by, inadequate health care and health promotion. This finding also supported the efforts made by the Ministry of Education Malaysia in introducing health education as a school subject since 2001.

The socio-demographic factors impacting health literacy were gender, ethnicity, place of residence, and household income. In this study, the female respondents showed a higher level of health literacy practice compared to the male respondents. Gender differences are often mutually associated with socioeconomic circumstances. Those who are exposed to health risks often have limited access to health information and services, with the accompanied economic consequences of ill-health. The differences in gender or sex have different control over resources and decision making power in the family and community as well as the role assigned to them by society (Ostlin et al. 2006).

The results of this study also showed slight ethnic-based differences in the higher level of health literacy. This was consistent with previous studies where ethnicity or race was included as a demographic characteristic that showed responsibility, cultural, taste, diet or religious differences were related to possible exposures to health risk behavior (Amarasinghe et al. 2009; Arambepola et al. 2008).

The results also showed the place of residence influenced health literacy level, thus suggesting physical environment might play a role in adolescents' health literacy. Past research seeking and obtaining health information also found the rural communities were very much driven and shaped by factors such as socio-demographic background (Ruggiero et al. 2011). In this study, not surprisingly, respondents who lived in the city had relatively higher levels of health literacy.

One of the factors related to the level of health literacy in this study was household income. The results showed respondents from lower income households had comparatively lower health literacy levels. Adolescents might be at risks due to insufficient access to healthcare services when they fall into the group of low family income (Inkelas et al. 2008). This finding was also in line with the research results by Berkman et al. (2010) who observed a low level of health literacy was often due to low socio-economic status.

The finding of an association between parental attachments towards health literacy was support with previous research indicates that having open communication style as parent appears to offer a protective component for young people thereby emphasizing that quality parenting is valuable for the promotion of adolescent well-being (Klemera et al. 2016). This result was consistent with Bronfenbrenner's Ecological Theory which posited adolescent behavior is influenced by parents. In particular, parents of adolescents who have direct influence on literacy as well as health behavior, given their growing prominent role in the lives of youths as they transit to adult (Manganello 2008).

Invigorating health literacy by instilling knowledge on health matters and exposing adolescents to health providers as well as having network connections have been shown to build individual and community resilience and improved health and well-being. It is important for the government and other agencies in Malaysia to ensure adolescents would have healthier and better lifestyle.

One particular limitation of this study should be mentioned. This study was conducted in the Klang Valley and the state of Selangor and therefore the results may not be generalised to all adolescents in Malaysia. This population of research was selected, because of its high level of interactions with the healthcare systems and demographic factors that contribute to the health literacy network especially in the city and town areas.

The results may provide insights into the current baseline data and benchmarking the level of health literacy awareness and practice among adolescents in Malaysia. This study hopes to have an impact on the agencies that handle youth development affairs and youth health in the country such as the Ministry of Education and the Ministry of Health Malaysia. Furthermore, the study also reinforces the theory of Human Ecology by Bronfenbrenner (1989) in refining the role of the micro system, especially the contribution to youth socialization agents who are the parents as one of the factors that help the formation of adolescent health wellbeing.

In conclusion, this study shows there is a relationship between health literacy and demographic factors among adolescents in Malaysia. To enhance the level of health literacy among adolescents, the government and other agencies related to health care should ensure demographic factors are taken into account when dealing with health literacy. Nevertheless, a more comprehensive study is needed to identify other socio-demographic factors such as education, languages and race that should be taken into consideration so young people can benefit fully from programs and activities designed by the government and other agencies to cater specifically to raise the level of health literacy among adolescents. There are limitations in this study particularly in the selection of the population and location. As rigorous statistical analyses were not performed on the data obtained, it was only possible to discern general trends regarding how demographic variables might impact health literacy. Nevertheless, the results from this study could provide a guide to focus on specific demographic aspects in a follow-up study.

Ethical approval: This article does not contain any studies with human participants performed by any of the authors

References

- Amarasinghe A, D'Souza G, Brown C, Oh H, Borisova T (2009) The influence of socioeconomic and environmental determinants on health and obesity: a West Virginia case study. *Int J Environ Res Public Health* 6(8):2271-2287. doi:10.3390/ijerph6082271
- Arambepola C, Allender S, Ekanayake R, Fernando D (2008) Urban living and obesity: is it independent of its population and lifestyle characteristics?. *Tropical Medicine International Health* 13(4):448-457. doi/10.1111/j.1365-3156.2008.02021
- Armsden G, Greenberg M (1987) The inventory of parent and peer attachment: individual differences and their relationship to psychological well-being in adolescence. *J Youth Adolescence* 16(5):427-454. doi: 10.1007/BF02202939.
- Berkman N D, Davis T C, McCormack L (2010) Health literacy: what is it?. *Journal of Health Commun* 15(2), 9-19. doi: 10.1080/10810730.2010.499985.
- Bronfenbrenner U (1989) Ecological systems theory in R Vasta (Eds) *Six theories of child development: revised formulations and current issues* (187-250). Greenwich CT, JAI Press
- Cohen J (1988) *Statistical power analysis for the behavioral sciences*. (2nd ed.) Hillsdale NJ, Lawrence Earlbaum Associates
- Department of Statistics Malaysia (2015) *Vital Statistic Malaysia 2015*. Department of Statistics Malaysia, Putrajaya
- Heath S M, Bishop D V, Bloor K E, Boyle G L, Fletche J, Hogben J. H Yeong S H (2014). A spotlight on preschool: the influence of family factors on children's early literacy skills. *PloS One*, 9(4). doi:10.1371/journal.pone.0095255.
- Inkelas M, Newacheck P W, Olson L M, Zuckerman B, Schuster M A (2008) Does having a regular primary care clinician improve quality of preventive care for young children?. *Medical Care* 46(3):323-330. doi: 10.1097/MLR.0b013e318158aefb
- Klemera E, Brooks F M, Chester K L, Magnusson J, Spencer N (2016) Self-harm in adolescence: protective health assets in the family, school and community. *International Journal of Public Health* 1-8. doi:10.1007/s00038-016-0900-2
- Leonard J (2011) Using Bronfenbrenner's ecological theory to understand community partnerships: a historical case study of one urban high school. *Urban Education* 46(5):987-1010. doi:10.1177/0042085911400337
- Manganello J A (2008) Health literacy and adolescents: a framework and agenda for future research. *Health Education Research* 23(5):840-847. doi:https://doi.org/10.1093/her/cym069
- Manganello J, Shone L P (2013) Health literacy. http://www.actforyouth.net/resources/rf/rf_health-literacy_0513.pdf. Accessed 8 January 2017
- Malaysian Association for Adolescent Health. <http://www.maah.org.my/2017/02/26/maah-objectives/>. Accessed 1 December 2016
- Martin L T, Ruder T, Escarce J J, Ghosh-Dastidar B, Sherman D, Elliott M, Lurie N (2009) Developing predictive models of health literacy. *Journal of General Internal Medicine*, 24(11):1211-1216. doi:10.1007/s11606-009-1105-7
- Massey P M, Prelip M, Calimlim B M, Quiter E S, Glik D C (2012) Contextualizing an expanded definition of health literacy among adolescents in the health care setting. *Health Education Research* 27(6):961-974. doi: 10.1093/her/cys054.
- National Adolescent Health Policy (2001) Ministry of Health Malaysia, Kuala Lumpur, Misbah Sdn Bhd Publisher
- Nielsen-Bohlman L, Panzer A M, Kindig D A (2004) *Health literacy: a prescription to end confusion*. Washington DC, National Academies Press
- Nutbeam D (2009) Defining and measuring health literacy: what can we learn from literacy studies? *International Journal of Public Health* 54(5):303-305. doi:10.1007/s00038-009-0050-x

- Nutbeam D (2000) Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International* 15(3):259-267. doi:<https://doi.org/10.1093/heapro/15.3.259>
- Osborne R H, Batterham R W, Elsworth G R, Hawkins M, Buchbinder R (2013) The grounded psychometric development and initial validation of the Health Literacy Questionnaire (HLQ). *BMC Public Health* 13(1):1-17. doi: 10.1186/1471-2458-13-658
- Östlin P, Eckermann E, Mishra U S, Nkowane M, Wallstam E (2006) Gender and health promotion: a multisectoral policy approach. *Health Promotion International* 21(1):25-35. doi:[10.1093/heapro/dal048](https://doi.org/10.1093/heapro/dal048)
- Rudd R E, Anderson J E, Oppenheimer S, Nath C (2007) Health Literacy: an Update of Public Health and Medical in Comings J P, Garner B, Smith C (Eds.) *Review of Adult Learning and Literacy*. 7 Mahway, NJ, Lawrence Erlbaum Associates
- Ruggiero K J, Gros D F, McCauley J, de Arellano M A, Danielson C K (2011) Rural adults' use of health-related information online: data from a 2006 National Online Health Survey. *Telemedicine and E-Health* 17(5):329-334. doi:10.1089/tmj.2010.0195
- Ruhl H, Dolan E A, Buhrmester D (2015) Adolescent attachment trajectories with mothers and fathers: the importance of parent-child relationship experiences and gender. *Journal of Research on Adolescence* 25(3):427-442. doi:10.1111/jora.12144
- Salonna F, Geckova A M, Zezula I, Sleskova M, Groothoff J W, Reijneveld S A, van Dijk J P (2012) Does social support mediate or moderate socioeconomic differences in self-rated health among adolescents?. *International Journal of Public Health* 57(3):609-617. doi:10.1007/s00038-011-0300-6

ADDRESSING COMPETENCY GAPS FOR VOCATIONAL INSTRUCTOR THROUGH COMPETENCY MODEL AND INSTRUMENT FOR COMPETENCY MEASUREMENT

Muhammad Aiman Arifin & Roziah Mohd Rasdi
Faculty of Educational Studies, Universiti Putra Malaysia
m.aimanarifin@gmail.com, roziah_m@upm.edu.my

ABSTRACT

The purpose of this paper is to comprehend the competency, competency models and measurement instruments at workplace settings, its significance to human resource development in terms of knowledge, skills and abilities. Interest on competency based approaches is growing. In the management literature, the competency based approach has grown through McClelland (1973) seminal paper “testing for competencies rather than intelligence” as to argue the traditional approach to measure performance using aptitude and content test. Evidence had also indicated that competency can lead to effective job performance. The practice of competency base approach has resulted with the expansion of models on measurement instrument. This paper discusses the previous competency literature with greater interest on the field of competency, competency models and measurement instruments towards technical vocational education and training in Malaysia specific for vocational college teaching profession. This study suggests that competency modelling and measurement instruments can contribute to the effectiveness of Vocational College Teacher education and to address competency gaps issues. Competency modelling and instruments to measure for vocational teaching is still in its infancy however the lack of competent teachers is a challenge for Malaysia to reach a better income levels in future.

Keywords: Competency, Competency Model, Instrument Measurement, Technical Vocational Education and Training, Vocational College Teacher, Effective Job Performance, Human Resource Development

Introduction

Technical vocational education and training (TVET) has been strategized as the main platform to supply enough skilled workforces to reach a high-income nation in 2020. In the period of 10th Malaysian plan (2010 – 2015), serious effort has been implement by the Malaysian government and related agencies including mainstreaming and broadening access to quality TVET to increase the number of skilled workers (Economic Planning Unit, 2010). Thus, it has resulted with the conversion of 72 vocational schools plus eight technical schools to vocational colleges and established another eight new colleges (Rasul et al., 2015). For the next 5 years (2016). For the next 5 years (2016 -2020), in the era of globalization and technology advances, transforming the education system is becoming a game changer in catering to the high demand of the industry. The main plan is to alter the TVET delivery system and turn it into one of the potentials for future education pathway (Economic Planning Unit & Prime Minister’s Department, 2015). Despite the initiative to successfully mainstream TVET, four issues and challenges has been highlighted and addressed which includes the uncoordinated governance, fragmented delivery, lack of recognition for technologists and competency gaps among instructors (Economic Planning Unit & Prime Minister’s Department, 2015; Leong, 2011);

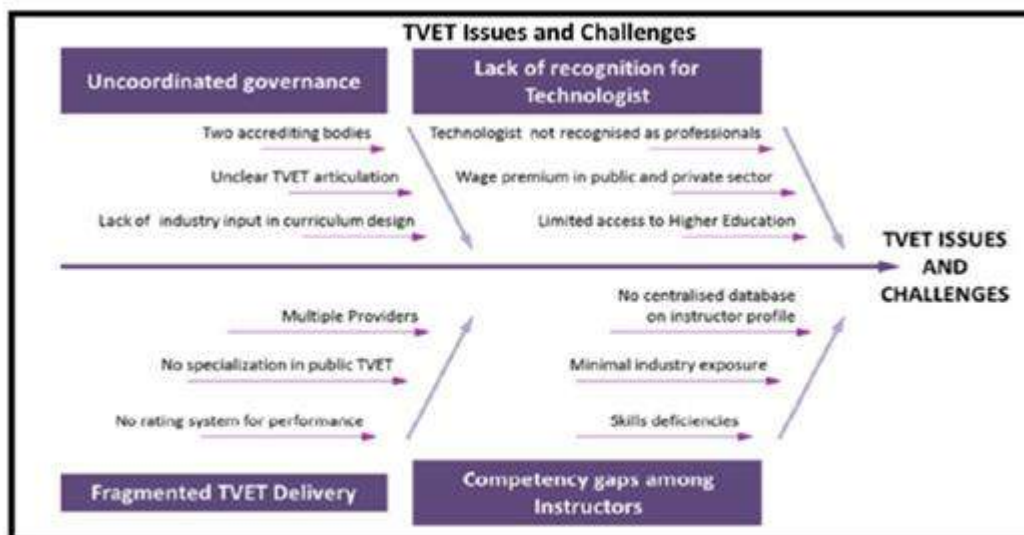


Figure 1. Malaysia TVET issues and challenges

Source: Economic Planning Unit & Prime Minister’s Department (2015)

In academic or general education as well as in Technical and Vocational Education and Training (TVET), teachers are the backbone of education and training systems (Paryono, 2015). Thus, the role and competencies of TVET teachers are the key elements that reflect the brand image of vocational graduates. In addition, the quality of vocational teachers has been a serious issue in Southeast Asia (Paryono, 2015; Soysouvanh et al., 2013) including Malaysia (Lee & Lai, 2016; Mohamad, Saud, & Ahmad, 2009; Paryono, 2015). As the affordability of education sector decreases due to the twin pressures of increasing cost and static or reducing national incomes to pay for it, there is increasing pressure to innovate with services offering similar outcomes at lower cost. One of the common approaches is to enhance the teacher’s skill so that they can take on more advanced and effective roles in profession. The concept of Competency-based performance as part of workforce development approach has gain significantly in TVET as well as Human Resource Development. There is a demand over competencies towards effective job performance for specific profession (R.E. Boyatzis, 1982; Spencer & Spencer, 1993; Suhairom, Musta’amal, Amin, & Johari, 2014; Vathanophas, Vichita; Thai-ngam, 2007).

Understanding Competency

The Meaning of Competency

The origin Latin words “competentia” means ability to judge and speak (International Project Management Association, 2006). Meanwhile, the English dictionary defines competence as the state of being suitably sufficient or fit. As research in competency has evolved, few words such as proficiency, capability and capacity are not suitable to relate with the term as it creates difficulty and confusion (Hoffmann, 1999; Vikram Singh Chouhan & Sandeep Srivastava, 2014).

Defining a Competency

Despite the various competency study that has been conducted since the pioneering work by McClelland (1973), there is not a single general definition that has been accepted until now to represent the term competency. Previous researcher and practitioners operationalize the term based on their specific competency based approach for certain profession (Table 1). Prior to that, the evolution of competency cause multi – faceted positions and confusion (Hoffmann, 1999) from specific to common (Moore, Cheng, Dainty, Moore, & Cheng, 2006).

Table. 1. Definition of Competency by Previous Authors in Competency Study

Authors	Definitions
McClelland (1973)	Set of traits towards effective or superior job performance
Boyatzis (1982, 2008)	Relationship between individual to superior job performance to superior performance in a job
Spencer & Spencer (1993)	Ability and skills gains through training, job and life experience
Evarts (1987)	Managers underlying characteristic related to superior performance
Hager, Gonczi, & Athanasou (1994)	The standard or quality as the outcome of the individual's performance
Hoffmann (1999)	Underlying qualification and attributes of a person, observable behaviors, and standard on a person performance
Dubois & Rothwell (2004)	A person underlying criteria casually to individual performance and career development
Cernusca & Dima (2007)	A person underlying criteria casually to individual performance and career development

In general, the term competencies can be explained in table 2 using three main positions as either;

Table. 2. Three Main Positions toward a Definition of the Term

Definitions	Authors
<i>To measures individual performance</i>	(Cernusca & Dima, 2007; McClelland, 1973)
<i>The important criteria or elements of the outcome of the person's performance</i>	(Bartram, Robertson, & Callinan, 2008; DeVellis, 2012; Hoffmann, 1999; Spencer & Spencer, 1993; Suhairom, Musta'amal, Amin, & Johari, 2014)
<i>The characteristics of a person to perform in job or profession</i>	(Boyatzis, 1982; Mohd Ridhuan Mohd Jamil, Shariza Said, & Mohd Ibrahim K. Azeez, 2014; Wahba, 2010)

To develop a Vocational College Teacher competency model, For the purposes of conducting our study, the author used 'competencies' definition by Bartram, Robertson, & Callinan (2008) as the sets of underlying traits as a tool towards effective outcome. Competency is the list of knowledge, skills, abilities, behaviors, and personal ability towards effective job performance in profession.

Competencies Can Be Developed

The advantages of the behavior related approach or competency is that it can be developed in the future. Previous efforts on research in the field of education (Weidman, Pascarella, & Terenzini, 1992), training program (Morrow, Jarrett, & Rupinski, 1997) and psychotherapy (Hubble, Duncan, & Miller, 1999) proved that a person can improve their attitude, however it is more based on the individual's perspective. Additionally, studies that aimed to understand a single factor often uses instrument to measure the factors such as anxiety. Yet, there is insufficient study that can improve the performance through a set of attitudes. As discussed by Boyatzis, Stubb, & Taylor (2002), by using the results from four main research, people can enhance their level of competencies comprising of emotional and social intelligence and lasting for years.

Development of Competency Model

Rigorous research regarding the practice of competency based approach identified the utilization of models for specific profession such as culinary (Suhairom et al., 2014), hospitality

(Bharwani & Talib, 2017) and education (Bohne, Eicker, & Haseloff, 2017) also the needs in vocational teaching profession (Diep & Hartmann, 2016; Soysouvanh et al., 2013; Spöttl & Steinbeis, 2016). Competency models play a role as a reference platform for workforce competency management. However, for this study, the development process is adopted on Boyatzis, (1982) and Spencer & Spencer (1993) methods in efforts towards developing and validating competency model for Vocational College Teacher.

Importance of Competency Model

The significance of competency models as one of the comprehensive approach (Mansfield, 1996; McLagan, 1980; Rothwell & Lindholm, 1999) which can be developed to understand the required knowledge, skill and abilities in profession. A specific job - competency model reflects how individual employee understands the important underlying traits to be effective and competent in workplace settings. According to Boyatzis, (1982), competency model used as “tools to assist the management in the selection and recruitment process”. For instance, a competence model in vocational teaching models communicates vocational teachers on how the competent teachers must practice certain behavior despite necessary knowledge and skills. Once all the members in the profession are aware, top management levels will be able to identify on which elements is significant for an effective job performance.

Development of Competency Instrument

Despite the practice of competency-based assessment has several challenges to be implement in professions; however, the outcome are potentially benefits to the community. Based on the evidence, assessor make judgement whether employee or individuals meets the competence standards within the area of profession. (Hager et al., 1994; Spöttl & Steinbeis, 2016). There are several methodologies are noted in the development of competency-based assessment measures, as mentioned by (Nicholson, Griffin, Gillis, Wu, & Dunning (2013). Suhairom et al. (2014) and Taskinen et al. (2015) emphasized on psychometric requirements in developing competency assessment. The goal is for each assessment to be an accurate measure of the person’s knowledge, skills, abilities, or performance. Accuracy means that the scores from the assessment are reliable and a valid measure of that person’s current performance (Cruz, Colet, Bashtawi, Mesde, & Cruz, 2017).

Importance of Competency Measurement Instrument

There is importance to extent the practice of competency modelling to the assessment in TVET area. Competency assessment is a process to gain evidence and judgment on the levels of competency among individuals in performing task based on the identified standards (Aqtash et al., 2017; Cumberland, Herd, Alagaraja, & Kerrick, 2016; Greenstein, 2012; Rothwell & Lindholm, 1999; Tognazzo, Gubitta, & Gerli, 2017). In addition, Hager et al., (1994) defines the term competency-based assessment as “assessment of a person's competence against prescribed standards of performance to whether a candidate meets the prescribed standards of performance, i.e. whether they demonstrate required competence. However, past studies provide no evidence on the existence of such assessment tool specific for the Vocational College Teacher in Malaysia. The primary objectives of this paper are to develop and validate competency model and an instrument to measure the identified competencies of Vocational College Teacher in Malaysia.

Competency Based Effective Job Performance Models

A theory of performance is the basic concept for competency. Using a basic competency theory as in figure 4, maximum performance is believed to occur when the person’s ability is congruent with the need of job and organization (Boyatzis, 1982). The person’s ability is explained by personal philosophy, vision, values; knowledge; competencies; life and career stage; style and interest. Job demands including the task needed as well as role responsibilities and tasks needed to be practice. Finally, on the aspects of organizational by the combination of culture and climate; maturity of the industry; strategic positioning within it; aspects of the economic, political, social, environmental, and religious milieu surrounding the organization also structure and systems.

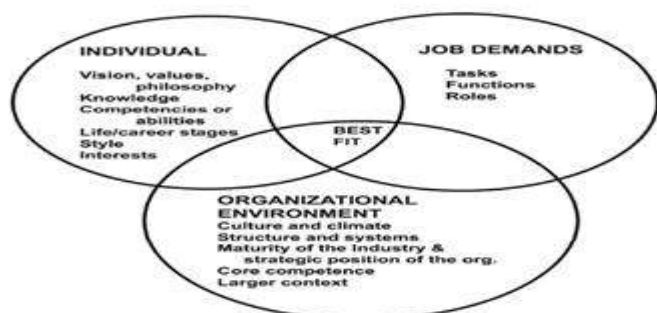


Figure 4. Theory of action and job performance: best fit (maximum performance, stimulation, and commitment = % area of maximum overlap or integration)

Source: Adopted from Boyatzis (1982)

Research Questions

The main research question for this study is to seek answers for:

- 1) What is the competency model for Vocational College Teacher Effective Job Performance in profession?
- 2) What is the instrument to measure Vocational College Teacher competencies for effective job performance in profession?

Research Objective

- 1) To develop a competency model for Vocational College Teacher effective job performance (MAVCTCM)
- 2) To develop a valid instrument to measure Vocational College Teacher for effective job performance (MAVCTCI)

Proposed Competencies Model

The growing interest towards identifying effective teaching has encourages researchers to address both on how to measure teacher performance (Gupta, Chong, & Leong, 2015; Steinberg & Garrett, 2016). As suggested by (Nze & Ginestié, 2012), great teaching exist by a clear teaching vision. This required vision which is later transformed into certain guidelines to ensure students learning outcomes and teacher performance. For this reason, the performance standards have been introduced to measure teacher’s performance in teaching profession (Celik, 2011). Furthermore, competencies lists have been utilized to describe the criteria on standards using the elements of knowledge, skills and abilities (Kamis, Mohamed, Hanapi, Che Kob, & Jamaluddin, 2016; Suhairom et al., 2014). Figure 5 is a model framework which will be developed for the study;

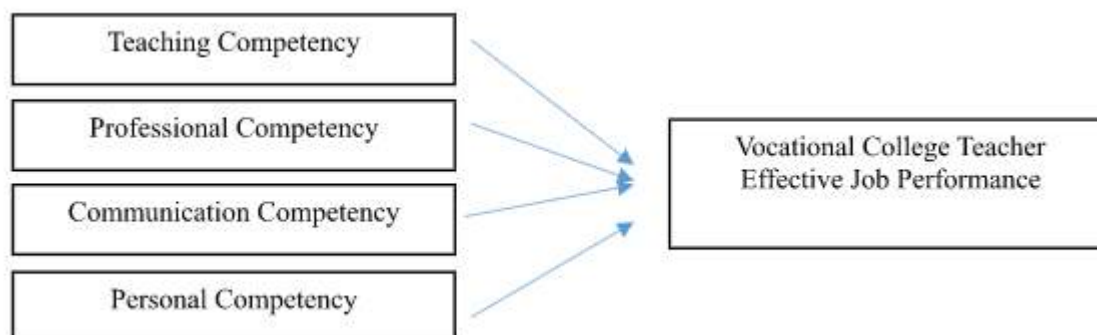


Fig.5. Conceptual framework

Competency Domains

Teaching competency refers to the ability of teachers to combined both theoretical, practical or integrated instruction in teaching duties successfully (Diep & Hartmann, 2016). Teachers must be able to outline learning objectives and teaching content (Ball et al., 2008) based on considering individual learners and curricula. Vocational teachers should also master different teaching approach and implement practical methods to reflect learning objectives.

Professional Competency is the second domain to ensure teachers become contents experts with the latest knowledge to impart knowledge on learners (Grollmann, 2008). Vocational teachers must possess the depth and breadth of knowledge and skills related to real work environment. Failure of this, will produce the labor market with insufficient skilled required by the industry (Oluwasola, 2014). To ensure that the delivery of knowledge is attractive, advice and convince learner in learning process much dependent of **teacher communication competence** (Oluwasola, 2014). This competence also helps teachers to communicate effectively with parents of learner, colleges as well as industrial related person. The most important interaction occurs in the process of conveying learning contents, controlling the classrooms and consulting the learners (Amiruddin et al., 2015; Diep & Hartmann, 2016). Last domain that supports the framework is **personal competency**. Self – images, ethics and personal goals is the kind of personal traits that might influence teachers effective job performance behavior (Yusof, Roddin, & Awang, 2015). They must continuously practice and keep themselves on new relevant theory and new technologies to use in classrooms especially in the new environmentally friendly technologies (Roberts, Dooley, Harlin, & Murphrey, 2006).

Methodology

For the data analysis, the questionnaire will be analyzed using Winstep software, based on Rasch measurement model for reliability test. Specific to Rasch measurement application analysis, the following aspects of the reliability of the MAVCTCI instrument will be identified including i. The reliability of the respondent as well as the reliability of item ii. The point of polarity items where the point measure correlation coefficient of each item. Items with negative value will be dropped from the lists to ensure the quality of developed instrument iii. Range of infit mean-square as well as the range outfit mean-square value If the test results indicate the suitability of item does not meet the specified value, some items will be modified for the actual study to ensure the quality of the actual study. iv. The value of standardized residual variance through the unidimensionality test. v. The most difficult item as well as the easiest item

Structural Equation Model (SEM) by AMOS software will be utilized to run the confirmatory factor analysis and model validity. SEM has been known as one of the Multivariate statistical conduct statistical to run factor analysis, multiple regression and path analysis (Hox & Bechger, 1998) and having advantages on model interdependencies (Hair, Black, Babin, & Anderson, 2009), overall model fit (Hooper, Coughlan, & Mullen, 2008) also greater recognition regarding validity (Hair et al., 2009). For the current study, AMOS will be used to test and estimate causal relationships between key domains proposed in the study. According to Zainudin (2012), AMOS can analyses theoretical framework directly, able to find models that best fit data in hand and able to test the inter-relationships among constructs whereas confirmatory factor analysis (CFA) is a special form of factor analysis employed to test whether the measures of a construct are consistent with the researcher's understanding of the nature of that domains. Both of this analysis method will be used to test the research model and further verify the hypotheses in this study.

Theoretical Implications

Theoretically, the current study aimed to extend the body of knowledge in two ways. Firstly, by providing a framework of competency model designed to represent Vocational College Teacher profession, of which, not yet exist. Secondly, this study also aimed to provides an instrument that is useful in measuring competencies of Vocational College Teacher for their effective job performance in the profession.

Practical Implications

The MAVCTCM defines the work of Vocational College Teacher in Malaysia with significant competencies established in local setting. By setting out essential elements of competency for effective job performance, it is hoped that the model could be used as a reference point among members in the profession as well as in the community. Young Vocational College Teacher will have a better understanding on the needed requirement once they enter the professions and motivate them along the journey towards career success. The competency model also enables young adolescents to make an informed decision before they consider vocational teaching profession as their future selected career. Assessment for individual work performance could be used for organizational records. The MAVCTCI is helpful in measuring competencies of the existing teachers in the profession, thus allows the human resource management to manage and plan for future employee development interventions especially in training and development. The instrument can be used as a tool augmenting the interview sessions in the recruitment process so that the human resource management able to select only those who are most likely to become high performers with required competency. For TVET institutions the MAVCTCI be adapted to measure vocational teacher's overall competencies. By this means, the institutions can also identify which of the areas need further improvement and development.

Limitations and Future Research Directions

The proposed competency framework is based on previous literature and needs to empirically be carried out for more comprehensive results. Additional studies could be proposed across different industry and segments to retest the proposed framework. This could be conducted through expert consensus from Delphi study. As a preliminary framework, the author proposed model with necessary competencies through item pool which may reflect the current job needs for vocational teacher's profession. To have more conceptual understanding regarding the variables in support to ascertain the underlying factor model, factor analysis should be carried out. Thus, more significant competency model could be developed. As a parallel effort towards competency instrument, results from both competency based performance approach could further be used as input towards competency profiling. Competency profiling can be used as the information for preparing professional development and career progression among members in the profession for professional developments.

References

- Amiruddin, M. H., Amin, F., Yunus, N., Hisyam, M., Hashim, M., Rahim, M. B., ... Rahim, A. (2015). Application of Communication Skills (CS) Among Lecturer on Vocational Teaching and Learning in Vocational College Zone Johor, Malaysia. *International Journal of Vocational Education and Training Research*, 1(4), 55–61. <http://doi.org/10.11648/j.ijvetr.20150104.11>
- Aqtash, S., Robb, W. F., Hunter, L. H., Almuhtasib, M., Hamad, A., & Brownie, S. M. (2017). Self-Assessed Competence of Experienced Expatriate Nurses in a Rural and Remote Setting. *SAGE Open Nursing*, 3, 237796081770238. <http://doi.org/10.1177/2377960817702382>
- Awang, Z. (2012). Chapter 6: Analyzing the Mediating Variable in a Model. In *A Handbook on SEM* (pp. 101–133).
- Ball, D. L., Thames, M. H., Phelps, G., Loewenberg Ball, D., Thames, M. H., & Phelps, G. (2008). Content Knowledge for Teaching: What Makes It Special? *Journal of Teacher Education*, 59(5), 389–407. <http://doi.org/10.1177/0022487108324554>
- Bartram, D., Robertson, I. T., & Callinan, M. (2008). Introduction: A Framework for Examining Organizational Effectiveness. *Organizational Effectiveness: The Role of Psychology*, 1–10. <http://doi.org/10.1002/9780470696736.ch>
- Bharwani, S., & Talib, P. (2017). Competencies of hotel general managers: a conceptual framework. *International Journal of Contemporary Hospitality Management*, 29(1), 393–418. <http://doi.org/10.1108/IJCHM-09-2015-0448>
- Bohne, C., Eicker, F., & Haseloff, G. (2017). Competence-based vocational education and training (VET): An approach of shaping and networking. *European Journal of Training and Development*, 41(1). <http://doi.org/10.1108/EJTD-07-2016-0052>
- Boyatzis, R. E. (1982). Competence and job performance. *Competence and Performance*, 10–39. <http://doi.org/Samsung/Academico/Material Didatico MKZ/GC>

- Boyatzis, R. E., & Boyatzis, R. E. (2008). Competencies in the 21st century. <http://doi.org/10.1108/02621710810840730>
- Boyatzis, R., Stubb, E. C., & Taylor, S. N. (2002). Learning cognitive and emotional intelligence competencies through graduate management education. *Academy of Management Learning & Education*, 1(2), 150–162.
- Celik, S. (2011). Characteristics and Competencies for Teacher Educators : Addressing the Need for Improved Professional Standards in Turkey. *Australian Journal of Teacher Education*, 36(4), 73–87. <http://doi.org/10.14221/ajte.2011v36n4.3>
- Cernusca, L., & Dima, C. (2007). Competency and Human Resource Management. *Revista Da Faculdade de Ciências Humanas E Sociais*, 162–171.
- Cruz, J. P., Colet, P. C., Bashtawi, M. A., Mesde, J. H., & Cruz, C. P. (2017). Psychometric evaluation of the Cultural Capacity Scale Arabic version for nursing students. *Contemporary Nurse*, 53(1), 13–22. <http://doi.org/10.1080/10376178.2016.1255153>
- Cumberland, D. M., Herd, A., Alagaraja, M., & Kerrick, S. A. (2016). Assessment and Development of Global Leadership Competencies in the Workplace: A Review of Literature, 1–17. <http://doi.org/10.1177/1523422316645883>
- Diep, P. C., & Hartmann, M. (2016). Green Skills in Vocational Teacher Education – a model of pedagogical competence for a world of sustainable development. *TVET@Asia*, (6), 1–19. <http://doi.org/10.1002/ISSN>
- Dubois, D., & Rothwell, W. (2004). Competency-Based or a Traditional Approach to Training? *T & D*, 58(4), 46.
- Economic Planning Unit, & Prime Minister’s Department. (2015). Strategy Paper 9-Transforming Technical and Vocational Education and Training to Meet Industry Demand. *Eleventh Malaysia Plan, 2016-2020: Way Forward*, 18. Retrieved from [rmk11.epu.gov.my/pdf/strategy-paper/Strategy Paper 09.pdf](http://rmk11.epu.gov.my/pdf/strategy-paper/Strategy%20Paper%2009.pdf)
- Evarts. (1987). Enhancing managerial competence: the american management association competency programme. *Journal of Management Development*, 6(4), 7–18. <http://doi.org/10.1108/09574090910954864>
- Greenstein, L. (2012). Assessing 21st century skills: A guide to evaluating mastery and authentic learning. *Assessing 21st Century Skills: A Guide to Evaluating Mastery and Authentic Learning*. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc9&NEWS=N&AN=2012-21206-000>
- Grollmann, P. (2008). Professional competence as a benchmark for a European space of vocational education and training. *Journal of European Industrial Training*, 32(2/3), 138–156. <http://doi.org/10.1108/03090590810861686>
- Gupta, A., Chong, S., & Leong, F. T. L. (2015). Development and Validation of the Vocational Identity Measure. *Journal of Career Assessment*, 23(1), 79–90. <http://doi.org/10.1177/1069072714523088>
- Hager, P., Gonczi, A., & Athanasou, J. (1994). General Issues about Assessment of Competence. *Assessment & Evaluation in Higher Education*, 19(1), 3–16. <http://doi.org/10.1080/0260293940190101>
- Hair, J. F. J., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). Structural Equation Modeling Basics. In *Multivariate Data Analysis* (pp. 1–35).
- Hoffmann, T. (1999). The meanings of competency. *Journal of European Industrial Training*, 23(6), 275–286. <http://doi.org/10.1108/03090599910284650>
- Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53–60.
- Hox, J. ., & Bechger, T. . (1998). An Introduction to Structural Equation Modeling. *Family Science Review*, 11, 354–373. <http://doi.org/10.1080/10705510903008345>
- Hubble, M. L., Duncan, B. L., & Miller, S. D. (1999). *The heart & soul of change : what works in therapy. counselingresource.com*.

- Kamis, A., Mohamed, S., Hanapi, Z., Che Kob, C. G., & Jamaluddin, R. (2016). Fashion and clothing instrument for Malaysian fashion lecturers : An analysis of the instructors ' competency scale. *Malaysian Journal of Society and Space*, 3(3), 35–45.
- Lee, M. F., & Lai, C. S. (2016). Rhetoric Value Based Model for Malaysian Special Vocational Education Secondary Schools ' Teachers. *Journal of Advanced Research in Social and Behavioural Sciences* 2462-1951 Vol. 2, No. 1 Vol. 2, No. 1, 2(1), 1–6.
- Mansfield, R. S. (1996). Building competency models: Approaches for HR Professionals. *Human Resource Management*, 35(1), 7–18. [http://doi.org/10.1002/\(SICI\)1099-050X\(199621\)35:1<7::AID-HRM1>3.0.CO;2-2](http://doi.org/10.1002/(SICI)1099-050X(199621)35:1<7::AID-HRM1>3.0.CO;2-2)
- McClelland, D. . (1973). Testing for competence rather than for “intelligence”. *The American Psychologist*, 28(1), 1–14. <http://doi.org/10.1037/h0038240>
- McLagan, P. (1980). Competency models. *Training and Development Journal*.
- Mohamad, M. M., Saud, M. S., & Ahmad, A. (2009). The Need In Training And Retraining For TVET Teachers In Malaysia. *Journal of Technical Education and Training*, 1, 51–58.
- Moore, D. R., Cheng, M. I., Dainty, A. R. J., Moore, D. R., & Cheng, M. (2006). Competence , competency and competencies : performance assessment in organisations. <http://doi.org/10.1108/00438020210441876>
- Morrow, C. C., Jarrett, M. Q., & Rupinski, M. T. (1997). Investigation of the Effect and Economic Utility of Corporate-Wide Training. *Personnel Psychology*, 50(1), 91–117. <http://doi.org/10.1111/j.1744-6570.1997.tb00902.x>
- Nicholson, P., Griffin, P., Gillis, S., Wu, M., & Dunning, T. (2013). Measuring nursing competencies in the operating theatre: Instrument development and psychometric analysis using Item Response Theory. *Nurse Education Today*, 33(9), 1088–1093. <http://doi.org/10.1016/j.nedt.2012.04.008>
- Nze, J. S. B., & Ginestié, J. (2012). Technical and vocational teaching and training in Gabon: How future teachers build their vocational identity? *International Journal of Technology and Design Education*, 22(3), 399–416. <http://doi.org/10.1007/s10798-010-9143-3>
- Oluwasola, A. J. (2014). Professional competence of technical teachers : A factor analysis of the training needs of technical college teachers, 2(1), 22–26.
- Paryono, P. (2015). Approaches to preparing TVET teachers and instructors in ASEAN member countries. *TVET@Asia*, (5), 1–27. Retrieved from http://www.tvet-online.asia/issue5/paryono_tvet5.pdf
- Rasul, M. S., Hilmi, Z., Ashari, M., Azman, N., Amnah, R., & Rauf, A. (2015). Transforming TVET in Malaysia : Harmonizing the Governance Structure in a Multiple Stakeholder Setting. *TVET-Online.Asia*, (4), 1–13.
- Roberts, T. G., Dooley, K. E., Harlin, J. F., & Murphrey, T. P. (2006). Competencies and Traits of Successful Agricultural Science Teachers. *Journal of Agricultural Education*, 22(1983), 1–11.
- Rothwell, W. J., & Lindholm, J. E. (1999). Competency identification, modelling and assessment in the USA. *International Journal of Training and Development*, 3, 90–105. <http://doi.org/10.1111/1468-2419.00069>
- Soysouvanh, B., Khammounty, B., Virivong, S., Phoumvilay, P., Elsholz, U., & Bohlmann, T. (2013). Developing standards of vocational teacher at bachelor level in Lao PDR. *TVET@Asia*, (2), 1–19. Retrieved from <http://www.tvet-online.asia/issue/2/soysouvanh-et-al>
- Spencer, L. M., & Spencer, S. M. (1993). Competence at Work : Models for Superior Performance. In *John Wiley & Sons* (pp. 1–372).
- Spöttl, G., & Steinbeis, B. (2016). Standards – an instrument to enhance the quality of TVET teacher training (pp. 1–16).
- Steinberg, M. P., & Garrett, R. (2016). Classroom Composition and Measured Teacher Performance: What Do Teacher Observation Scores Really Measure? *Educational Evaluation and Policy Analysis*, 38(2), 293–317. <http://doi.org/10.3102/0162373715616249>
- Suhairom, N., Musta'amal, A. H., Amin, N. F. M., & Johari, N. K. A. (2014). The Development of Competency Model and Instrument for Competency Measurement: The Research Methods. *Procedia - Social and Behavioral Sciences*, 152, 1300–1308. <http://doi.org/10.1016/j.sbspro.2014.09.367>

- Taskinen, P. H., Steimel, J., Gräfe, L., Engell, S., Schiller, F., Engell, S., & Frey, A. (2015). A Competency Model for Process Dynamics and Control and Its Use for Test Construction at University Level A Competency Model for Process Dynamics and Control, 7930(November). <http://doi.org/10.1080/0161956X.2015.1068074>
- Tognazzo, A., Gubitta, P., & Gerli, F. (2017). Fostering performance through leaders' behavioral competencies. *International Journal of Organizational Analysis*, 25(2), 295–311. <http://doi.org/10.1108/IJOA-07-2016-1044>
- Vathanophas, Vichita; Thai-ngam, J. (2007). Competency Requirements for Effective Job Performance in The Thai Public Sector. *Contemporary Management Research*, 3(1), 45–70.
- Vikram Singh Chouhan & Sandeep Srivastava. (2014). Understanding Competencies and Competency Modeling — A Literature Survey. <Http://Www.Iosrjournals.Org/Iosr-Jbm>, 16(1), 14–22. <http://doi.org/10.9790/487X-16111422>
- Weidman, J. C., Pascarella, E. T., & Terenzini, P. T. (1992). How College Affects Students: Findings and Insights From Twenty Years of Research. *Contemporary Sociology*, 21(4), 222. <http://doi.org/10.2307/2075453>
- Yusof, Y., Roddin, R., & Awang, H. (2015). What Students Need, and What Teacher Did: The Impact of Teacher's Teaching Approaches to the Development of Students' Generic Competences. *Procedia - Social and Behavioral Sciences*, 204(November 2014), 36–44. <http://doi.org/10.1016/j.sbspro.2015.08.107>

THE MISMATCH BETWEEN EFL/ESL TEACHERS' BELIEFS AND TEACHING PRACTICE: WHAT IS MISSING IN THE LITERATURE?

Hesam Tahsildar Tehrani, Abu Bakar Mohamed Razali, Sedigheh Shakib Kotamjani & Sina Neissi

Faculty of Educational Studies, Universiti Putra Malaysia
tehrani.ht@gmail.com, abmr_bakar@upm.edu.my, nshakib58@gmail.com,
sinaneissi@gmail.com

ABSTRACT

Language teacher beliefs play a significant role in research on language teacher professional development and teacher cognition. However, the literature on language teacher belief has persistently reported mixed findings about the congruence between what teachers state as their beliefs and their teaching performance. This paper, delineates the current contradictory research findings in terms of correspondence between belief and teaching practice, and concludes that the future research should adopt epistemic beliefs as the alternative to teacher beliefs as the research tool to elicit teacher beliefs. The author's suggestion to replace teacher beliefs with teacher epidemic beliefs is assumed to render consistent correspondence between teacher beliefs and practice.

Keywords: Teacher beliefs and Teaching practice, Epistemic Beliefs

Introduction

There has been growing interest in studying teacher beliefs and their influences on teaching decisions and practices in ESL/EFL context (Alghanmi & Shukri, 2016; Basturkmen, 2012; Borg, 2003; Phipps & Borg, 2007, 2009) . Pajares (Pajares, 1992) believes that to understand individuals' daily decisions we need to study their beliefs. Teacher beliefs provide a window through which teachers' practice in classroom are predicted. Understanding teacher beliefs is so influential in second language research that Johnson (2006) considers teacher belief research as the most contributing effort for our awareness about teachers and teaching practice.

If studying teacher beliefs should contribute to understanding teachers' experiential cognition and instructional practice, the direct correspondence between teachers' stated beliefs on the one hand, and their teaching practices on the other hand is a significant prerequisite for studying teaching practices. However, the research on second language teachers beliefs has consistently shown little correspondence between language teachers' beliefs and practice (Basturkmen, 2012; Pham & Hamid, 2013; Roothoof, 2014). This inconsistency has resulted in call for differentiating between teachers' core and peripheral beliefs in exploring teacher beliefs (Phipps & Borg, 2009). However, there is no framework that differentiates core and peripheral beliefs of language teachers. This paper therefore, intends to shed light on previous research that showed little correspondence between teachers practice and beliefs and suggest a different approach in carrying out research on language teacher beliefs with the assumption that this suggestion contributes to more correspondence between teachers practice and beliefs. Consequently, the forthcoming research might show close correspondence between practice and beliefs

The Controversy between Second Language Teacher Beliefs and Practice

The controversy about the correspondence between language teacher beliefs and their teaching practice has raged unabated for many years. Although a number of researchers and

scholars have indicated that teachers' performance in class is the main reflection of the beliefs they hold (Alghanmi & Shukri, 2016; Caner, Subasi, & Kara, 2010; Cundale, 2001; Inceçay, 2011; Shahrani & Aziz, 2013; Tam, 2005), a larger number of studies have reported little or lack of correspondence between teacher beliefs and instructional decisions and behaviours in class (Farrell & Bennis, 2013; Graham, Santos, & Francis-Brophy, 2014; Phipps & Borg, 2009).

Some research studies allude to an established link between beliefs and teaching practice. Cundale's (2001) study revealed that two participating teachers' question types in classroom were more referential questions comparing with display questions and indicated that teachers' question types were congruent with their stated beliefs about communicative approach. Inceçay (2011, p. 132) studying the influence of two pre-service teachers' beliefs about language learning on their teaching performance reported that language learning beliefs influenced the participants' teaching practice regarding "creating language learning environment, roles of teacher and learner within the language classroom and providing learners with necessary strategies when they have difficulty". In one case study, Alghanmi and Shukri (2016, p. 81) investigating the correspondence between teachers' beliefs and practice about teaching grammar observed 10 teachers and reported that "76% of teachers' stated beliefs are reflected in their practices". Caner and Kara's (2010) study of two EFL primary school teachers' stated beliefs about suitable activities and teaching materials to teach young learners corresponded with their actual teaching practice. Shahrani and Aziz's (2013) study of three teachers' written corrective feedback on students' essays found that the teachers' approach to providing written corrective feedback matched their beliefs expect for one participating teacher. Another correspondence between teachers' beliefs and practices were found in Tam's (2005) study of twelve teacher' orientation towards teaching. The study found that the teachers' orientation towards teaching matched their beliefs.

On the contrary, observations made in a large number of studies are indicative of limited correspondence between what language teachers state as their beliefs and their teaching practice (Basturkmen, Loewen, & Ellis, 2004; Farrell & Bennis, 2013; Farrell & Lim, 2005; Nishino, 2011; Pham & Hamid, 2013; Phipps & Borg, 2009; Roothoof, 2014). Basturkmen, Loewen and Ellis (2004), in a case study reported a weak relationship between the teachers' instructional practices in class and their beliefs about focus on form in communicative lessons. The results indicated little correspondence between teachers' beliefs and practice relative to the suitable time to pause a communicative task to focus on learners' errors. In another case study, Farrell and Bennis (2013, p. 163) found that "teachers indeed possess a set of complex beliefs that are not always realized in their classroom practices". In one study of teaching grammar, Farrell and Lim (2005) observed two experienced language teachers in terms of grammar instruction at a primary school. The study found that despite the participating teachers' complex beliefs about teaching grammar, the teachers were not sometimes able to apply the beliefs in their teaching practice. In a similar study of teaching grammar Phipps and Borg (2009, p. 383) reported a general alignment between beliefs and practice, however, the research data "also highlighted a number of tensions between the teachers' stated beliefs and their practices, mainly related to inductive and contextualized presentation of grammar, meaningful practice and oral group-work". Pham and Hamid (2013) investigated the effect of thirteen participating teachers' beliefs about teacher questions on the questions asked in class. The findings showed despite a general congruence between teachers' beliefs and practices, there were discrepancies, from moderate to substantial" between their beliefs and the teacher

questions regarding the purpose of questions, questions content, wording and syntax , and learners' cognitive level.

One question that needs to be asked is what causes the lack of congruency between teacher beliefs and their teaching practice. In addition, the positive correspondence in certain studies is indicative of certain beliefs that always shape teaching practice and thus can be used to predict instructional practices in classroom.

Language Teacher Persistent Beliefs

The inconsistency in research findings between teachers' beliefs and their instructional behaviour implies a duality in teacher beliefs effectiveness relevant to teaching practice. While certain teacher beliefs directly influence teaching practices, the other category of beliefs does not translate into teaching decisions and practices. The significance of research on language teacher beliefs is mainly due to belief impacts on a language teacher's action (Borg, 2011). This implies that the aim of such research, to a great extent, is exploring those beliefs that are visible in teachers' moment-to-moment decisions and practices. Consequently, researchers' negligence in identifying and studying the beliefs that directly lead to teaching practice is highly likely to duplicate previous inconsistent research findings, whose main implication is that one's teaching practice is not an absolute consequence of their teacher beliefs.

In 1971, Green argued that beliefs are of a dual category: core and peripheral (Green, 1971). While core beliefs are resistant to change and hence shape teachers' decisions, peripheral beliefs mainly constitute teachers' theoretical cognition about teaching and learning. In addition, core beliefs are experiential and invariable and therefore have significant impacts on teachers' behaviour, but peripheral beliefs are mediated by the contextual demands such as curriculum mandates (Graham et al., 2014) or classroom management issues (Phipps & Borg, 2009).

Turning to the literature, one can find insightful research findings about the nature of teachers' core beliefs. For example Pajares (1992) found out that bringing out change in pre-service teacher beliefs is a burdensome and demanding process. This category of beliefs, accordingly has uninterrupted impacts on teaching decisions. On addition, Borg (2011) found that that an in-service teacher education course rendered no change on one participating teacher's core beliefs. In a longitudinal study on 146 English teacher trainees , which was carried out within three years of a TESL program, Peacock (2001, p. 184) found little change in the participants' "two core beliefs about vocabulary and grammar". These conclusions, therefore further clarify the persistent and influential role of teacher core beliefs in relation to teaching practice in class.

However, despite the effective role of core beliefs in comparison of peripheral ones, the previous research on teacher beliefs has not adequately addressed the teacher beliefs through studying teachers' core or peripheral beliefs. This gap is highlighted by Phips and Borg (2009, p. 381) in proposing the need for research on language teachers' core and peripheral beliefs maintaining that a "close attention to core and peripheral beliefs has not, however, been a feature of teacher cognition research".

Similarly, another limitation found in the existing research on language teacher beliefs is the application of instruments that do not elicit teacher core and peripheral beliefs. Almost all

questionnaires and interview protocols used in the current research aim to elicit teacher beliefs with no reference to core or peripheral beliefs. The research instrument used in Graham's, et al study (2014) on teacher beliefs about listening skill does not distinguish between core or peripheral beliefs. The authors' developed questionnaire to elicit teacher beliefs is based on key issues found in the literature on second language listening. Although the authors seek to elicit teachers' experiential cognition about the teaching, the findings are not able to validly introduce teachers' core or peripheral beliefs. Drawing on Phipps and Borg's (2009), the researchers conclude that as questionnaires are highly likely to elicit teachers' theoretical cognition about ideal teaching, the study questionnaire should begin with open-ended questions so that the data is more likely to be in line with their teaching practice. However, there is no reported validation process in regards to core or peripheral beliefs, resulting in lack of data about teacher core beliefs.

In another study on the relationship between teacher beliefs and teaching grammar (Farrell & Lim, 2005), the researchers similarly aim to elicit teachers' beliefs through interview questions and do not provide any account of core and theoretical beliefs. In fact, the scarcity of attention to the difference between core and peripheral beliefs is a common limitation in various studies on language teacher beliefs (Farrell & Bennis, 2013; Pham & Hamid, 2013; Roothoof, 2014). Recognizing the significance of differentiating between core and peripheral beliefs in research on language teacher beliefs, Phipps and Borg (2009, p. 381) call for research on "underlying reasons" that might have contributed to the tension between teacher beliefs and practice.

Therefore, one can hypothesize that the current mismatch between language teacher's beliefs and practice stems from little attention to second language teachers' beliefs as a multifaceted system. Teachers' beliefs about teaching and learning a second language, therefore would have to be studied in a framework that enables researchers to investigate more subtle aspects of teachers' beliefs about learning and knowledge. To the best of the author's knowledge there is no framework that can be used to develop research instruments that elicit language teacher core beliefs. Therefore, this gap invited the researcher to study teachers' epistemic beliefs as an approach to attend to teachers' beliefs. The following section is intended to reveal why studying language teacher epistemic beliefs might contribute to the lowering the tension between teachers' beliefs and practice.

Language Teachers Epistemic Beliefs

Initially proposed by the pioneering scholar, Schommer (1990), epistemic beliefs were introduced as a multidimensional framework comprised of five dimensions, which are omniscient authority (viewing knowledge as best accessed by authorities), certain knowledge (viewing knowledge as entire and static), simple knowledge (viewing knowledge as a collection of disconnected and explicit facts), quick learning (viewing knowledge as either learned fast or never learned) and fixed/innate ability (viewing the capability of learning as stable).

Yet, Schommer (1994) developed this framework in subsequent years and introduced a redefined framework with two components known as naïve and sophisticated beliefs. The basic representation of sophisticated and naïve beliefs are seen in a learner's outlook on the nature of knowledge and learning. According to the redefined framework being sophisticated portrays a learner who conceives the biggest bulk of knowledge as a being developed, considers some knowledge has not been discovered or produced yet, and only a small body of knowledge

is known, constant and static. Naïve learners, on the contrary, believe that a considerable body of information has already been discovered and is fixed, with some knowledge to be discovered or produced in future, and a meager amount of knowledge being evolved and subject to change. But how is epistemic belief framework associated with congruency between language teacher beliefs and teaching practice?

The literature views teaching and learning as continuum, whose two ends are filled with traditional and constructivist conceptions (as cited in Cheng, Chan, Tang, & Cheng, 2009). This dichotomous view seems to be in line with two dimensions of epistemic beliefs proposed by Schommer (1994). Advocates of the traditional views of teaching and learning share their opinions about knowledge and learning with learners with naïve epistemic beliefs. According to naïve learners, much of the knowledge has been discovered, for which they are naturally dependent on a knowledgeable authority to transfer this knowledge to them. This need in learner, in turn is fundamentally fulfilled in traditional views of teaching and learning, where the teacher must be as knowledgeable and competent as possible and thus transfer the wealth of knowledge to learners. Therefore, a teacher's traditional view of teaching is congruent with naïve beliefs about knowledge and learning. Other ramifications of traditional views of teaching seems to overlap with naïve epistemic beliefs, or in other words what is demanded by a learner with naïve belief can be responded by a teacher with traditional views of teaching and learning. Therefore, a teacher with naïve epistemic beliefs shows little tolerance for mistakes due to the belief that learning should happen quickly.

In addition, portraying the way individuals see the world around them to gain knowledge, epistemic beliefs influence teachers' pedagogical choices (Maggioni & Parkinson, 2008). The literature reveals that those teachers whose epistemic beliefs are of constructivist type tend to introduce activities that engage learners in thinking processes whereas those with empiricist beliefs pursue traditional teaching methods where memory and the retrieval of taught content is a huge priority (Schoenfeld, 1998). This connection has also been researched within EFL/ESL contexts. In one study, Ali & Ismail (2005) investigated the relationships between the epistemological beliefs of 114 pre-service EFL teachers and the strategies they use for learning and teaching along with their classroom anxiety through 4 different questionnaires. Although, the study findings were indicative of the participants' naïve epistemic beliefs and their reliance on lower-order thinking skills like memory-based practices, one relevant finding to the current paper is that "there were significant multivariate and univariate effects of epistemological beliefs on EFL preservice teachers' learning strategies, teaching practices and foreign language classroom anxiety" (Ali & Ismail, 2005, p. 1). The teachers' role was found to be more traditional rather than constructivist as the teacher was believed to be the dominant party in class activities determining the pace, type, and nature of class activities. In a nutshell, this study revealed that most of the participants' epistemic beliefs resulted in relevant teaching decisions in class.

In another study Ketabi, Zabini, and Ghadiri (2014) explored the relationship between the epistemic beliefs and teaching conceptions of pre-service EFL teachers through conducting a questionnaire survey. Similar, to the previous study, it was found that Iranian teachers of English had the tendency towards naïve epistemic beliefs as they advocated that knowledge was certain and thus resistant to change and learners' ability for acquiring knowledge was innate and fixed. Such notions were furthered revealed in their tendency towards endorsing traditional teaching conceptions, where the participants highlighted the teachers' role in transmitting linguistic knowledge to learners. As for thinking skills, they, put emphasis on

lower-order thinking skills embracing memorization and rote learning as practical ways of learning English. These associations undoubtedly reveal the meaningful link between epistemic beliefs regarding English language knowledge and what one believes about how English as a second or foreign language needs to be practiced and instructed. Therefore, it seems inherently natural to explore teachers' epistemic beliefs in order to determine their teaching behaviour more accurately, which is the author's proposal to avoid the current mismatch between language teachers' teaching practice and stated beliefs in previous studies.

Conclusion

The inconsistency in the relationship between teachers' practice and beliefs has generated a call for research to study language teachers' core and peripheral beliefs (Phipps & Borg, 2007, 2009). In addition, the current studies have used research tools incapable of eliciting teacher core and peripheral beliefs, which in turn might have been the cause of tension between language teacher beliefs and teaching practice. In addition, the literature on language teachers has not provided a framework or research tool that can capture language teacher core and peripheral beliefs. Hence, the current paper suggests that future research on the relationship between teacher belief and practice employ teacher epistemic beliefs (Schommer, 1994) as the framework to elicit teacher core and peripheral beliefs. The literature on epistemic beliefs indicates that teachers' epistemic sophisticated or naïve beliefs about knowledge and learning beliefs influence their instructional practices (Epler, 2011).

References

- Alghanmi, B., & Shukri, N. (2016). The relationship between teachers' beliefs of grammar instruction and classroom practices in the Saudi context. *English Language Teaching*, 9(7), 70–86.
- Ali, M. F., & Ismail, A. M. (2005). An investigation of the relationships between EFL pre-service teachers' epistemological beliefs and their learning strategies teaching practices and foreign language classroom anxiety. *Journal of Scientific Research in Education and Psychology*, 18(3), 1–33.
- Basturkmen, H. (2012). Review of research into the correspondence between language teachers' stated beliefs and practices. *System*, 40(2), 282–295.
- Basturkmen, H., Loewen, S., & Ellis, R. (2004). Teachers' stated beliefs about incidental focus on form and their classroom practices. *Applied Linguistics*, 25(2), 243–272.
- Borg, S. (2003). Review article Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching*, 36(2), 81–109.
- Borg, S. (2011). The impact of in-service teacher education on language teachers' beliefs. *System*, 39(3), 370–380.
- Caner, M., Subasi, G., & Kara, S. (2010). Teachers' beliefs on foreign language teaching practices in early phases of primary education: A case study. *Turkish Online Journal of Qualitative Inquiry*, 1(1), 62–76.
- Cheng, M. M. H., Chan, K.-W., Tang, S. Y. F., & Cheng, A. Y. N. (2009). Pre-service teacher education students' epistemological beliefs and their conceptions of teaching. *Teaching and Teacher Education*, 25(2), 319–327.
- Cundale, N. (2001). What we preach? Stated Beliefs about Communicative Language Teaching and Classroom Questioning Strategies. *The Language Teacher*.
- Epler, C. M. (2011). *The Relationship Between Implicit Theories of Intelligence, Epistemological Beliefs, and the Teaching Practices of In-service Teachers: A Mixed Methods Study*. Doctoral dissertation submitted to the Virginia Polytechnic Institute

- and State University, Blacksburg, Virginia.
- Farrell, T. S., & Bennis, K. (2013). Reflecting on ESL Teacher Beliefs and Classroom Practices: A Case Study. *RELC Journal*, 44(2), 163–176.
- Farrell, T. S., & Lim, P. C. P. (2005). Conceptions of Grammar Teaching: A case study of Teachers' Beliefs and Classroom Practices. *Test-Ej*, 9(2), 1–13.
- Graham, S., Santos, D., & Francis-Brophy, E. (2014). Teacher beliefs about listening in a foreign language. *Teaching and Teacher Education*, 40, 44–60.
- Green, T. F. (1971). *The Activities of Teaching*. New York: McGraw-Hill.
- Inceçay, G. (2011). Pre-service teachers' language learning beliefs and effects of these beliefs on their practice teaching. *Procedia - Social and Behavioral Sciences*, 15, 128–133.
- Johnson, K. (2006). The sociocultural turn and its challenges for second language teacher education. *Tesol Quarterly*, 40(1), 235–257.
- Ketabi, S., Zabihi, R., & Ghadiri, M. (2014). Pre-service English teachers' epistemological beliefs and their conceptions of teaching. *International Journal of Research Studies in Psychology*, 3(1), 3–12.
- Maggioni, L., & Parkinson, M. M. (2008). The role of teacher epistemic cognition, epistemic beliefs, and calibration of instruction. *Educational Psychology Review*, 20(4), 445–461.
- Nishino, T. (2011). Japanese high school teachers' beliefs and practices regarding Communicative Language Teaching. *JALT Journal*, 33(2), 131–156.
- Pajares, M. F. (1992). Teachers' Beliefs and Educational Research: Cleaning Up a Messy Construct. *Review of Educational Research*, 62(3), 307–332.
- Peacock, M. (2001). Pre-service ESL teachers' beliefs about second language learning : a longitudinal study. *System*, 29(2), 177–195.
- Pham, L. N. K., & Hamid, M. O. (2013). Beginning EFL teachers' beliefs about quality questions and their questioning practices. *Teacher Development*, 17(2), 246–264.
- Phipps, S., & Borg, S. (2007). Exploring the relationship between teachers' beliefs and their classroom practice. *Teacher Trainer*, 21(3), 17–19.
- Phipps, S., & Borg, S. (2009). Exploring tensions between teachers' grammar teaching beliefs and practices. *System*, 37(3), 380–390.
- Roothoof, H. (2014). The relationship between adult EFL teachers' oral feedback practices and their beliefs. *System*, 46(1), 65–79.
- Schoenfeld, A. H. (1998). Toward a theory of teaching-in-context. *Issues in Education*, 4(1), 1–94.
- Schommer, M. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology*, 82(3), 498–504.
- Schommer, M. (1994). Synthesizing epistemological belief research: Tentative understandings and provocative confusions. *Educational Psychology Review*, (6), 293–319.
- Shahrani, A., & Aziz, A. (2013). *Investigation of written corrective feedback in an EFL context : beliefs of teachers , their real practices and students ' preferences*. Master by coursework & shorter thesis, School of Languages and Linguistics, The University of Melbourne.
- Tam, C. F. (2005). Teaching beliefs of Chinese language teachers and their influence on curriculum implementation. *Unpublished Doctor of Education Dissertation, The Chinese University of Hong Kong*.

RELATIONSHIP BETWEEN TEACHERS' MOTIVATION AND THE QUALITY OF TEACHING IN PRIMARY SCHOOLS IN MAKKAH, SAUDI ARABIA

Rosnani Jusoh & Nada Abdul Raheem M Mlibari
Faculty of Educational Studies, University Putra Malaysia
rj@upm.edu.my

ABSTRACT

The aim of this study is to examine the relationship between motivation and quality of teaching by examining the set of factors that influence Makkah primary school teachers. Based on Keller's and Abraham Maslow's theories of motivation, a model is developed and tested to examine teachers' motivational factors to quality teaching. Five precursors (interest, relevance, expectation, satisfaction and self-actualisations) of quality teaching are presented in the model. The analysis procedure made use of descriptive statistics and bivariate correlation. The findings reveal that there is a reasonably high quality teaching among Makkah primary school teachers. In addition, the result indicated a significant positive relationship between the independent variables (interest, relevance and self-actualisation) and the dependent variable (quality of teaching).

Keywords: Teachers' Motivation, Quality of Teaching, Primary School.

Introduction

Many nations in an attempt to deliver quality and equity education to its citizens, resort to prioritizing and adopting policies that encompass students from diverse and disadvantage backgrounds. Some among many policies are the increased enrolment levels of students, lengthened the period of compulsory basic education, arrangement of school choices, as well as grade repetition reduction (Outlook, 2015). The Kingdom of Saudi Arabia not found in isolation has similar pattern of policies. The Saudi Arabian educational policies has its present objectives to be the provision of basic education for all Saudis, preparing students for job opportunities in various field, training and raising the basic competencies of students through provision of quality education and the improvement of the teaching profession (Saudi Education Report, 2008). Both Saudi government and the educational institutions have initiatives for a quality teaching improvement. There is always an important emphasis on the need to produce prospective manpower of future generation for the Kingdom of Saudi Arabia (Alnahdi & Arabia, 2014). Similarly, the government of Saudi Arabia has developed successive initiatives (provision of free education for all, construction of schools and colleges, provision of books, paying salaries, training teachers etc.) in order for the educational system be strengthen for a quality teaching and learning. Some of these initiatives triggers new challenges for teachers which require another reform (Alhawiti, 2013). Consequently, it can be said that there appears to be a general improvement in the Saudi educational system due to the progress of these initiatives especially in the areas of competencies acquisition in the teaching field as well as in provision of lifelong learning opportunities. However, research has indicated numerous weaknesses that come along with these initiatives attempting to solve the many problems of the educational system. Some of these weaknesses include cumber some bureaucracy as every educational policy in Saudi Arabia is centralized at the government level. For instance, the syllabus, textbooks and curriculums are the same in all schools across the country. The Ministry of Higher Education and Ministry of Education are the main institutions responsible for the administration of educational system in the country although other few government institutions are appears to take some of the responsibilities (Alhawiti, 2013; Alamri, 2011). Similarly, there is a high salary and incentive discrimination among foreign teachers which demoralizes their motivation to providing quality teaching (Alamri, 2011).

Statement of the Problem

Study on the influence of motivation on quality of teaching indicate that lack of teacher motivation interfere negatively with their teaching profession thereby weakening their collaborative

work and peers, resulting in negative impact on their quality of teaching, as well as weakening their professional relationships (Maria & Herdeiro, 2014). In this case, teachers of Saudi Arabia are no exception as practically there are several school practices that do not go down well with the teachers. Alamri (2011), also found out that much attention is not given to the case of quality of teaching in Saudi Arabia for this has been abandoned for so long in the field of research. Alamri (2011) asserted that much attention needs to be given to quality of teaching due to the recent hardship in economics, social, and other issues that affect teachers to give out their best. As such, for a quality of teaching to prevail, motivation should be given to teachers in a form of incentives, first-class instructional training to improve crucial proficiencies for quality in teaching as well as policy support should be availed to academic staff in all schools.

Furthermore, the contribution of teachers' motivational factors that influence their instructional style and eventually students' motivation was investigated, the findings indicated that teachers' motivational sources on their instructional practices were their self-efficacy and moral interest (Ellen & Ulrich, 2015). The relationship between educational leadership and teacher's motivation involving was investigated. The result indicated that teachers' motivation and well-being is significantly influenced by the type of leadership style produced by school principals (Eyal & Roth, 2010; Alamri, 2011).

Another obstacle lies in lack of funds for research in Saudi schools, limiting the number of scientific research found in journal and conferences where knowledge is shared. Similarly, political and cultural influences turn to deprive academic freedom in the country (Alamri, 2011). Moreover, head teachers in Saudi Arabian secondary school turn to resign from their post due to numerous problems they face such as poor educational infrastructure (Alkarni, 2014). There is therefore the need for an empirical investigation to identify teachers in Makkah primary schools' motivational factors that encourage their quality of teaching. There are many studies on factors that motivate teachers for quality teaching in different countries and regions of the world, many of which were conducted in the developed and underdeveloped world. Again, this study has been somewhat carried out in Saudi Arabia but among higher and secondary schools. Very few studies have been carried out on the factors that hinder teachers' motivation thereby affecting quality of teaching in Makkah primary schools. Little attention is given to this area as very few literatures exist on this. Meanwhile, many studies have shown how significant it is for children to have a strong foundation for education. Therefore, an investigation is considered necessary to examine the factors that demotivate primary school teachers in the city of Makkah, Saudi Arabia to give out their best for quality teaching.

Objective of the Study

This study aimed at determining the relationship between determinants of motivation (interest, relevance, expectancy, satisfaction and self-actualization) and quality of teaching among Makkah primary school teachers.

Literature Review

Related Studies on Quality of Teaching

There is a much hope placed on the quality of teaching for the future of citizens of every nation which the responsibility has been immensely placed on teachers. Quality of teaching has been viewed in different folds. One school of thought believes that quality of teaching is that teaching approach that produces an improvement in students' achievements (Požarnik & Lavrič, 2015; Cardoso, Tavares, & Sin, 2015 and Masters, 2003). Alternatively, the other school of thought believes that quality of teaching or quality in any profession should be considered as the ability to own expert knowledge of that particular field. In other words, quality of teaching is possessing deeper meaning of the underlining principles of the profession, acquainting yourself with the recent advances in profession, amassing skills in the profession as well as possessing finest tools and techniques of the profession (Požarnik & Lavrič, 2015; Cardoso, Tavares, & Sin, 2015 and Masters, 2003). Požarnik &

Lavrič (2015), assert that much attention needs to be given to the case of quality of teaching for this has been abandon for so long in the field of research. They argued that much attention needs to be given to quality of teaching due to the recent hardship in economics, social, and other issues that affect teachers to give out their best. As such, for a quality of teaching to prevail, incentives, first-class instructional training to improve crucial proficiencies for quality in teaching as well as policy support should be availed to academic staff in all schools (Požarnik & Lavrič, 2015). In recent study Hsiao (2012), tried to understand situation of educational technology and teaching quality among civil servants, how educational technology relates to teaching quality, as well as investigate the differences that exist between educational technology and teaching quality among civil servants with and how they vary in terms of their demographic variables. He discovered that there is a significant effect of educational technology on teaching quality, suggesting that there should be cooperation of teaching profession with enterprises in order for cultivation of talents to be open with the establishment of platform for teaching to take place. Thus, the practical training in the companies will not only equip civil servants with theories but with actual experiences (Hsiao, 2012).

In another study, a partial compliance of teachers in exhibiting quality teaching was found even though mechanisms exist for the selection, recruitment and appraisal of academics as well as other instruments and measures meant to continuously improve teaching staff quality. Also, institutional support for skills development, pedagogic training, material infrastructure and motivation strategies, such as awards and recognition, are provided (Cardoso, 2015). In cases of quality teaching, it is prudent to determine some of the factors and characteristics that are necessary to look up for in teachers in order to determine attributes that distinguish excellent teaching from a mere good instruction. In such study, five characteristics were identified. They include; 1. Excellent organization and preparation of lesson before its commencement. 2. Teacher's expert and deep knowledge on the subject under discussion. 3. Enthusiasm of teachers in terms of method of presentation and their interest in the subject matter under discussion. 4. Ability to make the class more engaging rather than entertaining by way of stimulating students' interest in the subject matter to contribute. 5. Clarity of message, that is, the ability of teachers to express difficult data or subjects in a simplest form to the best of understanding of their learners (Fulda, 2008; Sherman et al., 1987). In further studies of factors influencing quality of teaching, some areas of determining quality of teaching were identified as subject matter mastery, curriculum development, course design, curricular and organizational requirements placed on faculty by administration, delivery of instruction, assessment of learning, and availability to students (Cashin, 1999)(as cited in Fulda, 2008. p. 14). Additional aspects of quality teaching were identified as giving prompt feedback, encouragement of active learning, ability to sustain active engagement, giving disciplinary content, citing important issues in the society, encouraging critical thinking by giving students problems to solve, using the best pedagogical strategies as well as giving incentives, and recognition to teachers (Cardoso, 2015; Požarnik & Lavrič, 2015; Gardiner, 2005; Fulda, 2008; Gamson 1995).

The discussion of quality of teaching in Saudi Arabia and that of other countries require a thorough look at the types of curriculum design, instructional and assessment methods available to them. The quality of teaching in Saudi Arabia can be examined based on the experiences of students when for instance find themselves studying in developed countries such as the United States of America. The teaching approaches are found by these students to be completely opposite to what they are used to locally (Redden, 2014). Saudi students in this country are exposed to new learning experiences that different from what they experience in their country, drowning them into difficult situations. For instance, the use of critical thinking in Saudi Arabian educational system is something that is missing and this is a mandatory requirement in the United States educational system (Abudawood, 2015).

In countries like England, Australia, United States and other developed nations, critical thinking is an integral part of coursework, research and fieldwork in their educational institutions. Thus, the concept of critical thinking in education cannot be underestimated (Richmond and Cameron, 2002). The importance of critical thinking has been realised by these countries through its introduction to their educational system. With this, the creation of 'thinking' element in coursework, research and field work

has been achieved, thus, “the placement of thinking at the heart of educational field” (Abudawood, 2015. p. 21). Meanwhile, lack of critical thinking in Saudi Arabian educational system from basic to tertiary level has been shown by many studies (Abudawood, 2015; Almizini 2010). Rubaish (2010), in a study to identify students’ satisfaction and perception in quality of teaching in Saudi Arabian educational system, students based on numerous factors were discovered to be dissatisfied with the general quality of teaching of Saudi 16 Arabia. Lack of application of critical thinking skills and lack of greater participation of students in educational programmes (Rubaish 2010). Students reported not having the opportunity to participate in any group activities, their carrier consideration and any related activities that requires the use of critical thinking (Rubaish 2010). Similarly, students discovered lack of critical thinking in Saudi Arabian Higher Education while acknowledging the importance of it in ensuring quality education (Allamnakhran, 2013).

Furthermore, due to lack of appropriate elements in the curriculum as well as inadequate mechanisms that presents and sustain critical thinking in education, Saudi Arabian teachers lack the skills of teaching critical thinking (Unks, 1985). Same however, cannot be said for Saudi students who have their education in the developed world like the United States (Abudawood, 2015). Thus, these students advocate the introduction of critical thinking in the Saudi Arabian educational system for better improvement (Marklein, 2013). The quality of education is assured with the introduction of critical thinking in the educational system, thus making Saudi Arabian students able to compete globally with their counterparts in advanced countries. Most Saudi students cannot demonstrate their skills and ability in the global market due low expertise in critical thinking (Allamnakhran, 2013). Consequently, Saudi Arabian curriculum and instructional method remain conflicting despite the effort to adjust to global curriculum and instructional method standards. This is due to the fact that religious studies remain the dominant element (Ministry of Higher Education, 2013). As such much of memorisation is emphasised in teaching and learning than seeking or analysing information critically. The concept of memorisation is not considered as a productive learning method (Abudawood, 2015).

In reference to the lack of “workforce-related skills such as critical thinking and problem solving as well as personal responsibility, independence, and a strong work ethic” that produce an increasing displeasure of graduates that are being produced by the Saudi public institutions, the government has resort to supporting private educational institutions in order to compete for quality and easy accessibility of education. This is then seen as a remedy to the importation of foreign workers by companies as local national’s lack the basic skills require in the job market. These foreign workers are imported from countries like the United States, England, Australia and Canada where quality of teaching is key to educational system. This initiative by the Saudi government is intended to be a driving force for boosting the economy of Saudi Arabia as well as reducing the increasing unemployment among the youth (Hamdan, 2013 and Nolan, 2012).

Related Studies on Teachers’ Motivation

Motivation, according to Keller “consists of the amount of effort a person is willing to exert in pursuit of a goal” (Keller, 2006). Keller, suggests that a person is motivated to engage in activity if personal needs are assumed to be satisfied as well as an expectation for success. He classified this motivation into four categories namely; interest, relevance, expectancy and satisfaction. Keller’s model was based on the expectancy theory. Thus, he believes that one’s motivation to accomplish a task is based on the value and expectations of the goal in which he or she is working to achieve. For this model, goal-oriented ness is an attribute of human being, therefore, individuals behave in response to what they are interested to achieve at the end and what they believed in. The model again suggests that interest and expectations of human beings are the backbone on which they orient themselves to the world (Keller, 2010). He further modified this model into an effective motivation instructional design model called “the ARCS (attention, relevance, confidence and satisfaction) model” where it tries to find effective ways of understanding motivation in learning. For him learners are stimulated to learn if the right motivators are made available to them, therefore, there will much

desire to learn if his motivational variables are incorporated during the design of the instruction. As such, it has become one of the widely-used model in the field of instructional design.

Keller, proves that there is a success in making individuals curious about carrying out a task if they have the premonition that the end result is pleasurable; adding that much importance and value is attached to such situation. His model also emphasised that individuals are motivated if there is a form of incentives attached to accomplishing a task. As Lashway (2001) is quoted as saying “give participants a reason to achieve, and they will achieve” (Berson, 2012). For the desired quality of teaching to be reached, there should be valuable and effective educational policies that motivate them to bring out their best. Using the model of motivation by Keller, this study determines whether educational policies in Saudi Arabia create motivation for teachers to provide quality teaching or not and how those motivations impact the quality of teaching. Teachers’ perceptions of educational policies and quality of teaching is determined in this study thus, it determines whether the policies have the right motivators (interest, interest, relevance, expectancy and satisfaction) that are matched with the needs of the teachers. With the help of factors that determines quality of teaching, it is interesting to know whether Saudi educational policies have motivators that provides teachers needs for providing quality instruction.

Teachers’ motivation is very essential in ensuring quality teaching. Literature review has shown that motivation is vital in an attempt to attract and maintain quality teachers in schools. Factors that hinders or promote teachers’ motivation has been extensively researched in recent years by researchers although much concentration has been on students’ motivation previously (Butler, 2007). Quality of teachers’ working environment, their financial achievements, cultural background as well as their style of leadership have been examined as motivational factors for quality teaching (Hildebrandt & Eom, 2011; Klassen, Al-Dhafri, Hannok, & Betts, 2011; Eyal & Roth, 2011). The relationship between teachers’ motivation and students’ motivation has been explored. The results point out a positive relationship between teachers’ motivation and students’ motivation indicating the significance of promoting teachers’ motivation which influences students’ motivation (Ahn, 2014). Similarly, motivation has been revealed by researchers to have influence on teachers’ teaching style that significantly either assists or frustrates students’ basic academic needs such as independence, comprehension of lessons as well as competence (Deci & Ryan, 2000). Motivation has been linked to students’ access to satisfaction of student’s basic academic needs (Ahn, 2014). As indicated by Lam (2009), teaching style has the tendency of mediating between motivation of teachers and that of students in view of how crucial the relationship between teacher and students has been cited. In another study, the relationship between elementary school principals’ leadership strategies and teachers’ work motivation and job satisfaction levels were examined. The result indicated a positive relationship among the variables.

Teachers’ motivation was influenced by improved test score (high students’ achievement) and special treatment they get such as treats, free lunch, and snacks (Webb, 2007). Language teachers’ motivation has been investigated by Rie (2014) to determine how teachers who are motivated can have a dominant influence on students’ career choices as well as their impact on students’ interest and motivation. The findings indicated that a powerful source of motivation for the language teachers’ is their psychological being for the intrinsic motivation coupled with job security for extrinsic motivation. Adding that most of the teachers care more about their job contract, that is, whether they are part-timers or full-timers. In other words, the idea of having a lifelong job is a motivational factor for them (Rie, 2014). The contribution of teachers’ motivational factors that influence their instructional style and eventually students’ motivation was investigated. The study sample involved 110 teachers and 1731 students. The findings indicated that teachers’ motivational sources on their instructional practices were their self-efficacy and moral interest (Ellen & Ulrich, 2015). In a similar study, the relationship between educational leadership and teacher’s motivation involving 122 teachers was investigated. The result indicated that teachers’ motivation and well-being is significantly influenced by the type of leadership style produced by school principals (Eyal & Roth, 2010). The type of motivation for teachers to teach was examined among 154 teachers. The results

showed that enjoyment, interest and value for work are the motivational factors for some of the teachers. Others are also motivated by the fact that students' autonomous motivation is key to a desirable learning. Generally, autonomous or value for work attitude in the classroom displayed by teachers are usually influenced by their own beliefs and motivation (Idit & Bat-Hen, 2016).

More so, a study was carried out to investigate whether teacher motivation has been impacted by performance pay based on their demographics such as position type, certification, years of experience, school socioeconomic status, school accountability grade, and district geographic location. The overall result indicated that there is no influence of motivation by performance pay. However, differences were found based on teachers' demographic characteristics. For instance, secondary school teachers' motivation was influenced by performance pay than their counterpart in the primary and special schools. Again, newly employed teachers' motivation was influenced by performance pay than their seniors. Similarly, teachers who work in schools with a high score of accountability were less motivated by performance pay than those who work in schools with lower score of accountability (Marcotte, 2015). In a similar study, the role of school capacity building in supporting teachers' intrinsic motivation towards teaching was investigated among 210 teachers. The result indicated that the overall motivation of teachers is influenced by their intrinsic motivation toward teaching which was prior influenced by capacity building practices (Segura, 2015). The patterns of experiences among teachers who are intrinsically motivated or extrinsically motivated with identification regulation along with high teacher efficacy was examined among 10 participants. The findings indicated that a shared experience in the types of feedback and expectations given by parents, teachers, mentors, and administration was discovered by participants' intrinsic motivation or extrinsic motivation with identification regulation and high teacher efficacy. Again, higher levels of intrinsic motivation or extrinsic motivation with identification regulation and higher levels of teacher efficacy was experienced by teachers who felt the independence to learn from their mistakes as well as have control over their lives (Clark, Harris, & Graeff, 2016).

Berson (2012), argued that supervisory practices having the potential for improving teacher quality are also directly linked to student achievement. His argument is based on the fact that Goldhaber identified that "Educational research convincingly shows that teacher quality is the most important schooling factor influencing student achievement." (Goldhaber, 2006, p.1). In finding out factors motivating teachers to enter the teaching profession, find job satisfaction and provide quality teaching, it was discovered that teachers were motivated by both intrinsic, that is, the desire to be a teacher and extrinsic factors such as getting adequate salary to enter the teaching profession and give out their best. Similarly, the result showed that teachers who were more intrinsically motivated to take the teaching profession reported a higher level of job satisfaction (Liu & Onwuegbuzie, 2014). Liu (2007) and Darling-Hammond (2003), stated that teacher lack of interest has the tendencies of demoralising teachers and subsequently leave the profession as such much attention has been given to researches on interest of teachers in the teaching profession. Job satisfaction of teachers has been identified as their motivation factor for retention, commitment, school effectiveness and quality of teaching (Huang 2001). Similarly, factors such as role overload, leadership, teacher autonomy, salary, parent support, student behaviour, and school climate has been identified as being motivational elements to teacher job satisfaction (Liu and Ramsey, 2008; Belfield 2005; Billingsley and Cross 1992; Pearson and Moomaw 2005; Perrachione et al. 2008; Pepper and Thomas 2002) as cited in (Liu & Onwuegbuzie, 2014. p. 76). As it has been identified, motivational strategies, such as awards and recognition, improves the quality of teaching of staff (Cardoso et al., 2015; Remijan, 2014). In addition, daily experiences and feelings of the older teachers, which normally occur in the 'final' phases of their career, are nowadays experienced earlier by younger teachers, due to the lack of incentives that allow teachers to remain motivated and give it out their best in the profession until the end of their career (Maria & Herdeiro, 2014). Commitment to help students, giving back to the society, promotion of love for the subject or content, perceived administrative and induction support are some of the contributing factors of teachers' motivation to take and remain in the teaching profession as well as provide the best (Claeys, 2011; Bijstra, 2015). More so, teacher-student relationships, teacher expectations, and instructional practices responsive to students' basic and

developmental needs has been shown through empirical research to be element that support academic motivation. Similarly, 26 quality teaching to students may be increased when such expectations and instructional practices are applied within the context of first-class relationships between students and teachers (Kiefer, Ellerbrock, & Alley, 2014). It has been discovered that the type of motivation teachers get overwhelmingly shapes the quality and nature of their delivery thereby boosting the moral of students. Again, continuous teachers' motivation and engagement is bound to fail when policies to improve quality of a school ignores the provision of teachers' well-being as well as the values that bring them to the teaching profession and giving out their best (Robert, Bullough, & Hall-Kenyon, 2012; Estep & Roberts, 2015). In view of this, the researcher attempted to determine the kind of motivation that teachers' need to deliver quality teaching in Makkah primary schools, Saudi Arabia.

Research Methodology

The research design to be employed in this study is quantitative. This assisted the researcher to avoid the manipulation of respondents' characteristics that may otherwise affect the outcome of the study. The survey directed Makkah primary school teachers to provide feedback on their motivation and quality of teaching. This study used quantitative methods involving survey questionnaires to collect data. This design was used because it is descriptive in nature which is appropriate for the purpose of this study. As such a quantitative method using survey of a 5-point Likert scale questionnaire was used as the primary means of gathering data. This study was predominantly designed to quantitatively examine the level of quality of teaching and the relationship between motivational factors (interest, relevance, expectancy, satisfaction, and self-actualisation) and quality of teaching among Makkah primary school teachers. The choice of this design is based on the fact that it enhances the understanding of the relationship that exists between motivation and quality of teaching. Also, it allows for data to be obtained at any given period of time.

The population of this study is all primary school teachers in the city of Makkah. Currently, there are 12,573 primary school teachers in Makkah primary schools according to the Makkah Education Office (2016). A convenient sampling method was used to select the respondents of this study from 40 primary schools in the city of Makkah. Using online Rao soft calculator based on the current population of primary school teachers in Makkah. The sample size calculator by Rao soft estimates 7% margin of error to be accepted, 95% confidence level and 50% response distribution, in calculating the exact number for the sample size. With the help of the Rao soft sample size calculator formula, a recommended sample size of 193 for teachers and was randomly selected from the four areas in the city of Makkah (North, South, East, and West of Makkah).

The next step, having selected the sample is to choose appropriate instruments for data gathering. A review of instruments needed for this study has been made to determine how independent and dependent variables are associated together. As a result, this study included adapted structured questionnaire on quality of teaching from (Beaumont, 2012), on motivation from (Kebritchi, 2008) and self-actualisation from (Jones & Crandall 1986). Respondents answered questions measuring the central constructs of Keller's model of motivation, which are interest, relevance, expectancy and satisfaction, as well as on self-actualisation from Maslow's theory of need. They also answered questions aimed at answering the research questions of the study. The respondents in all cases used "5-point Liker scale" to agree or disagree with statements on the questionnaire scoring (strongly disagree = 1 to strongly agree = 5). Each instrument was operationalized and to measure a specific variable in the models. The instrument jointly contained about thirty-six items. Furthermore, teachers' demographic variables were identified. They include gender, age, educational qualification and duration of teaching on the quality of teaching.

Validity in research defines whether the research accurately measures that which it was intended to measure or how frank is the result of the research (Creswell, 2012). To say it differently, validity ensures that the research instruments are able to answer the research questions of the study. The items that were used for this study were adapted from Beaumont (2012), Kebritchi (2008) and Jones & Crandall (1986) who have tested and used these items. The items on the instrument have also long been

tested by Bolton and Drew (1991), Carman (1990), and Keller (1987a). The validity of the instruments was confirmed by the experts who developed and modified them.

Reliability ensures that the scores of the instruments are stable and consistence (Creswell, 2012). The use of Cronbach's Coefficient Alpha is appropriate for defining internal consistencies of instruments as it provides a good estimate of reliability in most situations. This measure determines the consistency of a multiple scale. In most social science literatures, measures are judged to be reliable if Cronbach's Coefficient Alpha is 0.70 or greater (Garson, 2001). The reliability of the instrument was measured in SPSS and the Cronbach's Coefficient Alpha of all the items are greater than 0.70 which made them highly reliable.

Research Findings

A total of two hundred and thirty (230) questionnaires were administered to the primary school teachers in the city of Makkah. Two hundred and one (201) questionnaires were returned, resulting in 87.4% of the response rate. The sample size, which is, one hundred and ninety-three (193) was subsequently selected from the returned questionnaires. This response rates were sufficient and representative of the data. According to Mugenda and Mugenda (2009) a response rate of 50% is adequate for analysis and reporting. Similarly, a rate of 60% is good for analysis and reporting while a response rate is excellent if it is above 70%.

The findings in Table 1 presents the demographic characteristics of the respondents. Female respondents are revealed to be the majority of the respondents accounting for 71% (n = 137) of sample (n = 193), whereas 29% (n = 57) of sample (n = 193) represents their male counterparts. The age range of the respondents stands between 20-24 and above with majority being within 30-34(34.7%, n = 67). In terms of educational qualification, majority of the respondents have diploma (44.6%, n = 86), followed by those who have first degree (38.9%, n = 75). In addition, 49.2% of the respondents (n = 95) teach in schools in the western part of Makkah, followed by those who teach in schools in the eastern part of the city (25.9%, n = 50). Finally, in terms of year of teaching, majority of the respondents have been teaching between 5 – 15 years accounting for (42%, n = 81). This is followed by those who have been teaching for more than 15 years, that is between 16 – 25 years (15%, n = 29).

Table 1. Demographic Characteristics of the Respondents

Variable	Frequency	Percentage
Gender		
○ Male	56	29.0
○ Female	137	71.0
Age		
○ 20-24	38	19.7
○ 25-29	54	28.0
○ 30-34	67	34.7
○ 35 and Above	34	17.6
Educational Qualifications		
○ Diploma	86	44.6
○ First Degree	75	38.9
○ Masters	32	16.6
Area		
○ North	28	14.5
○ South	20	10.4
○ West	95	49.2
○ East	50	25.9
Year of Teaching		

○	Less than 5 years	43	22.3
○	5 – 15 years	81	42.0
○	16 – 25 years	29	15.0
○	More than 25 years	40	20.7
Total		193	100

Figure 1 presents the respondents' agreement to quality of teaching items. A significant number of the respondents indicated agreement to giving a quality of teaching to their students. However, there are also a comparatively significant portion of the respondents who indicated their less disagreement to offering quality of teaching while very few of the respondents disagreed to the statements on their quality of teaching. The results reveal that majority of the respondents 87.6% (n = 169) agree that they are knowledgeable in the subjects they teach. This is followed by those who think that overall, the school curriculum is excellent (78.3%, n = 151). Again, 76.7% of the respondents (n = 148) agree that they offer their students learning materials that are intellectually motivating. In addition, 75.7% (n = 146) of the respondents indicated that they are good at explaining things to the understanding of their students, 6.5% (n = 12) of the respondents disagree to this statement, while 18.1% (n = 35) of them indicate their less disagreements to this statement. Again, 73.1% of the respondents (n = 141) agree they use modern teaching and learning tools, and techniques in their teaching. Further results disclose that the respondents give excellent teaching to their students (72%, n = 140) and 71.5% (n = 138) always see academic improvement in their students due to their teaching style. The overall findings for the statements show that a majority of the respondents have a high-quality teaching, with a mean value of 4.28 (SD =.826). Figure 1 shows a visual presentation of the respondents' level of quality teaching.

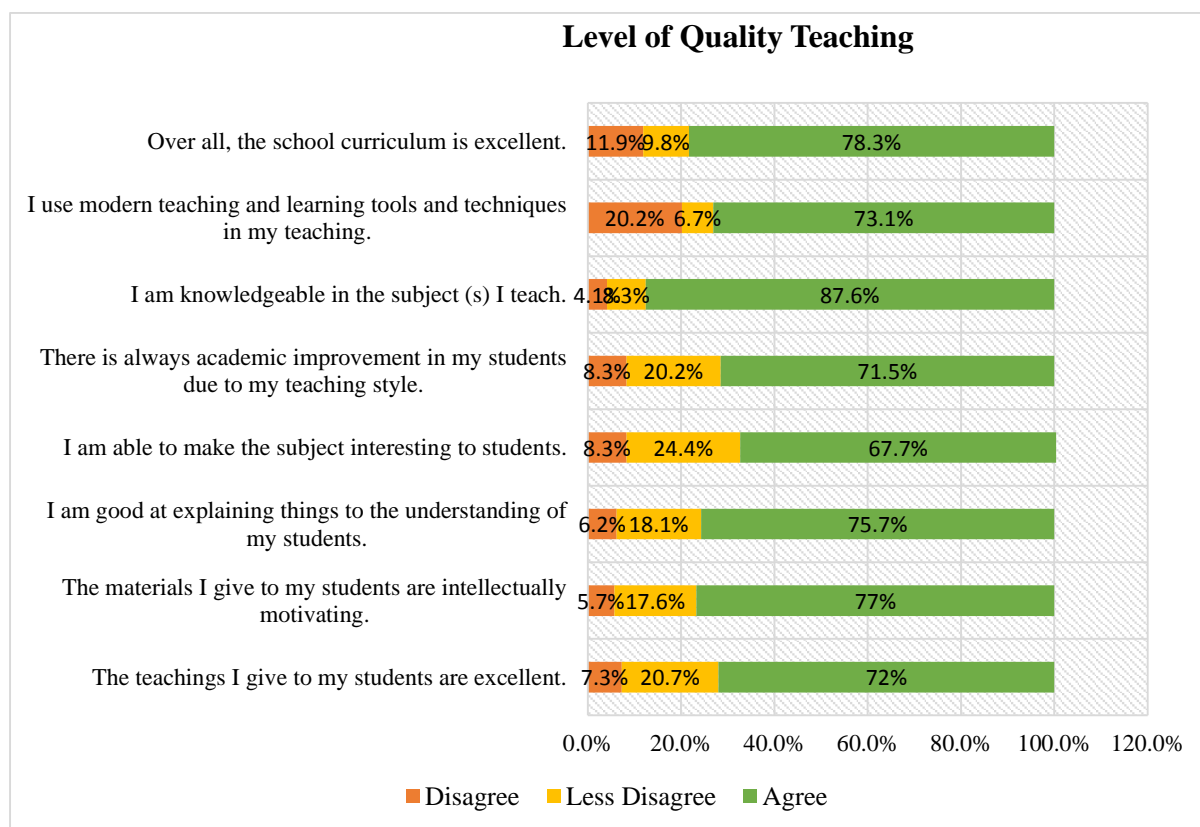


Figure 1: Respondents' Level of Quality Teaching

Table 2 presents the Pearson correlation computed. The strength of the correlation of the results are interpreted as 0.00 – 0.19 (very weak), 0.20 – 0.39 (weak), 0.40 – 0.59 (moderate), 0.60 – 0.79 (strong), and 0.80 – 1.0 [very strong] (Evans, 1996). The result is indicated in Table 4.3 below. The results among the independent variables have shown a significant strong positive relationship

between interest and relevance ($r = .667, p < .05$). This indicates the existence of a significant correlation between both variables (interest and relevance). Again, a moderate positive relationship was shown between interest and expectation ($r = .419, p < .05$), indicating a moderate relationship between them. However, a weak positive relationship was shown between satisfaction and expectation ($r = .203, p < .05$) indicating a weak relationship between them. Additional result indicates a very strong relationship between interest and self-actualisation ($r = .955, p < .05$), a strong positive relationship between relevance and self-actualisation ($r = .649, p < .05$), while a weak positive relationship between expectation and self-actualisation ($r = .385, p < .05$).

In terms of the relationship between the independent and the dependent variables, the result reveals a strong positive relationship between interest and quality of teaching of respondents ($r = .769, p < .05$). This indicates the existence of a significant correlation between both variables (interest and quality of teaching). Similarly, a strong positive relationship is shown between relevance and quality of teaching ($r = .603, p < .05$), indicating a significant relationship between them. However, a weak relationship between expectation and quality of teaching ($r = .317, p < .05$) is discovered by the result. Further result indicates a very weak relationship between satisfaction and quality of teaching ($r = .061, p < .05$), whereas a strong positive relationship is shown between self-actualisation and quality of teaching ($r = .779, p < .05$).

Table 2. Relationships between Independent and the Dependent Variables

	Interest	Relevance	Expectation	Satisfaction	Self-Actualisation
Interest		.667**	.419**		
Relevance			.421**		
Expectation	.419**				
Satisfaction			.203**		
Self-Actualisation	.955**	.649**	.385**		
Quality of Teaching	.769**	.603**	.317**	.067	.779**

** . Correlation is significant at 0.01 level (2-tailed).

Conclusion

The results of correlation analyses among the independent variables using the Pearson product moment have shown a significant strong positive relationship between interest and relevance. This indicates the existence of a significant correlation between both variables (interest and relevance). Again, a positive relationship was shown between interest and expectation, indicating a moderate relationship between them. However, a weak positive relationship was shown between satisfaction and expectation indicating a weak relationship between them.

Additional result indicates a very strong relationship between interest and self-actualisation, a strong positive relationship between relevance and self-actualisation, while a weak positive relationship between expectation and self-actualisation. Furthermore, between the independent and dependent variables, it reveals a strong positive relationship between interest and quality of teaching of respondents. This indicates the existence of a significant correlation between both variables (interest and quality of teaching). Similarly, a strong positive relationship is shown between relevance and quality of teaching, indicating a significant relationship between them. However, a weak relationship between expectation and quality of teaching is discovered by the result. Further result indicates a very weak relationship between satisfaction and quality of teaching, whereas a strong positive relationship is shown between self-actualisation and quality of teaching. This finding is similar to the result found by Liu & Onwuegbuzie, (2014). They studied the relationship between motivational factors and quality of teaching. Specifically, they studied factors motivating teachers to enter the teaching profession, have

job satisfaction and provide quality teaching. They found out that teachers enter into teaching profession and give quality teaching to their students due to intrinsic motivational factors, that is, the desire or interest to be a teacher as well as extrinsic factors such as getting adequate salary to enter the teaching profession and give out their best.

Similarly, the result showed that teachers who were more intrinsically motivated to take the teaching profession reported a higher level of job satisfaction. Again, in another study, teachers give quality of teaching to their students due to commitment to help them, giving back to the society, promotion of love for the subject or content, perceived administrative and induction support (Claeys, 2011; Bijstra, 2015). In another similar study, quality of teachers' working environment, their financial achievements, cultural background as well as their style of leadership have been examined as motivational factors for quality teaching (Hildebrandt & Eom, 2011; Klassen, Al-Dhafri, Hannok, & Betts, 2011; Eyal & Roth, 2011). Again, the relationship between teachers' motivation and students' motivation has been explored. The results point out a positive relationship between teachers' motivation and students' motivation indicating the significance of promoting teachers' motivation which influences students' motivation (Ahn, 2014). Likewise, motivation has been revealed by researchers to have influence on teachers' teaching style that significantly either assists or frustrates students' basic academic needs such as independence, comprehension of lessons as well as competence (Deci & Ryan, 2000). Motivation has been linked to students' access to satisfaction of students' basic academic needs (Ahn, 2014). Additionally, the type of motivation for teachers to teach was examined among teachers. The result showed that enjoyment, interest and value for work are the motivational factors for some of the teachers to give quality teaching.

In reference, to the current study, teachers' interest to teach and their achievement of self-actualisation as well as some of the favourable educational policies greatly influence their quality of teaching. The findings of all the results of the previous studies revealed that there is positive correlation among the variables under study, that is, between teachers' motivation and quality of teaching. These indicate that Makkah primary school teachers' quality of teaching is more likely motivated by the passion or interest they have for the teaching profession, the relevance of the school policies and their self-actualisation compared to the school policies meeting their expectations and satisfaction. Hence, teachers' motivation is very vital in warranting quality of teaching.

Additionally, there was a statistically significant pathway between interest, relevance and self-actualisation, signifying that a substantial amount of interest in the teaching profession as well as relevance of educational policies to teachers are precursors to quality teaching. Based on these findings, it becomes obvious that Makkah primary school teachers need to be more passionate about their teaching profession. In short, the extent of attaining quality teaching among Makkah primary school teachers indicated that teachers easily offering quality teaching begins with the passion teachers have for the profession. Nonetheless, despite the evidence suggesting the importance of interest or passion in ensuring quality teaching, not all the respondents of this study shown they are in the teaching profession because of the passion they have for it. Thus, there is no guarantee that interest, relevance and self-actualisation are the only precursors to quality teaching, as most respondent indicated not offering quality teaching because they are not satisfied with the policies regarding their salaries, accommodation and other social services. It is therefore, important for the management of Saudi Arabian Ministry of Education to improve policies that will increase teachers' passion and thoroughly investigate other potential factors that may encourage teachers to give out their best in the profession.

References

- Alamri, M. (2011). Higher education in Saudi Arabia. *Journal of Higher Education Theory and Practice*, 11(4), 88–91. Retrieved from: <http://doi.org/10.1007/978-94-007-6321-0>
- Alhawiti, M. M. (2013). Strategies and action plans for integrating ICT into Saudi elementary schools curricula: the case of Tabuk district of education, 3(2). Retrieved from: <http://doi.org/10.7763/IJJET.2013.V3.259>

- Alkarni, A. (2014). Problems which may challenge the ability of secondary school, 11, 55–74.
- Alnahdi, G. H., & Arabia, S. (2014). Educational change in Saudi Arabia, 10(1), 1–7.
- Alvin, J., and C. Rick. 1986. Validation of a short index of self-actualization. *Personality and Social Psychology Bulletin*, 12 (1):63-73.
- Astleitner, H., & Keller, J. (1995). A model for motivationally adaptive computer-assisted instruction. *Journal of Research on Computing in Education*, 27(3), 270-280.
- Belfield, C. R. (2005). Workforce gender effects on firm performance and workers' pay: Evidence for the UK. *Applied Economics*, 37, 885–891. doi:10.1080/00036840500048829.
- Berson, J. E., (2012). *Teachers' perspectives of teacher supervision policies & practices in charter schools in Pennsylvania*. (Doctoral dissertation, Temple University). Retrieved from ProQuest Dissertations and Theses database. (UMI Number: 3493892).
- Bickford, N. (1989). *The systematic application of principles of motivation to the design of printed instructional materials*. Unpublished doctoral dissertation, Florida State University, Tallahassee.
- Bijstra, J. (2015). Triangulating Measures of Teacher Quality in Teaching Students With Behavioral Problems, 14(3), 294–314.
- Billingsley, B. S., & Cross, L. H. (1992). Predictors of commitment, job satisfaction, and intent to stay in teaching: A comparison of general and special educators. *The Journal of Special Education*, 25, 453–471. doi:10.1177/002246699202500404.
- Bohlin, R., & Milhelm, W. (1994, February). *Applications of an adult motivational instructional design model*. Paper presented at the Association for Educational Communications and Technology, Nashville, TN.
- Bolton, R. N., & Drew, J. H. (1991). A longitudinal analysis of the impact of service changes on customer attitudes. *The Journal of Marketing*, 55(1), 1-9.
- Cardoso, S., Tavares, O., & Sin, C. (2015). The quality of teaching staff: higher education institutions' compliance with the European Standards and Guidelines for Quality Assurance — the case of Portugal. <http://doi.org/10.1007/s11092-015-9211-z>
- Carman, J. M. (1990). Consumer perceptions of service quality: An assessment of the servqual dimensions. *Journal of Retailing*, 66(1), 33-55.
- Cashin, W.E. (1999). *Student ratings of teaching: uses and misuses*. In P. Seldin (Ed.), *Changing practices in evaluating teaching*. Bolton, MA: Anker Publishing.
- ChanLin, L. (1994). *A case for assessing motivation from learning a computer-assisted instruction*. (ERIC Document Reproductions Service No. ED376 803).
- Cheng, M. M. H., Tang, S. Y. F., & Cheng, A. Y. N. (2014). Interpreting ambivalence regarding motivation for teaching among student and teachers. *Asia-Pacific Education Researcher*, 24(1), 147–156. <http://doi.org/10.1007/s40299-013-0167-9>
- Chyung, S. Y. (2001). Systematic and systemic approaches to reducing attrition rates in online higher education. *American Journal of Distance Education*, 15(3), 36-49.
- Claeys, L. (2011). Teacher motivation to teach and to remain teaching culturally and linguistically diverse students.
- Creswell, J. W., (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Thousand Oaks CA: Pearson
- Cummins, R. A. (2016). Happiness is the right metric to measure good societal functioning. *Society*, 53(3), 273–277. <http://doi.org/10.1007/s12115-016-0011-y>
- Education, M. (2008). National Report on Education Development In The Kingdom of Saudi Arabia.
- Education, M. O. (2016, May 20). *Saudi Education*. Retrieved from Educational System in Saudi Arabia: <http://www.sacm.org/Education.aspx>
- Estep, C. M., & Roberts, T. G. (2015). Teacher Immediacy and Professor / Student Rapport as Predictors of Motivation. *NACTA Journal*, (June), 155–164.
- Fulda, G. (2008). Methods of evaluation of teaching quality in English departments in baccalaureate liberal arts colleges: what helps instructors improve their teaching.
- Gabrielle, D. (2003). The effects of technology-mediated instructional strategies on motivation performance, and self-directed learning. Unpublished doctoral dissertation, Florida State University, Tallahassee.

- Gamson, Z. (1995). *The seven principles for good practice in undergraduate education*. In S. Hatfield (Ed.), *The seven principles in action: Improving undergraduate education*. Bolton, MA: Anker Publishing.
- Garson, G. David (2001). *Guide to writing empirical papers, theses, and dissertations*. (1st ed.). Marcel Dekker: USA
- Gardiner, L. (2005). Transforming the environment for learning: A crisis of quality. In S. Chadwick-Blossey (Ed.), *To improve the academy*.
- Goldhaber, Dan. (2006). *Teacher Pay Reforms: The Political Implications of Recent Research*. Center for American Progress. University of Washington and Urban Institute. Retrieved May 28, 2016 from www.americanprogress.org/issues/2006/12/pdf/teacher_pay_report.pdf.
- Hsiao, L. H. C. (2012). A study on teaching quality of taiwan government training civil servants with educational technology, *II*(2), 38–44.
- Huang, S.-Y. L. (2001). Teachers' perceptions of high school violence. *Learning Environments Research*, 4, 159–173. doi:10.1023/A:1012415400807.
- Huett, J. (2006). *The effects of ARCS-based confidence strategies on learner confidence and performance in distance education*. Unpublished doctoral dissertation, University of North Texas, Denton.
- Huett, J. B., Moller, L., Young, J., Bray, M., & Huett, K. C. (2008). The effect of ARCS-based strategies on confidence and performance. *The Quarterly Review of Distance Education*, 9(678), 113–126. <http://doi.org/Article>
- Kebritch, M., (2008) *Effects of a computer game on mathematics achievement and class motivation: an experimental study*. (Doctoral dissertation, University of Central Florida). Retrieved from ProQuest Dissertations and Theses database. (UMI Number: 3319249).
- Keller, J. M. (1983). Motivational design of instruction. In C.M. Reigeluth (Ed.), *Instructional design theories and models: An overview of their current status*. Hillsdale, Nj: Lawrence Erlbaum, Publisher.
- Keller, J. M. (1987a). Development and use of the ARCS model of motivational design. *Journal of Instructional Development*, 10(3), 2-10.
- Keller, J. M. (2006a). ARCS design process. Retrieved May 28, 2016 at <http://arcsmodel.com/Mot%20dsgn%20A%20prcss.htm>
- Keller, J. M. (2010). *Motivational design for learning and performance: The ARCS model approach*. New York: Springer.
- Kiefer, S. M. ., Ellerbrock, C., & Alley, K. (2014). The Role of Responsive Teacher Practices in Supporting Academic Motivation at the Middle Level*. *Research in Middle Level Education Online*, 38(1), 1–16. <http://doi.org/http://dx.doi.org/10.1108/17506200710779521>
- Klein, J. D., & Freitag, E. T. (1992). Training students to utilize self-motivational strategies. *Educational Technology*, 32(3), 44-48.
- Lashway, Larry. (2001). *The new standards and accountability: will rewards and sanctions motivate america's schools to peak performance?* ERIC Clearinghouse on Educational Management, Eugene, OR. ISBN 0-86552-149-2.
- Lee, S., & Boling, E. (1996). *Motivational screen design guidelines for effective computer-mediated instruction*. Paper presented at the Association for Educational Communications and Technology, Indianapolis, IN.
- Liu, S., & Onwuegbuzie, A. J. (2014). Teachers' motivation for entering the teaching profession and their job satisfaction: A cross-cultural comparison of China and other countries. *Learning Environments Research*, 17(1), 75–94. <http://doi.org/10.1007/s10984-013-9155-5>
- Liu, X. S., & Ramsey, J. (2008). Teachers' job satisfaction: Analysis of the teacher follow-up survey in the United States for 2000–2001. *Teaching and Teacher Education*, 24, 1173–1184. doi:10.1016/j.tate.2006.11.010.
- Maria, A., & Herdeiro, R. (2014). Educational Policies and the Quality of Teaching : Perceptions of Portuguese Teachers, (June), 940–947.
- Maslow, A. H. (1968). *Toward a psychology of being* (2nd ed.). New York, NY: Van Nostrand.
- Maslow, A. H. (1970). *Motivation and personality* (3rd ed.). New York, NY: Harper.
- Maslow, A. H. (1993). *The farther reaches of human nature*. New York, NY: Arkana.

- Masters, G. (2003). Using research to advance professional practice. *Building Teacher Quality*. What does the research tell us. (Proceeding of the ACER)
- Means, T., Jonassen, D., & Dwyer, F. (1997). Enhancing relevance: Embedded ARCS strategies vs. purpose. *Educational Technology Research and Development*, 45, 5-17. Research Conference, 46-48).
- Middleton, H. (2016). Flourishing and Posttraumatic Growth. An Empirical Take on Ancient Wisdoms. *Health Care Analysis: HCA: Journal of Health Philosophy and Policy*, 24(2), 133–147. <http://doi.org/10.1007/s10728-016-0318-2>
- Moller, L. (1993). The effects of confidence building strategies on learner motivation and achievement. Unpublished doctoral dissertation, Purdue University, West Lafayette.
- Naime-Diefenbach, B. (1991). *Validation of attention and confidence as independent components of the ARCS motivational model*. Unpublished doctoral dissertation, Florida State University, Tallahassee.
- Outlook, E. P. (2015). Education Policy Outlook. <http://doi.org/10.1787/9789264225442-en>
- Oyaid, A. A. (2009). Education policy in Saudi Arabia and its relation to secondary school teachers' use, perceptions, and views of the future of ICT in education.
- Pearson, L. C., & Moomaw, W. (2005). The relationship between teacher autonomy and stress, work satisfaction, empowerment, and professionalism. *Educational Research Quarterly*, 29, 37–53.
- Pepper, K., & Thomas, L. H. (2002). Making a change: The effects of the leadership role on school climate. *Learning Environments Research*, 5, 155–166. doi:10.1023/A:1020326829745.
- Perrachione, B. A., Rosser, V. J., & Petersen, G. J. (2008). Why do they stay? Elementary teachers' perceptions of job satisfaction and retention. *The Professional Educator*, 32(2), 25–41.
- Popvich, G. N. & Wongwiwatthanakul, S., (2000). Applying the ARCS model of motivational design: A multinationally validated process. Retrieved from <http://apps.fischlerschool.nova.edu/toolbox/instructionalproducts/itde8005/weeklys/2000->
- Požarnik, B. M., & Lavrič, A. (2015). Fostering the quality of teaching and learning by developing the “neglected half” of university teachers' competencies Spodbujanje kakovosti poučevanja in učenja s pomočjo razvijanja » spregledane polovice « kompetenc univerzitetnih učiteljev, 5, 73–94.
- Raosoft. (2016, May 27). *Sample Size Calculator*. Retrieved from Raosoft.Inc: <http://www.raosoft.com/samplesize.html>
- Reiss, S. (2000). *Who am I? The 16 basic desires that motivate our actions and define our personalities*. New York, NY: Berkley.
- Remijan, K. W. (2014). Improving teacher motivation in secondary schools with hybrid positions. *American Secondary Education*, 42(3), 30–38.
- Robb, C., (2010). *The impact of motivational messages on student performance in community college online courses*. (Doctoral dissertation, University of Illinois at Urbana-Champaign). Retrieved from ProQuest Dissertations and Theses database. (UMI Number: 3430898).
- Robert V. Bullough, J., & Hall-Kenyon, K. M. (2012). On Teacher Hope, Sense of Calling, and Commitment to Teaching. *Teacher Education Quarterly*, 7–27. Retrieved from <http://eric.ed.gov/?id=EJ989781>
- Shellnut, B., Knowlton, A., & Savage, T. (1999). Applying the ARCS model to the design and development of computer-based modules for manufacturing engineering courses. *Educational Technology, Research and Development*, 47, 100-110.
- Small, R. V., & Gluck, M. (1994). The relationship of motivational conditions to effective instructional attributes: A magnitude scaling approach. *Educational Technology*, 34(8), 33-40.
- Song, S. H. (1998). The effects of motivationally adaptive computer-assisted instruction developed through the ARCS model. Unpublished doctoral dissertation, Florida State University, Tallahassee.
- Song, S. H., & Keller, J. M. (1999, February). The ARCS model for developing motivationally adaptive computer-assisted instruction. Paper presented at the Association for Educational Communications and Technology, Houston, TX.
- Song, S. H. (2000). Research issues of motivation in web-based instruction. *Quarterly Review of Distance Education*, 1(3), 225-229.

- Suranovic, S. (2016). Satisfiers Require Moral Constraints. *Society*, 53(3), 289–293.
<http://doi.org/10.1007/s12115-016-0014-8>
- Suzuki, K., & Keller, J.M. (1996). Applications of the ARCS model in computer-based instruction in Japan. *Annual meeting of the Japanese Educational Technology Association, Kanazawa, Japan.*
- The ARCS Model: Attention, Relevance, Confidence, and Satisfaction .” (2000), 1–2.
- Visser, J., & Keller, J. M. (1990). The clinical use of motivational messages: An inquiry into the validity of the ARCS model of motivational design. *Instructional Science*, 19, 467-500.
- Visser, L. (1998). The development of motivational communication in distance education support. Den Haag, The Netherlands: CIP- Gegevens Koninklijke Bibliotheek.
- Zammit, K., Sinclair, C., Cole, B., Singh, M., Costley, D., Brown, L., & Rushton, K. (2007). Teaching and leading for quality Australian schools. College of Arts – School of Education. Knowledge Creation Diffusion Utilization.
- Zawacki, J. D., (2011). The self-actualized music teacher : a reexamination of Maslow ’ s motivation theory. (Doctoral dissertation, Capella University). Retrieved from ProQuest Dissertations and Theses database. (UMI Number: 3439953).

SCHOOL ADMINISTRATORS' LEADERSHIP IN CURRICULUM IMPLEMENTATION OF TAHFIZ MODEL ULUL ALBAB (TMUA): A CASE STUDY

Nurul Jawahir Md Ali & Suhaida Abdul Kadir
Faculty of Educational Studies, Universiti Putra Malaysia
hikarijawahir@gmail.com, suhaida@upm.edu.my

ABSTRACT

This study used a qualitative approach to explore the school administrators' leadership in curriculum implementation of Tahfiz Model Ulul Albab (TMUA). The study also aims to identify the arising issues and strategies used by the administrators in leading the implementation of the curriculum. This research is a case study that was conducted in a National Secondary Religious School (SMKA) involving 3 participants, namely the Principal, Senior Assistant 1 and Coordinator of TMUA. The data were collected through interviews, observations and document analysis. The findings show that there are several emerging themes found in administrators' leadership in curriculum implementation, which are 'understanding', 'goal setting', 'instructional management', 'teacher development', 'rabbani/religious influence', 'sharing of responsibility, and 'networking'. Challenges and strategies in leading the curriculum implementation consists of three categories, namely 'issues of system and technical', 'issues of teacher', and 'issues on student performance'. This research shows the discovery of new dimensions in school administrators' leadership. This study implies that the implementation of a new curriculum is challenging and requires meticulous planning on the part of the policy maker as well as effective administration and management by school administrators.

Keywords: school administrators' leadership, challenges in curriculum implementation, strategies in curriculum implementation, curriculum implementation, TMUA

Introduction

The Ministry of Education Malaysia (MOE) has started to give attention in expanding and enhancing the religious education in Malaysia. Ministry of Education Malaysia (2013) as stated in Malaysia Education Blueprint 2013-2025 has begun to show its interest and commitment on this matter. Wave 1 of the blueprint stated that The Ministry is committed in delivering high-quality religious education—providing students with the knowledge and skills to succeed in the labour market while upholding strong Islamic values and beliefs. The Ministry will strengthen implementation of the national curriculum in religious schools by raising the Dini and Tahfiz curriculum and embedding religious elements into the curriculum.

Previously, the education system in Malaysia was said to be threatened and influenced by the elements of dualism and secularism (Noor Hisham Md Nawi, 2015). This dualistic educational system has separated the academic and spiritual aspects of students (Zetty Nurzuliana Rashed & Ab Halim Tamuri, 2015). This was said to be one of the reason for impairment of moral and social behaviour among younger generation. Thus, there is a need for the integration between acquired knowledge (known as aqli) and spiritual knowledge obtained through revelation (known as naqli) (Ahmad Tafsir, 1992).

Ulul Albab was initiated in 1999 by Dato' Seri Idris Jusoh to integrate the current education system at that time. It was implemented in Imtiaz Terengganu since 1999 and was further implemented then in MARA Junior Science College (MRSM) in 2009 and MOE's religious school beginning 2014 (known as Tahfiz Model Ulul Albab – TMUA). Ulul Albab consists of three elements, which are Quranic, Encyclopaedic and Ijtihadik. Quranic refers to the memorization of the Quran, Encyclopaedic is the approach in providing students with basic knowledge, language as well as skills while Ijtihadik aims to prepare students with the ability in problem solving, maximizing capabilities in high order

thinking, creative and innovative values. TMUA implemented in National Religious Secondary School (SMKA) is incorporated along with National Curriculum and Kurikulum Bersepadu Tahfiz (KBT).

School Leadership in Facing the Education Change

Leaders are individuals who are responsible for mobilizing the entire team and the people he leads towards achieving established goals (Robbins & Judge, 2015). School leaders and administrators are responsible in steering and manoeuvring the achievement and success of his school (Zaidatul Akmaliah Lope Pihie & Amir Sadeghi, 2012). To ensure that the transformation of the educational system being able to realize, schools need a dynamic and courageous leadership to develop quality human capital (Nor Azni Abdul Aziz et al., 2014). Thus, school administrators play a great role in making the goals came true. According to the Curriculum Development Division (2001), the role of principals and senior assistant teachers as curriculum leaders and managers is divided into three aspect – curriculum leader, curriculum monitor and curriculum evaluator. The role of school leaders are critical and crucial in determining whether a curriculum can be implemented effectively (Middlewood & Burton, 2001). Hence, school administrators especially principals as instructional leaders need to lead the school in the implementation of the curriculum as well as creating an effective learning environment that promotes the cultivation of learning culture (Jemaah Nazir dan Jaminan Kualiti, 2010).

TMUA is a new curriculum implemented in the last 3 years. The capability of school administrators was tested during its implementation. Based on previous research done by Umi Kalthom Abdul Manaf et al. (2014) dan Mohammad Abdillah Samsuiman et al. (2014) in MRSM Ulul Albab, there are issues related to student learning outcomes and lack of monitoring on the aspects of student's personality development in schools that implement the Ulul Albab program. This indicates some possible challenges and issues that arise during the implementation of the program. In addition, there has been no study to be found on the implementation of Ulul Albab program in government's school as well as limited research discussing about school leadership in the context related to the implementation new curriculum.

The purpose of this research is to explore the school administrators' leadership in curriculum implementation of TMUA. This study also aims to shed some light on the issues related to the implementation of this curriculum and the problems face by the administrators as well as their strategies in addressing them.

Methodology

This study used a single case study approach. Qualitative case study offers a descriptive and intensive approach in discussing and understanding the research in bounded context (Merriam, 2009). In this study, the context refers to a National Religious Secondary School (SMKA) as a single entity. The data were collected through semi-structured interview, non-participant observation and data analysis. Purposive sampling is utilized in this research. The participants chosen were the Principal, Principal Assistant 1 and TMUA Coordinator. The data gathered was analysed by using Computer Aided Qualitative Data Analysis Software (CAQDAS), ATLAS.ti. The findings will be discussed based on emerging themes.

Findings & Discussions

Elements of School Administrators' Leadership.

The emerging themes and elements of leadership found in this study are 'understanding', 'instructional management', 'sharing of responsibility', 'goal setting', 'teacher development', 'rabbani/religious influence', and 'networking'. Some of these themes are related to each other. These elements will be discussed in following table.

Table 1. Elements and Descriptions School Administrators' Leadership

Elements	Descriptions
Understanding	<ul style="list-style-type: none"> All school administrators are required to understand the concept introduced, the additional subjects that come along with the new curriculum and the new timetable needed in the implementation of TMUA.
Instructional management	Instructional and timetable adjustment <ul style="list-style-type: none"> Replanning the school timetable. The school experienced a total reshuffle in term of school schedule (from 6.30 am to 9.30 pm).
	Monitoring and supervision <ul style="list-style-type: none"> The principal stays in school compound and do the supervision for early morning session (beginning 6.30 am) and night classes (7.30 to 9.30 pm).
	Student's achievement <ul style="list-style-type: none"> Monitoring student's progress through formative and summative assessment.
	Student's Personality <ul style="list-style-type: none"> Plan, create and implement specific program to promotes good personality among student
Sharing of responsibility	<ul style="list-style-type: none"> Establishing the Ulul Albab Leadership Council and appointing a Coordinator to lead, coordinate and manage TMUA.
Goal setting	<ul style="list-style-type: none"> Creating goal and Expected Target Result (ETR) for the new curriculum.
Teacher development	<ul style="list-style-type: none"> Interim teachers for Ulul Albab program have no background in education and teaching area. The administrators provide in-house training and specific meeting for these teachers at least once a month.
Rabbani/religious influence	<ul style="list-style-type: none"> Promoting the awareness, sincerity, Islamic values and remembrance of God to the teachers in doing their job.
Networking	<ul style="list-style-type: none"> Administrators perform a very good connection with stakeholders such as parents and other parties including school alumni and other Ulul Albab's school.

Issues Faced by School Administrators in the Curriculum Implementation

Based on the findings of the study, issues and challenges in the implementation of the curriculum are categorized into several dimensions, namely 'system and technical issues', 'teachers' disciplinary problems', and 'student performance issues'.. These issues will be described and the administrators' approach and strategy in addressing them will also be discussed.

Table 2. Issues and School Administrators' Strategy in Curriculum Implementation

Issues	Description	Strategy & Solution
System and Technical	<ul style="list-style-type: none"> This curriculum has been planned to be implemented on 2015. However, confusion and technical problems have led to this curriculum being announced its implementation in 2014. At that time, the school has already selected their new Form 1 students for the school year of 2014. The announcement of the early implementation was informed later. 	<ul style="list-style-type: none"> Giving two weeks of trial period for students and parents to try the new curriculum. Allowing parents and student to transfer to other school for students that unable to proceed and adapt with new curriculum especially the Al-Quran memorization.
	<ul style="list-style-type: none"> Textbooks and modules for related subjects are still not ready to be provided during the first year of the implementation. The guides for the implementation of the TMUA module are more focused on Quranic aspects and no specific scope given 	<ul style="list-style-type: none"> Continue the implementation based on administrators' and teachers' understanding and interpretation. Giving appropriate suggestion to policy maker.

	for other two aspects – Encyclopaedic and Ijtihadik.	
Teachers Disciplinary Problem	<ul style="list-style-type: none"> Administrators were having difficulties with teachers' compliance towards the instructional time especially during early morning and night session. 	<ul style="list-style-type: none"> Being firm and non-tolerant for teachers' disciplinary problem and instructional-time related issues. Conducting religious program to create awareness among teachers.
Students Performance	<ul style="list-style-type: none"> The first cohort did not undergo any specific test or screening to check their capability in Al-Quran memorization as well as in academic and Islamic study altogether. More than 30% of students fail to achieve academic target and learning outcome. 	<ul style="list-style-type: none"> Organize a variety of special programs to improve students' achievement. Student intake for the next cohort has been screened, interviewed and tested.

Conclusion

The findings of this study are able to present the dimensions and aspects of educational leadership in the context of curriculum implementation. There are some new emerging aspects of leadership that should be highlighted such as 'networking' and 'rabbani/religious influence'. These elements were not much discussed in previous leadership studies. This study offers new perspective on leadership related to curriculum implementation. Implementation of education transformation, changes and new curriculum requires time to be understood by administrators as well as school members. Hence, it should not be taken lightly especially by the policy maker and school administrators. The explanation and understanding on an educational change should be delivered to all involving stakeholder to establish a great insight among everyone involved. Thus, an effective implementation could be execute in realizing the transformation that were wished for.

References

- Ahmad Tafsir. (1992). *Ilmu Pendidikan dalam Perspektif Islam*. Bandung: Penerbit Remaja Rosdakarya.
- Jemaah Nazir dan Jaminan Kualiti. (2010). *Standard Kualiti Pendidikan Malaysia 2010*. Putrajaya: Jemaah Nazir dan Jaminan Kualiti, Kementerian Pendidikan Malaysia.
- Middlewood, D., & Burton, N. (Eds.). (2001). *Managing the Curriculum*. London: SAGE Publications.
- Ministry of Education Malaysia. (2013). *Malaysia Education Blueprint 2013-2025 (Preschool to Post-Secondary Education)*.
- Mohammad Abdillah Samsuiman, Miss Asma Benjaman, & Zamri Arifin. (2014). Hubungan Antara Kualiti Guru Bahasa Arab Dan Kecenderungan Minat Pelajar Dalam Bahasa Arab. *Jurnal Kemanusiaan*, 22, 1–8.
- Noor Hisham Md Naw. (2015). Kesenambungan dan Sinergisme Konsep Kesepaduan dan Islamisasi Ilmu. *E-Journal of Arabic Studies & Islamic Civilization*, 2, 60–68.
- Nor Azni Abdul Aziz, Foo Say Fooi, Soaib Asimiran, & Aminuddin Hassan. (2014). Kepimpinan Instruksional Pengetua dalam Pelaksanaan Pentaksiran Berasaskan Sekolah (PBS). In *Proceeding of the Global Summit on Education GSE* (Vol. 2014, pp. 516–525). Kuala Lumpur. Pusat Perkembangan Kurikulum.
- Pusat Perkembangan Kurikulum. (2001). *Kepimpinan dan Pengurusan Kurikulum di Sekolah. Kementerian Pendidikan Malaysia*. Kuala Lumpur: Pusat Perkembangan Kurikulum, Kementerian Pendidikan Malaysia.
- Umi Kalthom Abdul Manaf, Ady Hameme Nor Azman, Hafizah Fadzilah, & Nurul Fitriah Alias. (2014). *Laporan Penilaian Pelaksanaan Program Ulul Albab di MRSM Kota Putra*. Kuala Lumpur.
- Zaidatol Akmaliah Lope Pihie, & Amir Sadeghi. (2012). Leadership in Relation to School Productivity, Stress and School Culture. In Zaidatol Akmaliah Lope Pihie & Afsaneh Bagheri (Eds.), *Educational Leadership: Performance and Improvement* (pp. 1–29). Serdang: Penerbit Universiti Putra Malaysia.

Zetty Nurzuliana Rashed, & Ab Halim Tamuri. (2015). Kepentingan Integrasi Ilmu Naqli & Ilmu Aqli dalam Pengajaran Pendidikan Islam. *E-Jurnal Pendidikan*, 2, 1–30. Retrieved from <https://ejurnalfp.files.wordpress.com/2015/08/kepentingan-integrasi-ilmu-naqli-dan-ilmu-aqli-dalam-pengajaran-pendidikan-islam.pdf>

JOB SATISFACTION AND RETENSION FACTORS: STRIFE AND SURVIVAL OF CTE EDUCATORS

Muhd Khaizer Omar, Mary Jo Self & Ki Lynn Matlock Cole
Faculty of Educational Studies, Universiti Putra Malaysia
khaizer@upm.edu.my, maryjo.self@okstate.edu, ki.cole@okstate.edu

ABSTRACT

This study focused on factors that affect whether or not CTE Educators stay in the teaching profession by using an online survey application with both quantitative and qualitative questions in a single design. From a population of 2607 teachers with valid email addresses, the total number of completed surveys was 623 participants. A two-phase of multiple linear regression was done. Five factors were found to be significant with the teachers' retention plan: salary, administrative workloads, teachers' evaluation, and assessment, motivation, and job satisfaction. A chi-square test was also done and showed significant relationships between the teachers' age when entering the profession and their satisfaction with teaching. The findings contribute implications for educational stakeholders.

Keywords: Retention, Attrition, Teaching Job Satisfaction, Career and Technical Education (CTE)

Introduction

Teachers' job satisfaction and the issue of teacher retention has continued to be a central issue in schools nationwide. Some consider teaching to be second-class profession which can lead to depression and frustration on the part of teachers. This perception can result in teachers making the decision to leave the profession. The half million of teachers leaving the profession nationwide with only 16 percent of the teachers leaving due to retirement, (Boyd et. al., 2011), indicated the seriousness of the attrition problem in the United States. The reasons behind teachers deciding to leave the profession are many. Previous research has reported that school politics, time demands, low salaries, few benefits, little opportunity for advancement, excessive workloads, high-stakes testing, long working hours, disruptive student behavior, poor leadership and administration within schools, views of teaching as a temporary profession, and frustrations associated with motivating apathetic students were found to be the primary reasons (Billingsley, 2004; Boe, Cook, & Sunderland, 2008; Brill & McCartney, 2008; Gomba, 2015; Kearney; 2008; Perrachione, Rosser, & Petersen, 2008; Reynolds & Wang, 2005). Research specific to CTE teachers is often missing.

In CTE, relevance to the workplace is paramount which requires teachers who have recent work experience in their respective fields. Without this experience, students in their program will not have meaningful learning experiences and not be prepared adequately for successful employment. The loss is also compounded when one considers the bigger picture of the human capital development theory of a country. Noting the importance of CTE teacher retention, this research uncovered factors which affect CTE teachers' decisions to remain in teaching and factors which lead to job satisfaction.

Literature Review

Retention can be defined as "the continuation of a teacher in the career field in which they are licensed to teach" (Briggs, 2008, p.13). Retaining teachers in the educational system ensures the continuity of the school programs and mission. Factors toward retaining teachers are obvious and deductive in nature but yet at times conflicting. A study by Brill and McCartney (2008) reported the high attrition level was due to the geographical area of the school and high levels of minority students. Flores and Claeys (2011) found that the ethnicity background among teachers when different from those of their students caused attrition. They found that Hispanic teachers are more likely to leave the teaching profession compared to Caucasian teachers. Both findings indicated a problem with teachers struggling to be successful with students whose level of status and ethnicity differed from their own. With teachers' role as change agents in helping our society bridge cultural barriers, this is particularly problematic. In contrast, a study by Kearney (2008) indicated the factor of other teachers demographic (race) is not a mediating variable.

Salary, professional advancement opportunities, support, and recognition by administrators and safety of the school environment are factors that contributed towards teachers' job satisfaction in an urban public school. Reasons for dissatisfaction came from class size, society's esteem for teachers and student motivation to learn (Kearney, 2008). In addition to the factor of teacher job satisfaction; Dainty, Sanford, Su, and Belcher (2011) reported that educational preparation, teacher commitment, social integration, first-year teaching experience, skills and abilities, and institutional factors are also reasons for leaving. The findings are consistent with Boyd's study which suggested that lack of teaching experience which includes prior work experience is also significant.

Reynolds and Wang (2005) also found incentives and rewards to be significant in retaining teachers. In a population of professional development program graduates, over 70 percent of graduates who chose to continue as teachers reported that personal rewards, and enjoyment of working with students to influence their career decisions. Interestingly, a majority of the teachers (85 percent) perceived teaching as a valuable profession, indicating appreciation of their chosen profession. Effective teaching and learning are positive outcomes from high-quality education, and retention of teachers play a significant role in making a reality (Su, Dainty, Sandford, Townsend, & Belcher, 2011).

However, on the other side, teachers have cited challenges of new policies and regulations which limit their freedom and creativity in instruction (Giles & Hargreaves, 2006). Educational systems are based on examinations which focus on student performance and teachers struggle to maintain a high-quality educational experiences as well as recognizing other forms of students' success besides high stakes testing. Travers & Cooper, 1996, found this struggle can contribute to depression and anxiety of teachers and cause them to leave the profession.

Job satisfaction factors and retention rates are not only impacting traditional secondary school teachers, but also those who might not have chosen teaching as their first career such as teachers in the CTE system. These teachers first had a career in industry and now have come to teaching as a second career (Boyd et al., 2011). A CTE school employs different specializations of teachers who enter the teaching profession with various types of certification as former industry-based practitioners. They often lack knowledge of various pedagogical approaches. CTE teachers are valued due to their field experience and specialization on subject matter knowledge and knowledge of the workplace (D'Ascoli & Berger, 2012). The motivation toward the teaching profession often becomes a complicated decision for them about whether or not to stay in teaching as they often start teaching with little or no preparation pedagogically.

Theoretical Perspectives

For this study, the Motivation-Hygiene theory (Herzberg, 1966; Herzberg, Mausner, & Snyderman, 1959) served as the theoretical perspective. The theory examines the factors that measure employee job satisfaction based on outcomes of work completed such as personal growth, career advancement, responsibility, recognition and new positions. These outcomes serve as motivators to encourage teachers to stay in the teaching profession. Appreciation shown by the employer for these successful outcomes leads to the central idea of 'motivators' as defined by Herzberg (1966). Perceiving the completion of the successful job based on the employees' greatest effort produced motivation to continue working in the same environment and position. This setting is similar to the teachers' setting in which they feel satisfaction with their jobs, which in turn increases their desire and motivation to remain in teaching.

The motivators are defined as 'intrinsic' and include job satisfaction, belief in their self-efficacy and increased morale that encourages retention (Herzberg, Mausner, & Snyderman, 1959). In contrast, hygiene are extrinsic factors that lead to dissatisfaction. The hygiene factors include such things as new policies, supervision in a strict manner, insufficient benefits and salaries, poor working conditions and discipline issues with students. When the motivators perceived by the teachers are greater than the hygiene or extrinsic factors, the teachers decide to stay. If the opposite occurs, when the hygiene factors are higher than the motivators are, the teachers decide to leave.

Purpose and Research Questions

The purpose of this study is to uncover the factors that influence job satisfaction of teachers in a Midwestern state CareerTech educational system and to investigate the relationship between teachers' demographic characteristics and factors in retaining them in the teaching profession. The research questions that guided this study are as follows: What factors of job satisfaction influence teachers to remain in the teaching profession? What is the relationship between the teachers' demographic characteristics (gender, marital status, age, age when entering the profession, highest degree earned, ethnicity, and teaching position) and factors in retaining teachers in the teaching profession?

Research Hypothesis

H0 There is no difference between teachers' demographic characteristics (gender, marital status, age, age when entering the profession, highest degree earned, ethnicity, and teaching position) and their satisfaction with teaching as a profession

H0 There is no difference between teachers' demographic profile (gender, marital status, age, age when entering the profession, highest degree earned, ethnicity, and teaching position) and their decision whether to stay or leaving the teaching profession.

Methodology

A purposive sampling strategy was used to identify the participants of the study. The population of teachers was accessible from the online 2015 - 2016 Personnel Directory in the public domain and did not require specific permission from any group. The directory included the instructor name, specialization, phone number, and email address. There were 2,620 teachers from three types of school systems under the purview of this Midwestern state's CTE system. Technology center teachers numbered 1,303; teachers from comprehensive high schools were 1,280 and 37 teachers have incarcerated students in the skill centers. Thirteen were found to have invalid email addresses leaving 2,607 who could be contacted. Approval from the Institutional Review Board (IRB) was obtained upon the actual study conducted.

Two different instruments were used. Selected questions fitting the research's purpose were taken from the Perrachione, Rosser, and Petersen instrument (2008). The instrument from Johnsrud and Rosser (1999) assessed the relationship between job satisfaction factors and teachers' retention plan using quantitative analysis. A request to use the instrument was granted by the developers via email conversation. This research study was administered online using Qualtrics. The teachers were asked to provide their answers via Qualtrics software within a month, and three reminder e-mails were sent during the duration of the open survey.

Five sections divided the survey. The first section (Section A) was the job satisfaction, which consisted of 25 questions, the answers to which could be marked on the 7-point Likert type scale: strongly disagree, disagree, somewhat disagree, neither disagree nor agree, somewhat agree, agree, and strongly agree. Section B was comprised of three questions indicating intentions to remain in teaching, using the same rating scale. Section C contained questions about job satisfaction and allowed more detail to be given in open-ended questions. Section D had three questions regarding decisions about leaving the teaching profession to move to another career and what contributed to their answer. Section E consisted of 11 demographic questions including gender, marital status, age, ethnicity, age when entering the profession, highest degree earned, ethnicity, teaching position, content area, teaching experience, and teachers certification program. The participant could skip any questions that they did not wish to answer. They were expected to complete the questionnaire once, taking about 30 minutes to complete. The participant could only answer the survey once. The researcher had set the instrument that the IP address of the participant would have only one chance to respond to the survey. All of the possible 2,620 teachers received the request to participate. Of that number, 581 individuals responded.

Research Finding

The mail addresses were sorted automatically by Qualtrics. The speed at which the survey was completed was interesting to the research. Within the first four hours of the survey being sent, 164 participants had responded. The cooperation and interest given by teachers was impressive. The total number of completed surveys was 581 after three e-mail reminders were sent. This is a 22.29% response rate, which is sufficient given the guidelines provided by Nulty (2008).

Demographic Profile

Demographic backgrounds were derived from the descriptive analysis. The frequency of each demographic represents the number of participant who responded to the survey. The missing row indicates the number of participant who did not answer the survey question. The details on teachers' demographic backgrounds are stated as follows:

Table 1. Demographic Profile for Descriptive Analysis Accumulates the Sample of the Study

	Variables	Frequency	Percentage
Gender	Male	220	37.87
	Female	342	58.86
	*Missing	19	3.27
Marital Status	Single, never married	34	5.86
	Married	457	78.65
	Widowed/divorced/	68	11.70
	Separated		
	*Missing	22	3.79
Ethnic Background	American	66	11.36
	Indian/Alaska	2	0.34
	Asian/Pacific Islander	17	2.92
	African America/Black	5	0.86
	Hispanic	457	78.66
	Caucasian/white	12	2.07
	Other	22	3.79
	*Missing		
Age		96	16.52

	35 or under	131	22.55
	36-45	202	34.77
	46-55	122	21.00
	56-65	10	1.72
	66 or older	20	3.44
	*Missing		
Age when entering the profession		175	30.12
	25 or under	192	33.05
	26-35	144	24.78
	36-45	52	8.95
	46 or older	18	3.10
	*Missing		
Highest Degree		295	50.77
	Bachelor's Degree	223	38.38
	Master's Degree	37	6.37
	Education Specialist	8	1.38
	Doctorate Degree	18	3.10
	*Missing		
Teacher's Profile		305	52.50
	Fit a definition of teacher	256	44.06
	Did not fit a definition of teacher	20	3.44
	*Missing		
Career Choice		212	36.49
	Choose teaching as their first career	349	60.07
	Did not choose teaching as their first career choice		

*Missing		
Teaching Position	20	3.44
Full-time teacher		
Full-time teacher with a side-business	449	77.28
Part-time teacher with a side-business	107	18.42
Part-time teacher	3	0.52
*Missing		
	2	0.34
	20	3.44

Note. Demographic Background for Teachers.

* Missing indicates non-responsive participants

Teachers' Job Satisfaction

Teachers were asked how satisfied they are with teaching as a profession, how satisfied they are with teaching job this current school year, and whether or not will they leave the teaching profession for another occupation using a 5-point Likert-type scale. The details on the findings are described in table 2:

Table 2. Teachers Teaching Job Satisfaction

Question	Level of Agreement	Frequency	Percentage	\bar{X}	<i>SD</i>
How satisfied are you with teaching as profession?	5= Very satisfied	223	38.4	4.01	1.08
	4= Somewhat satisfied	221	38.0		
	3= Neutral	41	7.10		
	2= Somewhat dissatisfied	66	11.4		
	1= Very dissatisfied	15	2.6		
	*Missing	15			
How satisfied do	5= Very satisfied	209	36.0	3.97	1.06

you feel with your job this current school year	4= Somewhat satisfied	220	37.9		
	3= Neutral	61	10.5		
	2= Somewhat dissatisfied	63	10.8		
	1= Very dissatisfied	13	2.2		
	*Missing	15			
If the opportunity arose, would you leave the teaching profession for another occupation?	5= Certainly would	58	10.0	2.85	1.12
	4= Probably would	91	15.7		
	3= Chances about even	176	30.3		
	2= Probably would not	188	32.4		
	1= Certainly would not	52	9.0		
	*Missing	16			

Note. *Missing indicates non-responsive participants

Teachers' Retention Plan

Teachers' retention plan questions were asked in this section. The teachers were asked their level of agreement on the three questions: (1) I plan to remain in this position, (2) I plan to remain in this school, and (3) I plan to remain in this profession. The 7-point Likert-type scale was used to indicate their retention plan. The result from descriptive analysis is as stated in table 3:

Table 3. Teachers Retention Plan

No.	Retention Plan	N	\bar{X}	<i>SD</i>
1.	I plan to remain in this position	579	5.83	1.48
2.	I plan to remain in this school	579	5.87	1.46
3.	I plan to remain in this profession	579	5.89	1.47
	Overall		5.86	

Note. *Mean value for the total sample of 579. Two participants did not respond to this question.

Research Question 1: What factors influence teachers to remain in the teaching profession?

A multiple linear regression analysis was conducted to evaluate how closely job satisfaction factors predict teachers' retention plans. The predictors were the 25 job satisfaction factors, while the criterion variable was the overall teachers' retention plan from the calculated mean. The dependent variable was the average of responses to "I plan to remain in this position," "I plan to remain in this school," and "I plan to remain in this profession" (see table 3). Out of 25 factors, there are five factors were found significant in the regression analysis: (1) I am satisfied with my teaching salary, (2) Routine duties and paperwork interfere with my teaching, (3) I am evaluated fairly in this school, (4) I sometimes feel it is a waste of time to try to do my best as a teacher, and (5) I am generally satisfied with being a teacher at this school. These five factors were used to run the second phase of the regression analysis.

A second-phase of multiple linear regression analysis was conducted to evaluate job satisfaction factors predict teachers' retention plans using only the five predictors based on the significant coefficient. The predictors were the five job satisfaction factors, which were found significant in the first regression analysis. The criterion variable was the overall teachers' retention plan from the calculated mean of retention plan items (see table 3). The linear combination of job satisfaction factors was significantly related to the teacher retention plan, $F(5,572) = 51.351, p < .01$. The sample multiple correlation coefficient was .56, indicating that approximately 31% of the variance of the teacher retention plan in the sample can be accounted for by the linear combination of job satisfaction factors. The equation for the current coefficient analysis is:

$$Y = .066(B1) - .066(B2) + .093(B3) - .063(B4) + .449(B5) + 2.897$$

Table 4 presents indices of the relationship between each job satisfaction predictor with the dependent variable, average retention plan. Two out of five bivariate correlations between the job satisfaction factors and the retention plan were negative, and the five indices were statistically significant at $p < .05$. Though each variable was statistically significant, judgments about the relative importance of four of the five of the predictors are difficult due to the small regression coefficient and small correlation with the dependent variable. Only one predictor is meaningful in the influence: "I am generally satisfied with being a teacher at this school."

Table 4. The Coefficients, Bivariate, and Partial Correlations of the Six Job Satisfaction Predictors with Retention Plan

No.	Predictors	Standardized Regression Coefficient (β)	p value	Correlation between each predictor and the retention plan	Correlation between each predictor and the retention plan controlling for all other predictors
B1	I am satisfied with my teaching salary.	.10	.01	.28**	.11**
B2	Routine duties and paperwork interfere with my teaching	-.08	.03	-.20*	-.10*

B3	I am evaluated fairly in this school	.09	.02	.30*	.10P*
B4	I sometimes feel it is a waste of time to try to do my best as a teacher	-.08	.03	-.29*	-.09*
B5	I am generally satisfied with being a teacher at this school.	-.41	.00	.52**	.38**

Note. * $p \leq .05$, ** $p \leq .01$

Research question 2: What is the relationship between the teachers' demographic characteristics (gender, marital status, age, age when entering the profession, highest degree earned, ethnicity, and teaching position) and factors in teachers' satisfaction and retaining teachers in the teaching profession?

A Chi-square test of independence was conducted to assess whether teachers' demographic characteristics (gender, marital status, current age, age when entering the profession, highest degree earned, ethnicity, and teaching position) influence teachers job satisfaction with teaching as profession. The results of the test showed only one variable namely age when entering teaching profession was significant ($\chi^2(12, N = 571) = 26.20, p < .01$). This indicated that age when entering teaching profession more likely influence teachers' job satisfaction with teaching as a profession. However, the number of teachers among the category of age is not much different between 'somewhat satisfied and very satisfied.' Teachers at an earlier age and at the later age are more likely to be satisfied with teaching as their chosen profession.

Table 5. Contingency Table of Age When Entering the Profession and Teachers Satisfaction with Teaching as Profession

How satisfied are you with teaching as profession?	<u>Teachers age when entering the profession</u>				Total
	25 or under	26-35	36-45	46 or older	
1. Very dissatisfied	7	4	5	0	16
2. Somewhat dissatisfied	35	17	12	4	68
3. Neutral	11	12	10	8	41
4. Somewhat satisfied	64	81	60	16	221
5. Very satisfied	60	79	59	27	225
Total	177	193	146	55	571

A Chi square test of independence indicated that three variables were found to be significantly related to whether or not the teachers would leave the teaching profession for another occupation. The results of the test showed three variables significantly contributed to whether or not the teachers would leave the teaching profession for another occupation, teachers' age, $\chi^2(16, N = 569) = 59.75, p = .00$, age when entering teaching profession, $\chi^2(12, N = 571) = 34.51 p = .00$, and teachers' current position, $\chi^2(12, N = 561) = 28.70, p = .00$. There is a difference between the teachers' age, age when entering profession, and the teacher's current position with their decision of whether or not to leave the profession for another occupation.

Table 6 describes the relationship between the teachers' current age and their decision whether or not to leave the profession. Teachers in the group of 46-55 are the majority who have decided not to leave the profession followed closely by those who are undecided. It is interesting to note that, within the same group of teachers between 46-55 were high numbers who would probably leave the profession indicating a fluctuation in their decision making.

Table 6. Contingency Table of Teachers Current Age and Teachers' Decision of Whether or Not Will Leave the Teaching Profession for another Occupation

If the opportunity arose, would you leave the teaching profession for another occupation?	<u>Teachers Current Age</u>					Total
	35 or under	36-45	46-55	56-65	66 or older	
1. Certainly would not	6	10	10	19	7	52
2. Probably would not	28	45	74	41	2	190
3. Chances about even	28	47	72	29	1	177
4. Probably would	21	18	30	22	1	92
5. Certainly would	13	13	19	13	0	58
Total	96	133	205	125	11	569

Table 7 indicates the relationship between teachers age when entering the profession and whether or not they will leave the teaching profession for another occupation. The result from the one-sample chi-square test shows that a majority of the teachers probably would not leave the profession followed by teachers who are undecided about staying or leaving the profession.

Table 7. Contingency Table of Teachers Age When Entering the Profession and Teachers' Decision of Whether or Not Will Leave the Teaching Profession for another Occupation

If the opportunity arose, would you leave the teaching profession for another occupation?	<u>Teachers Age When Entering Teaching Profession</u>				Total
	25 or under	26-35	36-45	46 or older	
1. Certainly would not	22	11	13	7	53
2. Probably would not	39	74	53	24	190
3. Chances about even	52	62	46	18	178
4. Probably would	33	33	23	3	92
5. Certainly would	31	13	11	3	58
Total	177	193	146	55	571

Table 8 describes the relationship between teachers' current position and their decision whether or not to leave the teaching profession for another occupation. Full time teachers contribute to the majority of the sample. Most full time teachers probably would not leave the profession however; many teachers are uncertain whether or not they will leave.

Table 8. Contingency Table of Teachers Position and Teachers' Decision of Whether or Not Will Leave the Teaching Profession for another Occupation

If the opportunity arose, would you leave the teaching profession for another occupation?	<u>Teachers Position</u>				Total
	Full-time teacher	Full-time teacher with a side-business	Part-time teacher	Part-time teacher with a side-business	
1. Certainly would not	44	6	1	0	51
2. Probably would not	157	30	0	0	187
3. Chances about even	140	35	1	0	176
4. Probably would	75	14	1	1	91
5. Certainly would	33	22	0	1	56
Total	449	107	3	2	561

Conclusion and Discussion

Teachers in the CTE school system indicated the importance of extrinsic factors towards their decision in remaining in the teaching profession. These extrinsic factors included salary and administrative workloads, and teachers' evaluation and assessment. These factors are congruent with teachers' intrinsic factors such as teachers' job satisfaction and motivation. Findings by Muller, Gorrow, and Fiala (2011) also found similar factors such as low pay, student discipline, lack of administrative support, and burnout as the reasons they left teaching. The findings correlated with Kearney (2008) study that indicated salary was the major influence towards teachers' retention. The combination of both intrinsic and extrinsic factors are major influences in teachers' decisions. Teachers have been burdened with administrative workload and unnecessary jobs that are not related with their teaching jobs, including responsibilities as student body advisors, club advisers and community board members. Understandably, teachers are struggling with students' performance and grading systems that demand teachers' time and commitment leading to excessive workload, which extends beyond capabilities and capacities of the teachers to fulfill such jobs (Sass, Claeys, & Perez, 2012). Having time to prepare teaching materials and CTE curriculum, collaborating with local industries and keeping current with technology adds to the workload. The teachers simply become overwhelmed and frustrated to the point of exhaustion and leave.

This study found that the participants perceived themselves to be fairly evaluated and assessed in their teaching practice. This fair treatment contributed to satisfaction in their chosen careers and their decision to remain in teaching. These teachers are unique in their rich industry experience despite limited pedagogical preparation.

Teachers struggle to overcome classroom problems that involve student discipline and lack of motivation. With limited preparation as a CTE teacher, this can lead to leaving the profession (D'Ascoli & Berger, 2012). School administrators can do much to mitigate these concerns by providing support in both contexts: mental and physical. The mentoring and induction project is one of the best solutions in giving ongoing support to the teachers, not only striving but also thrive in the teaching profession (Ingersoll & Strong, 2011). Retaining CTE teachers in the school system is important to ensure the continuity of educating the future workforce.

References

- Billingsley, B. S. (2004). Special education teacher retention and attrition: A critical analysis of the research literature. *The Journal of Special Education*, 38(1), 39-55. doi:10.1177/00224669040380010401
- Boe, E. E., Cook, H. L., & Sunderland, J. R. (2008). Teacher turnover: Examining exit attrition, teaching area transfer, and school migration. *Exceptional Children*, 75(1), 7- 31.
- Boyd, D., Grossman, P., Ing, M., Lankford, H., Loeb, S., & Wyckoff, J. (2011). The influence of school administrators on teacher retention decisions. *American Educational Research Journal*, 48(2), 303-333. doi:10.3102/0002831210380788
- Boyd, D., Grossman, P., Ing, M., Lankford, H., Loeb, S., O'Brien, R., & Wyckoff, J. (2011). The effectiveness and retention of teachers with prior career experience. *Economics of Education Review*, 30(6), 1229-1241. doi:10.1016/j.econedurev.2011.08.004
- Briggs, J. E. (2008). *Perceptions of CTE teachers about teacher mentoring and teacher retention* (Order No. AAI3325824). Available from PsycINFO. (622049192; 2009-99031-361). Retrieved from <http://search.proquest.com/docview/622049192?accountid=4117>
- Brill, S., & McCartney, A. (2008). Stopping the revolving door: Increasing teacher retention. *Politics & Policy*, 36(5), 750-774. doi:10.1111/j.1747-1346.2008.00133.x
- Dainty, Julie D., Sandford, Brian A., Su, Sho-Hsien, & Belcher, Gregory G. (2011). Factors influencing the retention of secondary family and consumer sciences teachers. *Journal of Career and Technical Education*, 26(2), 42-56.

- D'Ascoli, Y., & Berger, J. (2012). Becoming a VET teacher as a second career: Investigating the determinants of career choice and their relation to perceptions about prior occupation. *Asia-Pacific Journal of Teacher Education*, 40(3), 317-341. doi:10.1080/1359866X.2012.700046
- Flores, B. B., & Claeys, L. (2011). Academy for teacher excellence: Maximizing synergy among partners for promoting college access for Latino teacher candidates. *The Urban Review*, 43(3), 321-338. doi:10.1007/s11256-010-0153-y
- Gallant, A., & Riley, P. (2014). Early career teacher attrition: New thoughts on an intractable problem. *Teacher Development*, 18(4), 562-580. doi:10.1080/13664530.2014.945129
- Giles, C., & Hargreaves, A. (2006). The sustainability of innovative schools as learning organizations and professional learning communities during standardized reform. *Educational Administration Quarterly*, 42(1), 124-156.
- Gomba, C. (2015). Why do they stay: Factors influencing teacher retention in rural Zimbabwe? *International Journal of Instruction*, 8(2), 55-68.
- Herzberg, F. (1966). *Work and the nature of man: Frederick Herzberg*. New York: T.Y. Crowell.
- Herzberg, F., Mausner, B., & Synderman, B. B. (1959). *The motivation to work*. New York: Wiley.
- Ingersoll, R. M., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(2), 201-233. doi:10.3102/0034654311403323
- Johnsrud, L. K., & Rosser, V. J. (1999). College and university midlevel administrators: Explaining and improving their morale. *Review of Higher Education*, 22(2), 121-41.
- Karge, B. D., & McCabe, M. (2014). Quality alternative certification programs in special education ensure high retention. *Journal of the National Association for Alternative Certification*, 9(2), 24.
- Kearney, J. E. (2008). Factors affecting satisfaction and retention of African American and European American teachers in an urban school district: Implications for building and maintaining teachers employed in school districts across the nation. *Education and Urban Society*, 40(5), 613-627. doi:10.1177/0013124508316047
- Mac Iver, M. A., & Vaughn, E. S., III. (2007). "But how long will they stay?" Alternative certification and new teacher retention in an urban district. *ERS Spectrum*, 25(2), 33.
- Nulty, D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301-314.
- Perrachione, B. A., Rosser, V. J., & Petersen, G. J. (2008). Why do they stay? Elementary teachers' perceptions of job satisfaction and retention. *The Professional Educator*, 32(2), 1.
- Reynolds, A., & Wang, L. (2005). Teacher retention: What role does professional development school preparation play? *The New Educator*, 1(3), 205. doi:10.1080/15476880590966312
- Sass, D. A., Flores, B. B., Claeys, L., & Pérez, B. (2012). Identifying personal and contextual factors that contribute to attrition rates for Texas public school teachers. *Education Policy Analysis Archives*, 20(15), 15. doi:10.14507/epaa.v20n15.2012
- Su, S., Dainty, J. D., Sandford, B. A., Townsend, D., & Belcher, G. G. (2011). A descriptive study of the retention of secondary trade and industrial teachers in Kansas. *CTE Research*, 36(3), 187-205. doi:10.5328/cter36.3.187
- Travers, C. J., & Cooper, C. L. (1996). *Teachers under pressure: Stress in the teaching profession*. New York: Routledge.

RELATIONSHIP BETWEEN LOGICAL REASONING AND ACADEMIC ACHIVEMENT AMONG SECONDRY SCHOOL STUDENTS

Aminuddin Hassan, Nor Aniza Ahmad & Nur Fadzlillah Amira Mohd Noor
Faculty of Educational Studies, Universiti Putra Malaysia
aminuddin@upm.edu.my, nor_aniza@upm.edu.my, nurfadzlillah@gmail.com

ABSTRACT

Learning in Malaysian context emphasizes the acquisition of scientific skill, thinking skills and the inculcation of scientific attitudes and noble values. Besides that the acquisition of scientific and technological knowledge and its application to the natural phenomena and students experience in daily life are also equally emphasized. The purpose of this study was to gauge the acquisition of logical reasoning abilities which is including conservational reasoning, proportional reasoning, controlling variables, combinatorial reasoning, probabilistic reasoning and correlational reasoning among Form 4 students in their academic achievement. This study was also aimed to ascertain if there is any significant difference in student's acquisition of logical reasoning abilities based on student's gender and academic achievement. This was a non-experimental quantitative research and sample survey method was used to collect data. In this study, samples were selected by using a cluster random sampling technique. Independent sample t-test and one-way ANOVA were used to test the stated null hypothesis at a predetermined significance level, $\alpha = .05$. Research findings shows that the rural secondary school student's acquisition of logical reasoning abilities was low. The average item mean for all the subscales, except conservational reasoning, were lower than the overall average item mean. This research also revealed that up to 96 per cent of the respondents were categorized at the concrete operational stage meanwhile only 4 per cent were categorized at the transitional stage. This study also found that there is no significance difference in the mean of logical reasoning abilities, except conservational reasoning based on student's gender, but there is significance differences based on student's academic achievement for the secondary school students were found. These research findings revealed some meaningful implications to those who are involved directly or indirectly in the development.

Keywords: Logical reasoning, Academic achivement, Secondary School Students

Background of the Study

The developments of thinking abilities have been discussed in the in educational view around the world. According to Cohen (1980), stated that the higher the ability of a person to think in an abstract way, the higher the ability of the person will function effectively in the society. Hence, the improvement of formal reasoning and thinking abilities among students is one of the aims in education at all level of schooling. Cognitive Development Theory, a well-known proposed by Jean Piaget has conceptualised four different stages in the cognitive development of a person in example sensorimotor (0-2 years), preoperational (2-7 years), concrete operational (7-11 years) meanwhile for formal operational (11-16 years). The main difference among these stages of cognitive development is the way the students thinking.

Formal operational stage of children thinking is they can think logically about abstract propositions and test hypothesis systematically. At the same time they will become concerned with the hypothetical, the future and ideological problems. According to Linn (1982), have identified five different modes of formal operational reasoning which is proportional reasoning, controlling variables, probabilistic reasoning, correlation reasoning and combinatorial reasoning which are determinants of students success in their academic.

The Study

Problem Statement

The fundamental function of the schooling system in United States of America was outlined by Educational Policies Commission in 1961. The Commission stressed the importance of logical reasoning abilities in education as stipulated by the following statement:

“The purpose which runs through and strengthens all other educational purposes the common thread of educational is the development of the ability to think.”

(Renner & Philips, 1980; page 193)

According to Renner and Philips (1980), they believed that students should be given the opportunities to develop their thinking abilities as a base for the intellectual development. Meanwhile according to Lawson (1985) stressed out that schooling system is not meant for teaching of fact and concepts which are specific to a particular knowledge domain but more importantly to assist students in their thinking skills.

The main issue of the current students is that they are lack of soft skills which are personal attributes, interpersonal skills, problem solving and decision making skill to be more competitive (Shakir, 2009). In addition, logics play a bug inquire as it ads the students in developing critical thinking and problem-solving skills which are part of the soft skills (Ministry of Higher Education, 2006).

Based on the Cognitive Development Theory proposed by Jean Piaget, upper secondary school students (Age of 16 years) are the formal operational stage which they can think logically about abstract propositions and test hypothesis systematically. At the same time, they are also concerned with the hypothetical, the future and also ideologically problems. According to Wilson and Wilson (1984), formal operational reasoning is determinants of student’s success in science and mathematics advanced courses at the secondary level (Wilson & Wilson, 1984). In addition, previous researchers Shemesh (1990) have found that there is a significance difference in logical reasoning abilities between male and female students. Male students performed better in Piagetian formal reasoning task compare to the female students result.

On the other hand, not many documented researches have been conducted to instrument rural student’s logical reasoning abilities. Hence, the aim of this study is to gauge the logical reasoning abilities which is including conservational reasoning, proportional reasoning, controlling variables, combinatorial reasoning, probabilistic reasoning and last but not least correlational reasoning. This study also focused on to identify if there is any significant difference in rural students logical reasoning abilities based on the students gender and also including their academic achievement in secondary level.

Research Objectives

The objectives of this study are:

1. To identify the logical reasoning abilities among secondary school students in Malaysia.
2. To identify the significant difference in rural student’s logical reasoning abilities based on their gender and academic achievement at secondary level.

Research Hypothesis

This research was guided by the following hypothesis:

Ho₁ : The is no significant difference in the mean of logical reasoning abilities based on students gender.

Ho₂ : The is no significant difference in the mean of logical reasoning abilities based on students academic achievement in secondary school level.

Methodology

Research Design

This research was conducted by non-experimental quantitative research and sample survey method to collect the data. The samples were selected by using a two-stage cluster random sampling technique. To analysis the data which is including independent sample t-test and one way Analysis of Variance were used to test the stated null hypothesis.

Context of the Study

This study was conducted among form 4 students in Johor which is 500 students were asked to answer the surveys. The distribution of schools and Form 4 classes according to ten districts in Johor, Malaysia. However only six out of ten districts allowed the researcher to conducted the survey. The distributions of the school involved were shown in Table 1 below:

Table 1. Distribution of Schools and Number of Students According to Six District in Johor, Malaysia that Involved in the Survey.

District	No. of Schools	No. of Students
Batu Pahat	2	90
Kulai	4	133
Mersing	1	30
Muar	1	40
Pasir Gudang	3	127
Segamat	2	80
Total	13	500

Population, Samples and Sampling Techniques

The populations of this study were Form 4 students from 13 secondary school in Johor state who registered under Malaysian Education Ministry. Population size is approximately 55,365 students and the sample sizes involved in this study are 500 students for over Johor. The average age of the population is 16 years old. Sample size in this study was determined based on the formula suggested by Krejcie and Morgan (1970) and power analysis by Miles & Shevlin (2001). Krejcie and Morgan suggested that for a population between 50,000 students, a minimum sample size are 381 is acceptable. However, the researcher took 500 students in this study. Thus, the sample size of this study is adequate compared to Krejcie and Morgan's recommendation.

To be specific, the cluster random sampling was used to identify schools and form 4 classes to be involved in this study. At the stage one; systematic sampling was used to identify thirteen schools from six districts in the Johor state. Once the schools have been chosen, simple random sampling method was used to select two form 4 classes from each school by using the random number table. All the students in the chosen classes were automatically taken as the samples in this study. The combination of sampling techniques is to ensure the representativeness of the samples that been used in this study.

Research Instruments

Group Assessment of Logical Thinking (GALT) is a paper-and-pencil test which consists of 21 items to measure students logical reasoning abilities. The distribution of items according to six different modes of logical reasoning abilities as shown in Table 2.

The instruments used in this study have been modified and translated in Malay version from the originals instruments which is Group Assessment of Logical Thinking (GALT) by Roadrangka, Yeany & Padilla (1983) and Test of Logical Thinking (TOLT) by Tobin and Capie (1981). These instruments were developed to measure students modes of Piagetian cognitive reasoning abilities which is conservational reasoning, proportional reasoning, controlling variables, probabilistic reasoning, correlational reasoning and combinatorial reasoning.

Table 2. Distribution of items According to Six Different Modes of Logical Reasoning

Subscales	Item	No. of Items
Conservational Reasoning	1,2,4	3
Proportional Reasoning	7	1
Controlling Variable	5,8	2
Probabilistic Reasoning	6	1
Correlational Reasoning	3	1
Combinatorial Reasoning	9,10	2
Total		10

Double multiple choice responses formats for alternatives and justifications of answer were used in this instrument. Students were posed with a problem and asked to choose the best answer which is multiple choice answer available from 2 to 5 possible answers available for each stated problem. Then, students were asked to choose the best justification for the chosen answer from a list of 2 to 5 possible justification. On the other hand, pictorial presentations were used to enhance better understanding of the item (Roadranga. *et. al*, 1983).

Validity and Reliability of the Instrument

The researcher has examined all the items in the original GALT and TOLT instrument and found that most of the items were suitable to be used in Malaysian context. Effort has been done to ensure the content and face validity of the modified and translated version of the instrument. In this matter, the items were translated into Malay language so that the respondents can understand all the items and choose their best answer. The Cronbach's alpha reliability coefficient of the instrument was .49 which is considered moderate for use in this study.

Data Collection Procedures

Before administering the instrument, formal permission from the Education Ministry of Malaysia, Johor State Education Department, District Education Department and the principals of the schools involved was sought and obtained. The instrument of this study was then administered by the researcher. Students that involved in this study were gathered in the school hall and the instruments were administered to the students concurrently. The students were briefed about the instruments and the way to answer the questions. The students were given ample time which is approximately 2 hours to answered all the questions.

Data Analysis Procedures

Descriptive analysis statistic were used to gauge logical reasoning abilities among Form 4 students in Johor which include measures of central tendency that is mean and mean in percentage and measures of variability which is range, standard deviation and also standard deviation in percentage. Students answer on the instrument were checked and scored by researcher to ensure consistency in marking. There were two answers for the first items in the instrument. One point will be given for both correct answers. If only one part of the answer is correct, zero point will be given. The last three items in the instruments were prepared to gauge student's combinatorial reasoning ability. One point will only be given if all the correct combination of answer is listed in the space provided. Likewise, zero point will be given if only part of the answer is correct. Possible minimum score for this instrument is zero whereas the maximum score can reach 21 points.

Lawson (1995) stated that, students performance in GALT instrument can be used to categorized students into empirical-inductive thinking pattern which is score between 0 to 15, or hypothetical-deductive thinking pattern for who score between 16 to 21. On the other hand, students can also be categorised into three levels of cognitive development which is for concrete operational for whom score between 0 to 8, transitional operation for the score between 9 to 15 and formal operational stage for score between 16 to 21.

After the assumptions of using parametric tests were met, univariate analysis such as independent sample t-test and one-way ANOVA were used to test the stated null hypothesis at a specified significance level, $\alpha = .05$.

Independent Sample t-test

Independent sample t-test was used to determine if there is any significant difference in the mean of logical reasoning abilities based on student's gender. Independent sample t-test was used to compare the overall mean of logical reasoning abilities as well as the mean of each subscale of logical reasoning abilities such as conservational reasoning, correlational reasoning and combinatorial reasoning.

One-way Analysis of Variance

One-way ANOVA was used to ascertain if there is any significant difference in the mean of logical reasoning abilities based on student's academic achievement at secondary school level. One-way ANOVA were used to compare the overall mean of logical reasoning abilities.

Research Findings and Discussion

Logical Reasoning Abilities among Form 4 Students

Table 3 shows the overall mean and standard deviation of logical reasoning abilities among Form 4 students in Johor, Malaysia.

Table 3. Mean and Standard Deviation of Logical Reasoning Abilities (N = 500)

Subscales	No. of Item	<i>M</i>	<i>SD</i>	<i>M%</i>	<i>SD%</i>	<i>Range</i>
Conservational reasoning	4	1.394	1.084	34.608	27.100	0 – 4
Combinatorial reasoning	3	.436	.619	14.147	20.640	0 – 3
Controlling variable	3	.372	.582	12.263	19.403	0 – 3
Correlational reasoning	3	.320	.582	10.990	19.383	0 – 3
Proportional reasoning	5	.510	.749	10.310	14.972	0 – 4
Probabilistic reasoning	3	.174	.463	5.467	15.417	0 – 3
Overall	21	3.206	2.158	15.197	10.274	0 – 12

Descriptive statistics in Table 3 showed that the overall mean of logical reasoning abilities among Form 4 students in Johor is 3.206 ($M\% = 15.197$) with a standard deviation of 2.158 ($SD\% = 12.274$). The mean and standard deviation (in percentage) according to different modes of logical reasoning abilities in descending order are; conservational reasoning ($M\% = 34.608$, $SD\% = 27.100$), combinatorial reasoning ($M\% = 14.147$, $SD\% = 20.640$), controlling variables ($M\% = 12.263$, $SD\% = 19.403$), correlational reasoning ($M\% = 10.990$, $SD\% = 19.383$), proportional reasoning ($M\% = 10.310$, $SD\% = 14.972$) and probabilistic reasoning ($M\% = 5.467$, $SD\% = 15.417$).

These research findings revealed that logical reasoning abilities among Form 4 students in Johor were low with the mean score which is in percentage in the range of 5.6% to 34.6%. Mean scores in percentage for all subscales except conservational reasoning were less than the overall mean logical reasoning abilities. Further analysis, based on Lawson's categories of cognitive development, found that 98% of the respondents are categorised at the concrete operational stage whereas only 2% are categorised at the transitional operational stage. According to Lawson (1995), students can be categorised into three level of cognitive development which is concrete operational, transitional operational and formal operational based on their performance in GALT instrument.

In table 3 shown above, mean score in percentage according to different modes of logical reasoning in descending order are conservational reasoning, combinatorial reasoning, controlling variable, correlational reasoning, proportional reasoning and probabilistic reasoning. This finding was supported by a model of hierarchical relationship between Piagetian modes of cognitive reasoning and

integrated science process skills as proposed by Yaap (1985) and Roadrangkea *et al.* (1896). In the proposed model mentioned above, probabilistic reasoning is situated at a higher hierarchy as compared to proportional reasoning, controlling variables, combinatorial reasoning and conservational reasoning which are placed at a lower hierarchy of the model.

Students with low logical reasoning abilities might be due to an education system which is more exam-oriented. Hence, less emphasis is given to the teaching and use of thinking skills. Science teaching and learning strategies are aligned to objective with the aim to cover the entire syllabus within the allocated time. Furthermore, these type of students likely without investing too much time to nurture thinking skills among students. Moreover, school evaluation system which only emphasises the acquisition of content knowledge contributes to low logical reasoning abilities among students. According to Syed Anwar *et al.* (2000) reported that the evaluation of student's academic achievement does not give equal emphasis on the process and product component of scientific skills. Almost 100% of the evaluation of students focused on the science and technology product component such as concepts, theories and formulae.

Logical reasoning abilities of students in local higher learning institutions were reported as low. According to Syed Anwar Aly (2000), he found that only 19% of matriculation college students possess high scientific reasoning abilities, 66 % at the medium stage where as another 15% possess low scientific reasoning abilities. In the same study, Syed Anwar Aly (2000) reported that only 19% of Malaysian students with average age of 19 years old possess high scientific reasoning abilities compared to 22 % of American students with average age of 16 years old (Lawson *et al.*, 1991).

Mean Difference in Logical Reasoning Abilities Based on Students Gender

Independent sample *t*-test results (Table 4) showed that there is no significant difference in the overall mean of logical reasoning abilities based on student's gender. Thus the first null hypothesis which is stated that there is no significant difference in the means of logical reasoning abilities based on student's gender is accepted.

Although male students ($M = 3.367$, $SD = 2.373$) scored higher than female students ($M = 3.044$, $SD = 1.949$) but at $t = -1.721$ and $p = .086$, the mean difference is insignificant. However, further analysis showed that male students ($M = 1.498$, $SD = 1.201$) scored significantly higher than female students ($M = 1.289$, $SD = .966$) in conservational reasoning at $t = -2.222$ and $p = .027$.

Table 4: Independent Sample t-Test Result for Mean Difference in Logical Reasoning Abilities Based On Gender (N = 500)

Subscales	Gender	N	M	SD	T	df	P
Conservational reasoning	Male	174	1.498	1.201	- 2.222*	477.331	.027
	Female	326	1.289	.966			
	Overall	500	1.384	1.084			
Proportional reasoning	Male	174	.582	.777	- 1.893	515.368	.059
	Female	326	.460	.720			
	Overall	500	.516	.749			
Controlling variables	Male	174	3.87	.612	- .684	547.000	.495
	Female	326	.352	.557			
	Overall	500	.368	.582			
Probabilistic reasoning	Male	174	.163	.440	.281	547.000	.779
	Female	326	.175	.482			
	Overall	500	.169	.463			
Correlational reasoning	Male	174	.339	.627	-.331	547	.741
	Female	326	.322	.542			
	Overall	500	.330	.582			
Combinatorial reasoning	Male	174	.398	.601	.903	547	.367
	Female	326	.446	.635			

	Overall	500	.424	.619			
Overall	Male	174	3.367	2.373	- 1.721	483.410	0.86
	Female	326	3.044	1.949			
	Overall	500	3.191	2.158			

* $p < .05$

The finding of this study revealed that up to 95.8% of male respondents and 97.2% of female respondents are categorised at transitional operational stage whereas the remaining are categorised at transitional operational stage. This finding was found consistent with the findings of Roadrangka (1995). According Micheal Liao (1982) in his research to investigate primary school student's ability in conservational of length through three of Piagetian experiments, he found that there is no significance difference in the ability of conservation between male and female students. However, the finding was contradicting with previous researchers (Shemesh, 1990). On the other hand, previous research have found a significant difference in logical reasoning abilities between male and female students. Male students performed better in Piagetian formal reasoning tasks compared to female students.

Mean Difference in Logical Reasoning Abilities Based on Students Achievement at Secondary School Students

One-way ANOVA results in table 5 showed that there is a significant difference in the overall mean of logical reasoning abilities according to students academic achievement at secondary level ($F(2,496) = 64.614, p < .0005$). This finding successfully rejected the second null hypothesis which stated that there is no significant difference in the mean of logical reasoning abilities according to student academic achievement at secondary level. Furthermore, one-way ANOVA revealed that there is a significant difference in the mean of conservational reasoning ($F(2, 496) = 35.156, p < .0005$), proportional reasoning ($F(2, 496) = 19.497, p < .0005$), controlling variables ($F(2, 496) = 13.983, p < .0005$), probabilistic reasoning ($F(2, 496) = 10.608, p < .0005$) and, combinatorial reasoning ($F(2, 496) = 14.380, p < .0005$) based on students' science achievement at lower secondary level.

Table 5. One-way ANOVA Results for Mean Difference in Logical Reasoning Abilities Based On Students Academic Achievement at Secondary Level (N = 500)

Subscales	Sources of variation	SS	Df	MS	F	P
Conservational reasoning	Between group	70.785	2	35.393	35.156*	<.0005
	Within group	499.339	498	1.007		
	Overall	570.124	500			
Proportional reasoning	Between group	20.605	2	10.302	19.497*	<.0005
	Within group	262.085	498	.528		
	Overall	282.689	500			
Controlling variables	Between group	9.249	2	4.574	13.983*	<.0005
	Within group	162.266	498	.327		
	Overall	171.415	500			
Probabilistic reasoning	Between group	4.260	2	2.130	10.608*	<.0005
	Within group	99.600	498	.201		
	Overall	103.860	500			
Correlational reasoning	Between group	.295	2	.147	.435	.648
	Within group	168.146	498	.339		
	Overall	168.442	500			
Combinatorial reasoning	Between group	10.804	2	5.402	14.380*	<.0005
	Within group	186.318	498	.376		
	Overall	197.122	500			
Overall	Between group	474.691	2	237.345	64.614*	<.0005
	Within group	1821.934	498	3.673		
	Overall	2296.625	500			

On the other hand, Roadrangka (1995) found that there is a relationship between formal operational reasoning abilities and students' achievement in biology, physics and chemistry. Students at formal operational stage scored significantly higher in biology, physics, and chemistry tests compared to those at concrete operational stage. Students at formal operational stage were also found to obtain significantly higher scores in physics and chemistry tests than students at transitional operational stage. Concrete thinkers are unable to develop the understanding of abstract concepts. Conversely, formal thinkers are able to develop the understanding of concrete and abstract concepts (Inhelder & Piaget, 1958). Hence, students' success in science will be guaranteed by using different modes of formal operational reasoning (Lawson, 1982b, 1985; Linn, 1982, Tsaparlis, 2005, Tai, Sadler & Loehr, 2005, Lewis & Lewis, 2007). For instance, Lewis and Lewis (2007) emphasised the need to include a focus on the development of formal thought as well as a content review in the efforts to help at-risk students in general chemistry.

Implication of the Study

The importance of logical reasoning abilities in our education system as emphasized by Renner and Philips (1980); The purposes- the common thread of education is the development of the ability to think need to be really understood by all the relevant parties especially Curriculum Development Centre, schools, teachers and all the students who are involved directly or indirectly in the planning and implementation of science curriculum in this country. As pointed out by Renner and Philips (1980), students should be given more opportunities to develop their thinking abilities for intellectual development via various approaches. Furthermore, Yaman (2005) has shown that problem based learning (PBL) approach was effective in the development of logical reasoning skills. On the other hand, according to Koray and KOKSAL (2009), the creative and critical thinking based laboratory method was also found effective in developing creative and logical reasoning abilities.

On the other hand, logical reasoning abilities should be given new emphasis in the teaching and learning of science in the effort to improve students academic achievement at all levels of schooling. Hence, schooling system is not meant for teaching of facts and concept which are specific to a particular knowledge domain but to assist students in acquiring thinking skills (Lawson, 1985). Besides that, children who have reached Piaget's concrete operational level in this study have begun to shed the egocentrism found in the preceding level and are capable of taking the perspective of others. Transitional thinkers will, as in the present study be the children who are near adolescence stage. Children in this phase of life are forming an identity, though not aware of it.

Refer to research findings indicate that logical reasoning is the least dominated among the form four students. Therefore, the teaching and learning process should be planned appropriately so students are actively involved in problem solving activities. Students should be given task which is related to the non-routine problems and the real life situations so that they could enhance their critical and analytical thinking skills. This would lead them to the acquisition of the abstract thinking skills. Teachers' creativity is of utmost important. They need to be creative and to infuse such skill in their teaching activities. Student's involvement in group work activities in the classroom could provide such opportunity for the students to become effective thinkers is one of the major concerns of the Malaysia Ministry of Education. According to Witkin, *et. al* (1977), assisting students would be one of the ways to facilitate them in the acquisition of the required critical and analytical thinking skills.

Recommendations

The findings of this research indicated that majority of the students are Field Dependent. This could be due to the teachers teaching styles which focused on the teacher-cantered learning (Dorothy and Diane, 1994). Teachers should execute activities that would cater the diver's cognitive styles of the students. Research by Ross (2001) suggested that teacher should be flexible with their academic teaching styles and use diverse assessment to cater for the needs of the students.

Findings also showed that majority of the students were at the concrete stage of logical thinking. Teachers should be responsible in ensuring the level of the students level of logical reasoning improved.

They could inculcate the thinking skills in the classroom by stressing the importance of formal which is abstract thinking skills. This could be done by providing the students with thinking operations in their homework and classroom activities. The frequency of these activities would improve their level of logical thinking.

Recommendations for Further Research

This research is a correlational study. It did not investigate causal relationship. It is recommended that further research be carried out to investigate the causal relationship on the variables. Such investigation would be enhancing the understanding on the factors affecting the students' academic achievement. Furthermore, further research could be carried out by involving more data to verify the results. Besides that, similar research could be done but on different level of educations such as on the primary and also university students. It is hoped that such comparative study would give clearer pictures on the variable and thus enhancing their potential in learning. Lastly, a qualitative research to be exploring the students' logical reasoning abilities is recommended. Research method involving interviewing of students and observing their learning activities would be given an insight of the students' logical reasoning abilities.

Conclusion

The students' logical reasoning and academic achievement should be taken into account in the teaching and learning in schools. Teaching styles that matched the student's logical reasoning could enhance the students learning. As a conclusion, teachers should reflect on their current practices and match the needs of the students. More problem solving activities should be emphasized in the teaching and learning process.

References

- Akdeniz, A.R., (1993). *The implementation of a new secondary physics curriculum in Turkey: An exploration of teaching activities*. Unpublished Doctoral Dissertation, University of Southampton, UK.
- Bitner, B.L. (1991). Formal operational reasoning modes: Predictors of critical thinking abilities and grades assigned by teachers in science and mathematics for students in grades nine through twelve. *Journal of Research in Science Teaching*, 28(3), 265-274.
- Boulanger, F.D., & Kremer, B.K. (1981). Age and developmental level as antecedents of science learning. *Journal of Research in Science Teaching*, 18(4), 371-384.
- Çepni, S. & Özsevgeç, T. (2002). *Science teachers' assessment tools and their relation with students' cognitive development*. Paper presented at the "Education: Changing Times, Changing Needs, First International Conference on Education", at the Faculty of Education Eastern Mediterranean University, Gazimagusa, Turkish Republic of Northern Cyprus from May 8-10, 2002.
- Cohen, H.G. (1980). Dilemma of the objective paper-and-pencil assessment within the Piagetian framework. *Science Education*, 64(5), 741-745.
- DeLuca, F.P. (1981). Application of cluster analysis to the study of Piagetian stages of intellectual development. *Journal of Research in Science Teaching*, 18(1), 51-59.
- Hernandez, L.De., Marek, E.A., & Renner, J.W. (1984). Relationships among gender, age, and intellectual development. *Journal of Research in Science Teaching*, 1(4), 365-375.
- Hofstein, A., & Mandler, V. (1985). The use of Lawson's Test of Formal Reasoning in the Israeli science education context. *Journal of Research in Science Teaching*, 22(2), 141-152.
- Howe, A. C., & Shayer, M. (1981). Sex related differences on a task of volume and density. *Journal of Research in Science Teaching*, 18(2), 169-175.
- Howe, A.C., & Durr, B.P. (1982). Analysis of an instructional unit for level of cognitive demand. *Journal of Research in Science Teaching*, 19(3), 217- 224.
- Inhelder, B., & Piaget, J. (1958). *The growth of logical thinking: From childhood to adolescence*. New York: Basic Books, Inc.
- Keig, P.F., & Rubba, P.A. (1993). Translation of representation of the structure of matter and its relationship to reasoning, gender, spatial reasoning, and specific prior knowledge. *Journal of Research in Science Teaching*, 30(8), 883-903.

- Koray, Ö., & KÖKSAL Mustafa Serdar. (2009). The effect of creative and critical thinking based laboratory applications on creative and logical thinking abilities of prospective teachers. *Asia Pacific Forum on Science Learning and Teaching*, 10(1). Article 2. Retrieved from http://www.ied.edu.hk/apfslt/v10_issue1/koksal/index.htm#con
- Krajcie, J.S., & Haney, R.E. (1987). Proportional reasoning and achievement in high school chemistry. *School Science and Mathematics*, 87(1), 25-32.
- Krejcic, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.
- Lawson, A.E. (1978). The development and validation of a Classroom Test of Formal Reasoning. *Journal of Research in Science Teaching*, 15(1), 11-24.
- Lawson, A.E. (1982a). The relative responsiveness of concrete operational seventh grade and college students to science instruction. *Journal of Research in Science Teaching*, 19(1), 63-77.
- Lawson, A.E. (1982b). Formal reasoning, achievement, and intelligence: An issue of importance. *Science Education*, 66(1), 77-83.
- Lawson, A.E. (1985). A review of research on formal reasoning and science teaching. *Journal of Research in Science Teaching*, 22(7), 569-617.
- Lawson, A.E., Nordland, F.H., & DeVito, A. (1975). Relationship of formal reasoning to achievement, aptitudes, and attitudes in preservice teachers. *Journal of Research in Science Teaching*, 12(4), 423-431.
- Lewis, S.E., & Lewis, J.E. (2007). Predicting at-risk students in general chemistry: comparing formal thought to a general achievement measure. *Chemistry Education Research and Practice*, 8(1), 32-51.
- Linn, M.C. (1982). Theoretical and practical significance of formal reasoning. *Journal of Research in Science Teaching*, 19(9), 727-742.
- Marek, E.A. (1981). Correlations among cognitive development, intelligence quotient, and achievement of high school biology students. *Journal of Research in Science Teaching*, 18(1), 9-14.
- Meehan, A.M. (1984). A meta-analysis of sex differences in formal operational thought. *Child Development*, 55, 1110-1124.
- Michael, Liau, T.L. (1982). *Three Piagetian experiments: an investigation into the ability of Malaysian primary school children from a school with an urban character and from a school with a rural character to conserve length*. Unpublished master's thesis, Universiti Sains Malaysia, Penang.
- Miles, J., & Shevlin, M. (2001). *Applying regression and correlation. A guide for students and researchers*. London: Sage Publications.
- Mitchell, A., & Lawson, A.E. (1988). Predicting genetics achievement in nonmajors college biology. *Journal of Research in Science Teaching*, 25(1), 23-37.
- Moshman, D. & Thompson, P.A. (1981). Hypothesis testing in students: sequences, stages, and instructional strategies. *Journal of Research in Science Teaching*, 18, 4, 341-352.
- Özsevgeç, T. (2002). *Determination of the Relationships Between Middle School Students' Profiles and Their Cognitive Development Levels in the Selected Science Topics*. Unpublished Master Thesis, Karadeniz Technical University, Turkey.
- Piburn, M. (1980). Spatial reasoning as a correlate of formal thought and science achievement for New Zealand students. *Journal of Research in Science Teaching*, 17(5), 443-448.
- Piburn, M.D., & Baker, D.R. (1989). Sex differences in formal reasoning ability: Task and interviewer effects. *Science Education*, 73(1), 101-113.
- Pusat Perkembangan Kurikulum, Kementerian Pendidikan Malaysia (2001). *Huraian Sukatan Pelajaran Sains KBSM Tingkatan Empat*. Kuala Lumpur: Kementerian Pendidikan Malaysia.
- Renner, J.W., & Philips, D.G. (1980). Piaget's developmental model: A basis for research in science education. *School Science and Mathematics*, 80, 193- 198.
- Roadrangka, V., Yeany, R.H., & Padilla, M.J. (1983). *The construction of a Group Assessment of Logical Thinking (GALT)*. Paper presented at the 56th annual meeting of the National Association for Research in Science Teaching, Dallas, Texas, April, 5-8.
- Roadrangka, V. (1995). Formal operational reasoning ability, cognitive style and achievement in Biology, Physics, and Chemistry concepts of Form 4 students in Penang, Malaysia. SEAMEO Regional Centre for Education in Science and Mathematics, Penang.

- Shemesh, M. (1990). Gender-related differences in reasoning skills and learning interests of junior high school students. *Journal of Research in Science Teaching*, 27(1), 27-34.
- Schneider, L.S. & Renner, J.W. (1980). Concrete and formal teaching. *Journal of Research in Science Teaching*, 17, 6, 503-518.
- Siti Hawa Munji (1998). *Cognitive styles, intelligence, level of cognitive development, study habits and academic achievement of university students*. Unpublished doctoral thesis, University Malaya, Kuala Lumpur.
- Staver, J.R., & Halsted, D.A. (1985). The effects of reasoning, use of models, sex type, and their interactions on posttest achievement in chemical bonding after constant instruction. *Journal of Research in Science Teaching*, 22(5), 437-447.
- Syed Anwar Aly. (2000). Hypothetico-deductive reasoning and concept acquisition: Implications for strategies in the Malaysian smart schools. Kertas dibentangkan dalam *Simposium Pendidikan Sains dan Teknologi*, Pulau Pinang, 30 Mac – 2 April, 2000.
- Syed Anwar Aly & Merza Abbas. (2000). Penyerapan kemahiran saintifik dalam proses pengajaran dan pembelajaran kimia di tahap menengah. Kertas dibentangkan dalam *Seminar Pendidikan Sains dan Matematik*, UiTM Shah Alam, 2 – Oktober, 2000.
- Tai, R.H., Sadler, P.M., & Loehr, J.F. (2005). Factors influencing success in introductory college chemistry. *Journal of Research in Science Teaching*, 42, 987-1012.
- Tobin, K.G., & Capie, W. (1981). The development and validation of a Group Test of Logical Thinking. *Educational and Psychological Measurement*, 41, 413-423.
- Tsaparlis, G. (2005). Non-algorithmic quantitative problem-solving in university physical chemistry: a correlation study of the selective cognitive factors. *Research in Science and Technological Education*, 23, 125- 148.
- Wilson, A.H., & Wilson, J.M. (1984). The development of formal thought during pretertiary science courses in Papua New Guinea. *Journal of Research in Science Teaching*, 21(5), 527-535.
- Yaman, Suleyman. (2005). Effectiveness on development of logical thinking skills of problem based learning skills in science teaching. *Journal of Turkish Science Education*, 2(1), 31-33.
- Yap, K.C. (1985). *Validation of hierarchical relationships among Piagetian cognitive modes and integrated science process skills for high school students with different cognitive reasoning abilities*. Unpublished doctoral dissertation, University of Georgia.
- Yeany, R.H., Yap, K.C., & Padilla, M.J. (1986). Analyzing hierarchical relationships among modes of cognitive reasoning and integrated science process skills. *Journal of Research in Science Teaching*, 3(4), 277-291.

STUDENTS' ICT ENGAGEMENT MEDIATES THE RELATIONSHIP BETWEEN FAMILY INVOLVEMENTS AND STUDENTS' USE OF ICT FOR LEARNING MATHEMATICS AMONG IRANIAN SECONDARY SCHOOL STUDENTS

¹Tahereh Kaboodvand, ²Ahmad Fauzi Mohd Ayub, ³Aida Suraya Md Yunus & ⁴Rosnaini Mahmud

¹Institute for Mathematical Research, Universiti Putra Malaysia

^{2,3,4} Faculty of Educational Studies, Universiti Putra Malaysia

tkbaran2010@yahoo.com, afmy@upm.edu.my, aida@upm.edu.my, rosnaini@upm.edu.my

ABSTRACT

Information Communication Technology (ICT) has been used widely in an educational setting especially in teaching and learning mathematics. This paper examine the role of the students' mathematics engagement in ICT as a mediator used to strengthen the relationships between family's ICT involvement and the students' use of ICT for learning mathematics among the secondary school's students in Zanzan city Iran. The result revealed that students' ICT engagement had the highest mean ($M = 3.88 \pm 0.48$), followed by students' use of ICT in learning Mathematics ($M = 3.35 \pm 0.94$) and family ICT involvement ($M = 3.29 \pm 0.70$). Pearson correlation coefficients showed a positive relationship between family's ICT involvement and students use of ICT in learning Mathematics ($r = .335^{**}$, $p = .001$) and a Moderate positive relationship between students' mathematics engagement in ICT and students use of ICT in learning Mathematics ($r = .516^{**}$, $p = .001$). Separate mediator analyses showed that students' mathematics engagement in ICT mediated the relationship between family ICT involvement and students' use of ICT in learning Mathematics ($\beta = .42$, $p = .000$). This study finds that students were engaged with ICT when learning Mathematics and their family supports them with ICT tools, but their support does not contribute to the students' ICT engagement. Findings also indicated that the students are interested in using ICT in learning Mathematics.

Keywords: students' use of ICT in learning Mathematics, students' ICT engagement and family ICT involvement

Introduction

The use of information communication technology (ICT) has dramatically changed the world and made nations unite as a "Global Village" to the extent that events occurring in different parts of the world are swiftly reported and echoed within a matter of minutes via mass media and other means of telecommunication (Jeyashree & Ravichandran, 2013). ICT has been used widely in an educational setting especially in teaching and learning mathematics (Granberg & Olsson, 2015). The field of mathematics has a vital importance in an educational setting (Shinn et al., 2003). As many of the scientific and technological breakthroughs recorded in the history have their pedigrees in Mathematics learning. Give examples of such. A sustainable technology is needed to aid the students to learn it faster and better (Leidner & Jarvenpaa, 1995). Mathematical software packages like Matlab, Maple, DrGeo, Comput-Math, Geogebra are considered as potential tools to be used to aid the students' learning. These software packages should be used in schools to support collaborative learning in mathematics classrooms (Isabwe, Reichert, Carlsen, & Lian, 2014; Xu, 2015). Literature has shown that applying ICT in mathematics classrooms could enhance teaching and learning of mathematics as well as improving the students' performance in the classroom (Yamaguchi, Sukhbaatar, Takada, and Dayan-Ochir (2014). The use of ICT not only improves students' performance but also offers opportunities for students to explore various solutions to solving mathematical problems (Chan, 2015).

Empirical evidence has shown that when students are engaged in ICT, they tend to have a sense of engagement in it. The effects on their ICT usage behaviour, particularly in the middle and secondary school levels, has attracted the attention of many researchers after observing the active connection with the activities they are undertaking (Gregory & Lloyd, 2010). For instance, in a study,

Kubiatko and Haláková (2009) noted that although, students' engagement had been used as a construct in several studies to reconnect bored and disengaged students with the desire to learn, though, some researchers used the term differently. However, students' engagement in the schools and classrooms is an important determinant of their learning outcomes and achievement, which is recently associated with their engagement in technology (Duffy, 2008). Students' ICT engagement is the extent to which the students perceived that they are involved in the school ICT implementation processes (Gebre, Saroyan, & Bracewell, 2014). And the process by which students are encouraged to participate in decisions for ICT implementations so as to maximize their ICT potentials for the purpose of academic learning (Tacchi & Watkins, 2007). Literature has established a link between students' engagement in ICT and the way they use them, emphasizing the relevance of ICT skills for students learning success, creativity, and innovation (Gilbert, Morton, & Rowley, 2007; Harris, 2008).

Parental involvement has been studied to determine their influences on students' ICT engagement in school. (Csikszentmihalyi, 2003; Mo and Singh (2008) Mombourquette, 2007). Past literature indicated that parental involvement has significant effects on students' use of ICT in learning mathematics (Fan & Chen, 2001; Reynolds & Chambers, 2015). But at the same time, their role in encouraging and controlling their children in ICT engagement and ICT use is also of great important(Cooper and Brna (2002). Family ICT involvement is the extent to which parents express their concerns and expectations towards their children's use of ICTs for the purpose of school learning (Ramaswamy, Aroian, & Templin, 2009). Stevenson (2011) Viewed family ICT involvement as the process by which parents are involved in providing ICT-related support to students such as ownership of ICT tools and supervision of the use of such ICT tools as well as supporting and supervising their Childs' engagement with ICT in learning. Presumably, the characteristics of a family about how they support their child regarding providing ICT tools to support their learning process could also influence the student's engagement with ICT in school, as well as how they will eventually utilize such ICT for learning purposes.

This study will look into the role of engagement in ICT as a mediator use to measure the strength of the relationship between a family's ICT involvement, and the students use of ICT in learning mathematics. Also, the study will investigate the impact of family's ICT involvement on students' ICT engagement in learning mathematics. With the objectives of:

- 1) Exploring the family's ICT involvement and students' ICT engagement concerning the students' use of ICT in learning mathematics.
- 2) To determine the influence of a family's ICT involvement on students' ICT engagement in learning Mathematics.
- 3) To examine the role of students' ICT engagement in mediating the relationship between the families' ICT involvement and students use of ICT in learning Mathematics.

Methodology

A descriptive correlational survey was conducted among secondary school students in Zanjan city of Iran. A total of 390 respondents were selected from 32 secondary schools that are equipped with ICT facilities in District One and Two of Zanjan Province – Iran using technical sampling. The respondents were selected from the third level of Mathematics students at age 17. For the purpose of the study, a questionnaire was designed to obtain information on family's ICT involvement, students' Mathematics engagement in ICT and students' use of ICT in learning Mathematics. The first part of the questionnaires consist the information on demographic data of the respondents. The Questions about students' ICT engagement were adopted from Gebre et al. (2014) which consists of 16 items(see Table 1). Out of the total items nine measured students' cognitive engagement, four items measured effective engagement and three items measured students' behavior engagement. Similarly, Questions about family's ICT involvement consists eight items. Six items were adopted from Ramaswamy et al. (2009), while the remaining two were self-developed.

The last part of the questionnaire measured the students' use of ICT in learning Mathematics. This part consisted 11 items adopted from Hakkarainen (2000), Van Deur (2010), and self –developed by the researchers. The participants answered the questionnaire by using a five-point Likert scale indicating whether they 1 (strongly disagree), 2 (disagree), 3 (slightly agree), 4 (agree) to 5 (strongly agree) with the statements. All the instrument content were validated by the experts who had expertise in educational technology background with teaching experience of more than 15 years

A pilot study was conducted on 42 students in seven schools of Zajan in Iran who were not involved in the actual research to measure the reliability of the questionnaire. The reliability coefficient, Cronbach Alpha, for each subscale were ranged from 0.77 to 0.93 (refer Table 1).

Table 1. Reliability of the Constructs

Construct	No. Items	α: pilot study [n=42]
Family's ICT Involvement	8	0.773
Students' engagement in ICTs	16	0.930
ICT Usage in learning Mathematics	11	0.831

Findings

Demographic Backgrounds

The result revealed that out of the total of 390 respondents participated, 191 (49%) were male, and 199 (51%) are female. The result indicates that 67.2% of the respondents have their personal computer, while others share with their family members. Analysis on internet connection at home showed that all the respondents have the internet connection at home as well as outside the home. Regarding time spent on the internet and other software uses. More than 80% of the students use ICT tools and spend more than five hours per day on the internet or any other software.

Students' ICT Engagement

Students ICT engagement measures the respondents' perception on encouragement to make decisions for ICT implementation in learning Mathematics. 16 positive items were used for this construct (Table 1). The overall result with the mean ($M = 3.46 \pm 0.66$) indicated that the students are pleased to engage with ICT and use it for learning Mathematics. The respondent's perception towards engaging in constructing knowledge about Mathematics using ICT was having the highest mean ($M=3.80 \pm 1.30$) with 41.0% of the respondents strongly agreed, and 24.9% agreed with the statement. However, the result indicated that the respondents have less opinion in engaging and analyzing Mathematical information using ICT with ($M=3.14 \pm 1.29$), where 17.4% of the respondents strongly agreed, and 13.8% strongly disagreed with the statement. Conclusively, the respondents are satisfied with ICT engagement and using it for learning Mathematics.

Table 1. Descriptive Statistics for Students ICT Engagement

Item	Mean	S.D.	D	S*A	A	SA	
Use of ICT in the classroom supports my efforts of achieving the goals of learning Mathematics.	3.34	1.22	35 9.0%	65 16.7%	97 24.9%	115 29.5%	78 20.0%
I engage in representing my understanding of Mathematical concepts using ICT.	3.37	1.19	32 8.2%	56 14.4%	116 29.7%	106 27.2%	80 20.5%

Item	Mea n	S. D.	SD	D	S*A	A	SA
I engage in analyzing Mathematical information by using ICT.	3.14	1.29	54 13.8 %	70 17.9 %	100 25.6 %	98 25.1 %	68 17.4 %
Classroom activities involve individual Mathematics problem-solving occasions using ICT.	3.00	1.20	35 9.0%	56 14.4 %	114 29.2 %	109 27.9 %	76 19.5 %
Learning activities have practical dimensions (involves learning by doing) with ICT in Mathematics classroom.	3.43	1.14	30 7.7%	47 12.1 %	106 27.2 %	136 35.1 %	70 17.9 %
I can easily see the possible application of what I learn in Mathematics with ICT, to workplace settings	3.54	1.26	40 10.3 %	35 9.0 %	96 24.6 %	112 28.7 %	107 27.4 %
Classroom activities for learning Mathematics with ICT are related outside classroom activities.	3.67	1.29	40 10.3 %	33 8.5 %	73 18.7 %	111 28.5 %	133 34.1 %
Classroom discussions for learning Mathematics with ICT are related to real world.	3.43	1.27	46 11.8 %	37 9.5 %	102 26.2 %	110 28.2 %	95 24.4 %
I interact via online with other students in Mathematics class.	3.31	1.27	42 10.8 %	68 17.4 %	88 22.6 %	110 28.2 %	82 21.0 %
I engage in online discussions related to Mathematics learning with my classmates.	3.32	1.22	35 9.0%	66 16.9 %	104 26.7 %	106 27.2 %	79 20.3 %
I communicate with the professor using emails for learning Mathematics.	3.62	1.15	25 6.4%	45 11.5 %	77 19.7 %	147 37.7 %	96 24.6 %
I communicate with the professor using Online web for learning Mathematics.	3.32	1.24	47 12.1 %	55 14.1 %	106 27.2 %	114 29.2 %	68 17.4 %
Students use multiple sources of information (Internet, References, etc.) in Mathematics classrooms.	3.62	1.07	22 5.9%	31 7.9 %	100 25.6 %	155 39.7 %	82 21.0 %
Math classroom with ICT allows me to think aloud (expression of ideas, procedures, algorithms, answers, etc. in the classroom).	3.54	1.15	28 7.2%	40 10.3 %	99 25.4 %	137 35.1 %	86 22.1 %

Item	Mea n	S. D.	SD	D	S*A	A	SA
I engage in meaning making knowledge about Mathematics course using ICT.	3.62	1.19	27 6.9%	39 10.0%	96 24.6%	118 30.3%	110 28.2%
I engage in constructing knowledge about Mathematics course using ICT.	3.80	1.30	36 9.2%	31 7.9%	66 16.9%	97 24.9%	160 41.0%
Overall	3.46	0.66					

Note: S.D. standard deviations SD: strongly disagree, D: disagree, S*A: slightly agree, A: agree, SA: strongly agree.

Family ICT Involvement

The Family ICT involvement is the parents support to their children with ICT tools use for learning Mathematics in secondary school. Items used to measure this consist of positive and negative items (Table 2). The result showed that the family supports their children in learning Mathematics using ICT with the overall mean ($M = 3.29 \pm 0.70$). For the positive items, seemingly, the Family provides the internet access at home for the use of ICT in learning Mathematics ($M = 4.00 \pm 1.26$) with 33.1% of the respondents strongly agreed, and 34.4% agreed with the statement. The students seem to not have the privilege for solving ICT problems with their family, especially in learning mathematics as it has the lowest mean ($M = 2.76 \pm 1.38$) where 16.7% of the respondents were strongly agreed, and 13.8% agreed with the statement. Meanwhile, for the negative items, two of them showed lower mean value, but the perception on how their family thinks about the use of ICT for learning Mathematics has the highest mean ($M = 2.67 \pm 1.30$). And the family seems to be less concerned with ICT needs in learning Mathematics with lowest mean value ($M = 2.56 \pm 1.15$) but above average. While their perception of family involvement for learning Mathematics with ICT has the highest mean value ($M = 3.27 \pm 1.23$). The result showed that the respondents seemed to agree that their family has been involved in the students' use of ICT in learning Mathematics. Hence, the students are satisfied with their family's involvement, especially in providing ICT facilities for learning mathematics. In addition, items 5, 7 and eight were self-developed.

Table 2. Descriptive statistics for Family's ICT Support

Item	Me an	S. D.	SD	D	S*A	A	SA
1: *My family does not think I should use ICT for learning mathematics.	2.67	1.31	93 23.8%	95 24.4%	95 24.4%	62 15.9%	45 11.5%
2: I can talk about my ICT problems with my family, especially in learning mathematics.	2.76	1.38	90 23.1%	99 25.4%	82 21.0%	54 13.8%	65 16.7%
3: My family is a real source for me when it comes to using ICT to learn Mathematics.	3.45	1.25	39 10.0%	42 10.8%	114 29.2%	94 24.1%	101 25.9%
4: *My family does not care about my ICT needs in learning mathematics.	2.56	1.15	86 22.1%	97 24.9%	136 34.9%	45 11.5%	26 6.7%

Item	Me an	S. D.	SD	D	S*A	A	SA
5: *My family does not get involved in my decisions for Learning Mathematics with ICT.	3.2 7	1. 23	47 12.1 %	45 11.5 %	123 31.5 %	105 26.9 %	70 17.9 %
6: My family is around when I am in need of ICT for learning Mathematics.	3.7 7	1. 19	25 6.4 %	35 9.7 %	65 16.4 %	134 34.4 %	129 33.1 %
7: My family provides internet access at home for the use of ICT in learning Mathematics.	4.0 1	1. 26	34 7.8 %	19 4.9 %	46 11.8 %	101 25.9 %	190 48.7 %
8: I have my computer at home for learning.	3.3 8	1. 24	41 10.5 %	42 10.8 %	120 30.8 %	99 25.4 %	88 22.6 %
Overall	3.2 9	0. 7					

*negative items

Note: S.D. standard deviations SD: strongly disagree, D: disagree, S*A: slightly agree, A: agree, SA: strongly agree.

ICT Usage in Learning Mathematics

Students' use of ICT in learning Mathematics is the extent to which respondents use ICT for the purpose of learning Mathematics. The result indicated the respondents' interest to use ICT in learning Mathematics with overall mean value ($M = 3.35 \pm 0.94$). The highest mean value ($M = 3.58 \pm 1.28$) was recorded in the respondent's use of emails to contact their classmate/teachers in learning mathematics with 30.3% of the respondents strongly agreed, and 30.3% agreed with the statement. Meanwhile, the lowest mean value ($M = 2.98 \pm 1.43$) was recorded in the use of a computer when discussing with their friends during Mathematics classroom where 20.3% of the respondents strongly agreed, and 19.2% agreed with the statement. Hence, the respondents seemed to be satisfied with the use of ICT in learning Mathematics. Also, the use of ICT likes Mathematics software package would help them to increase their knowledge in Mathematics. The item one in Table 3 adopted from Hakkarainen (2000) and item two adopted from Van Deur (2010) while the rest was self-developed.

Table 3. Descriptive statistics for ICT Use in Mathematics Learning

Item	Mea n	S. D	SD	D	S* A	A	SA
1: I use ICT to increase my knowledge in Mathematics.	3.42	1. 37	56 14.4 %	40 10.3 %	90 23. 1%	90 23.1 %	114 29.2 %
2: I access the internet to look up for Mathematics information.	3.55	1. 32	45 11.5 %	35 9.0% %	91 23. 3%	98 25.1 %	121 31.0 %
3: I use Mathematics software (e.g., Matlab, GeoGebra Maple, Math-Type, Dynamic, Geometric) to learn Mathematics.	3.44	1. 37	55 14.1 %	41 10.5 %	83 21. 3%	98 25.1 %	113 29% %
4: I use blogs to learn Mathematics.	3.07	1. 37	69 17.7 %	67 17.2 %	97 24. 9%	79 20.3 %	78 20.0 %

5: I use the computer when discussing with my friends in Mathematics classroom.	2.98	1. 43	87 22.3 %	66 16.9 %	83 21. 3%	75 19.2 %	79 20.3 %
6: I use online weblogs with my friends to discuss Mathematics.	3.25	1. 39	67 17.2 %	50 12.8 %	81 20. 8%	100 25.6 %	92 23.6 %
7: I use web2.0 to get Mathematics information.	3.38	1. 40	65 16.7 %	37 9.5% %	75 19. 2%	108 27.7 %	105 26.9 %
8: I use an electronic board in Mathematics classroom.	3.31	1. 41	67 17.2 %	46 11.8 %	74 19. 0%	102 262 %	101 25.9 %
9: I use ICT facilities in my school library to learn Mathematics.	3.22	1. 35	60 15.4 %	52 13.3 %	95 24. 4%	94 24.1 %	89 22.8 %
10: I use online Persian portal to upload/ download my Mathematics assignments.	3.58	1. 31	48 12.3 %	31 7.9% %	69 17. 7%	130 33.3 %	112 28.7 %
11: I use email to contact my classmate/teachers to learn Mathematics.	3.58	1. 28	37 9.5 %	47 12.1 %	70 17. 9%	118 30.3 %	118 30.3 %
Overall	3.35	0. 94					

Note: S.D. standard deviations SD: strongly disagree, D: disagree, S*A: slightly agree, A: agree, SA: strongly agree.

Correlational Analysis

The relationship between family's ICT involvements with students' use of ICT in learning Mathematics and the students' ICT engagement with students' use of ICT in learning Mathematics was investigated. The Pearson correlation coefficients result showed a positive relationship between family's ICT involvement with students use of ICT in learning Mathematics ($r = .335^{**}$, $p = .001$)(Table 3). Though, according to Hinkle et al., (2003) it is a low positive correlation.

Table 3. Pearson Correlation

		IUML_M
SIE_M	Pearson Correlation	.516 ^{**}
	Sig. (2-tailed)	.000
FI_M	Pearson Correlation	.335 ^{**}
	Sig. (2-tailed)	.000
IUML_M	Pearson Correlation	1
	Sig. (2-tailed)	

However, Table 4 illustrates the results of the multiple regressions which indicated that there is no relationship between family ICT involvements with students' use of ICT in learning Mathematics (IUML_M) while a relationship was found between the students' ICT engagement with students' use of ICT in learning Mathematics (IUML_M).

The relative order of importance of the predictive factors of ICT engagement and students use of ICT in learning Mathematics based on beta values (β) (Table 4), family's ICT involvement (FI_M) is not a predicting factor for students' use of ICT in learning Mathematics. This variable was not statistically significant at the 0.05 level. While Students' Mathematics engagement in ICT (SIE_M) is identified as the predictive factor of students' use of ICT in learning Mathematics ($\beta = .516$).

Table 4. Multiple Regression between family’s ICT involvements, Students’ Mathematics engagement in ICT, with students’ use of ICT in learning Mathematics.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.301	.248		1.212	.64
FI_M	.39	.097	.29	394	.694
SIE_M	.727	.061	.516	11.863	.000

Dependent Variable: IUML_M (ICT use Mathematics learning); FI (family involvement);SIE(students’ ICT engagement)

The results of testing the students’ ICT engagement as a mediator strengthen the relationship showed that there is a partial mediation between family’s ICT involvement and students’ use of ICT for learning Mathematic where the students` ICT engagement path c is significant ($\beta = .44, p = .0000$ $FI - UILM$) and path c' also is significant ($\beta = .24, p = .0000$ $FI - UILM$) (Table 5). According to the results, the paths from $c \rightarrow c'$ beta coefficient decreases in strengthening the relationship between family involvement and students' use of ICT for learning Mathematics. However, students ‘ICT engagement is a key factor-mediated the relationship between the family involvement and student' use of ICT for teaching and learning Mathematics. Conversely, the result showed that there is no significant association between family involvement and students' use of ICT in learning Mathematics. However, after establishing the mediation the relationship becomes high which indicated that there is no significant direct effect of independent variable on dependents variable, but there is a significant indirect effect of family ICT involvement on students' use of ICT in learning Mathematics through students' ICT engagement.

Table 5. Result of Mediation Test

Hypothesized Relationship	β	P	95%BC bootstrap CI	
			LB	UB
$FI \rightarrow UILM$	a	.3	.0000	
		0		
$SIE \rightarrow UILM$	b	.6	.000	
		4		
Direct Model $FI \rightarrow UILM$	c	.4	.0000	
		4		
Indirect Model $FI \rightarrow UILM$	c'	.2	.0000	
		4		
Std. Indirect effect	a	.1	-.0004	.1159
	b	9		.2936

Discussion

One of the major goals in mathematics education is to ensure the success of all students in understanding mathematics since it is considered as one of the most challenging and problematic subjects. Students need to master mathematical skills and knowledge since it is not only be used as a routine in life but also, it is applications in the other subjects, for these reasons, teachers should focus on fostering the students’ understanding of mathematical concepts. Thus, a proper means is needed to support their understanding as this Paper specifically focused on students’ Mathematics engagement in ICT and its role as mediator strengthen the relationships between family ICT involvement and the students' use of ICT for learning Mathematics.

The findings of this study indicate that secondary school students in 32 schools of Zanjan city, Iran were engaged with ICT in terms of constructing their knowledge on Mathematics. The students are pleased to engage with ICT and use it for learning Mathematics through analyzing the Mathematical

information and representing their understanding of Mathematical concepts using ICT. They also believed that classroom activities and discussion for learning mathematics should be based on the use of ICT. The students were found to be engaged with their teachers in learning mathematics through the emails and online web, and this was lead to achieving their goals in learning Mathematics. The result was further indicated that the family has a great impact on students` mathematics learning process and this mainly due to their involvement in ICT through supporting their children with ICT tools like computer and internet access at home as well as their support regarding giving them advice when faced with any ICT problem. The student agreed that their family is always around them and they are their real source when it comes to the use of ICT for learning mathematics.

The relationship between students' ICT engagement and ICT use among the secondary level students in Mathematics classroom was investigated. The result of this study illustrated that the students' ICT engagement influence students' use of ICT in learning Mathematics., (2013) reported that involving students in ICT implementations has a significant impact on the students' use of ICTs for learning. Lin et al. (2016), revealed that students' ICT engagement is an essential factor in using ICT tools for learning Mathematics. Therefore, it is important for the mathematics teachers to keep their students engage with ICT. This can be done by using ICT in teaching mathematics, through the use mathematics software such as Matlab, Maple, DrGeo, Comput-Math, Geogebra, etc., According to interview conducted by(?) with Mathematics teachers in Iranian school, 'before using any Mathematics software there is the need to encourage and involve students with software in order to make them easy to use ICT tools. By engaging students with ICT, it is not only helping them to be engaged in using collaborative learning during the mathematics class (Isabwe et al., 2014; Xu, 2015) but also improve the students' performance in the classroom (Yamaguchi et al. (2014)

The result was further indicated that family ICT involvement does not have a direct influence on student use of ICT in learning Mathematics. This means that family involvement in students ICT engagement does not make a substantial contribution to the prediction of students' use of ICT in learning Mathematics. This finding is inconsistent a recent study conducted in Iran which shows that parents believed to have the indirect influence on their children's learning engagement and achievement (Rahimi, Ebrahimi, & Eskandari, 2013). Besides, findings of a study conducted in the United Kingdom have shown that parents support their children's use of ICT in learning purposes (Judge, Floyd, & Jeffs, 2015). Although, parental involvement in students` ICT engagement has significant effects on students learning in Mathematics classrooms (Fan & Chen, 2001; R. Reynolds & Chiu, 2015). But our study has shown that parents support and their encouragement is not predicted to be the course of students' use of ICT in learning Mathematics among Iranian secondary school students in Zanzan. The parents have the view that it is responsible for the schools to provide the chance for their children to pass the university entrance exam as they think that using ICT is fun and they consider ICT as not in line to help their children for an entrance exam. This might be the reason why parents' involvement cannot be used to predict the students' use of ICT in learning Mathematics. But, indirect relatives' support is critical and it has a special influence on students' ICT use for learning Mathematics. Therefore, when parents are cognitive, affectively and behaviorally engaged in ICT, they might have a positive impact on the use of ICT in learning Mathematics. This means that engaging in ICT can mediate positively to family involvement and students' use of ICT in learning Mathematics.

The role of students' ICT engagement as the mediator strengthen the relationships between family ICT involvement and students' use of ICT for learning Mathematics in this study indicated that students' ICT engagement mediates the two variables. This finding is in line with some previous research. Mo and Singh (2008), revealed that students' engagement in school mediated between the parental involvement and students performances in learning Mathematics. Thus, Parents are necessary keys for students' support in learning. Other studies have also shown that students' engagement mediated between family involvement and students learning process (Perry, Liu, & Pabian, 2010).

The family involvement plays an essential role in the ICT' engagement for learning Mathematics. Their participation is influenced by the students' ICT engagement willingness to use ICT

in learning Mathematics. To ensure that the use of ICT in teaching Mathematics is successful, support from family is vital.

Conclusion

The findings of this paper were showed that majority of the respondents are interested in using ICT tools for learning Mathematics. However, students' ICT engagement has been found to be the mediator that strengthens the relationship between the family ICT involvement and the students' use of ICT for learning Mathematics in Zanjan city Iran. Congruently, the correlation coefficient analysis model reveals the strongest positive relationship exists between students' ICT engagement with students' use ICT in learning Mathematics.

References

- Cooper, B., & Brna, P. (2002). Supporting high-quality interaction and motivation in the classroom using ICT: the social and emotional learning and engagement in the NIMIS project. *Education, Communication & Information*, 2(2-3), 113-138.
- Duffy, P. (2008). Engaging the YouTube Google-eyed Generation: Strategies for using Web 2.0 in teaching and learning. *The Electronic Journal of e-Learning*, 6(2), 119-130.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement. *Educational psychology review*, 13(1), 1-22.
- Gebre, E., Saroyan, A., & Bracewell, R. (2014). Students' engagement in technology-rich classrooms and its relationship to professors' conceptions of effective teaching. *British Journal of Educational Technology*, 45(1), 83-96.
- Gilbert, J., Morton, S., & Rowley, J. (2007). e-Learning: The student experience. *British Journal of Educational Technology*, 38(4), 560-573.
- Gregory, S., & Lloyd, I. (2010). *Accepting choices: To ICT or not to ICT: Engagement*. Paper presented at the Digital Diversity Conference.
- Harris, L. R. (2008). A phenomenography investigation of teacher conceptions of student engagement in learning. *The Australian Educational Researcher*, 35(1), 57-79.
- Isabwe, G. M. N., Reichert, F., Carlsen, M., & Lian, T. A. (2014). Using assessment for learning mathematics with mobile tablet based solutions.
- Jeyashree, S., & Ravichandran, R. (2013). Perspectives of Webometric Tools for Web Impact Assessment Studies: A Review. *International Journal of Library Science*, 2(2), 43-48.
- Judge, S., Floyd, K., & Jeffs, T. (2015). Using Mobile Media Devices and Apps to Promote Young Children's Learning *Young Children and Families in the Information Age* (pp. 117-131): Springer.
- Kubiatko, M., & Haláková, Z. (2009). Slovak high school students' attitudes to ICT using in biology lesson. *Computers in Human Behavior*, 25(3), 743-748.
- Leidner, D. E., & Jarvenpaa, S. L. (1995). The use of information technology to enhance management school education: A theoretical view. *MIS quarterly*, 265-291.
- Lin, S.-Y., Aiken, J. M., Seaton, D. T., Douglas, S. S., Greco, E. F., Thoms, B. D., & Schatz, M. F. (2016). Exploring University Students' Engagement with Online Video Lectures in a Blended Introductory Mechanics Course. *arXiv preprint arXiv:1603.03348*.
- Mo, Y., & Singh, K. (2008). Parents' relationships and involvement: Effects on students' school engagement and performance., 31(10), 1-11.
- Perry, J. C., Liu, X., & Pabian, Y. (2010). School engagement as a mediator of academic performance among urban youth: The role of career preparation, parental career support, and teacher support. *The Counseling Psychologist*, 38(2), 269-295.
- Rahimi, Ebrahimi, N. A., & Eskandari, Z. (2013). The effects of using technology and the internet on some Iranian EFL students' perceptions of their communication classroom environment. *Teaching English with Technology*(1), 3-19.
- Ramaswamy, V., Aroian, K. J., & Templin, T. (2009). Adaptation and psychometric evaluation of the multidimensional scale of perceived social support for Arab American adolescents. *American journal of community psychology*, 43(1-2), 49-56.

- Reynolds, & Chambers. (2015). *Digital Technologies: A new curriculum implementation*. Paper presented at the Society for Information Technology & Teacher Education International Conference.
- Reynolds, R., & Chiu, M. M. (2015). Reducing digital divide effects through student engagement in coordinated game design, online resource use, and social computing activities in school. *Journal of the Association for Information Science and Technology*.
- Shinn, G. C., Briers, G. E., Christiansen, J. E., Harlin, J. F., Lindner, J. R., Murphy, T. H., . . . Lawver, D. E. (2003). Improving student achievement in mathematics: An important role for secondary agricultural education in the 21st century.
- Stevenson, O. (2011). From public policy to family practices: researching the everyday realities of families' technology use at home. *Journal of Computer Assisted Learning*, 27(4), 336-346.
- Tacchi, J. A., & Watkins, J. J. (2007). 'Participatory Research and Creative Engagement with ICTs.'
- Xu, H. (2015). Using Mathematical Software in High School Math Class: A Case Study. *International Journal of Information and Education Technology*, 6(12), 966.
- Yamaguchi, S., Sukhbaatar, J., Takada, J.-i., & Dayan-Ochir, K. (2014). The Effect of Using XO Computers on Students' Mathematics and Reading Abilities: Evidence from Learning Achievement Tests Conducted in Primary Education Schools in Mongolia. *International Journal of Education and Development using ICT*, 10(2), 89-102.

GROWTH MOTOR DEVELOPMENT LEVELS OF YOUNG CHILDREN IN CRICKET, VOLLEYBALL AND ATHLETICS

Borhannudin Abdullah, Nor Amalina Shafie, Aminudin Yusof, Siti Nur Sarah Salehhodin &
Shamsulariffin Shamsudin

Faculty of Educational Studies, Universiti Putra Malaysia

borhannudin@upm.edu.my, nina84shafie@gmail.com, draminuddin@hotmail.com,
diving.scubanorth@gmail.com, shamsulariffin@upm.edu.my

ABSTRACT

The purpose of this study was to identify the gross motor development level of primary school students playing three different sports (athletics, volleyball and cricket). A total of 90 subjects (athletics = 30, volleyball=30, cricket =30) participated in the study. Gross motor development tests Ulrich (2000) with a coefficient of 0.88-0.96 (Hardy, 2009) was conducted to assess the level of gross motor development of young athletes from different sports. There was a significant difference [F (2,87) = 108.2, p = 0.00] for gross motor development among young athletes for different sports (athletics, crickets, and volleyball). Post hoc analysis on the GMDQ mean scores showed cricket and volleyball players differed from athletics (p<0.01). Age of locomotor (AEL) scores for the three types of sports also shows significant differences [F (2,87)=86.6, p<0.00] for all three sports. For control object scores (AEM), there were significant differences [F (2,87) = 61.2 , p = 0.00] between volleyball and cricket (p <0.01) players. There are differences in gross motor development among young children participating in sports such as athletics, volleyball, and cricket.

Keywords: Motor development, GMDQ, volleyball players

Introduction

Gross motor skills involve the use of large muscle groups in performing daily activities by individuals. Some examples of daily movements that involve gross motor skills are climbing, dancing, running, jumping and kicking. The acquisition of movement skills is very important for young children (Gallahue & Donnelly, 2003) because problems in motor development at an early age may result in less involvement in sports activities or games during childhood and adolescence (Hardy , 2009). Applicable motor development involves not only an increase regarding age and physical growth but refers to the physiology, motor system and nervous system. Motor development is a process that is continuous and lifelong starting in the womb until death (Gallahue & Ozmun, 1998). As a child grows, they acquired movement skills and increased physical competence. At this age period, development of basic movement skills children are sensitive (Gallahue & Donnelly, 2003).

Locomotor skills are the ability to make changes to body movement in activities that involve the whole body such as changing position in galloping, running, or jumping either with one leg or standing long jump and leaping. Object control skills are the ability to manipulate the equipment with the coordination of the body such as hands and feet position either by moving or in a static condition. Examples of object control skills are hitting a stationary ball, bouncing a ball, catching a ball, kicking a ball or throwing a ball.

Gross Motor Development Test (TGMD - 2) is a norm-referenced measure of common gross motor skills of children. It has been used by researchers to identify gross motor functioning by combining fun activities with a reliable and valid measure of gross motor development. TGDM-2 measures locomotor skills (run, gallop, hop, leap, horizontal jump, slid) and object control skills (striking a stationary ball, stationary dribble, kick, catch, overhand throw, and underhand roll). Data are collected through video recordings, and scores are awarded based on successful or failed attempts.

The literature suggests there are no other measures of gross motor abilities for children aged 3 through 10 years. Physical Education teachers are trained to measure the physical performance of children regarding fitness such as cardiovascular endurance, muscular endurance, flexibility and the ability of the other components of fitness. However, teachers are not trained on how to measure the gross motor development of a child. appropriate instructional program in gross motor skill development. This results in the no assessment of the gross motor functioning of children and teachers are not able to identify children who are significantly behind their peers in gross motor skill development and formulate an appropriate instructional program in gross motor skill development. Consequently, children failed to acquire basic movement skills throughout their childhood and adolescents (Gallahue, 2011; Goodway, Crowe, & Ward; 2003). Since problems in motor development at an early age may result in less involvement in sports activities or games during childhood and adolescence, it is important to study common gross motor skills of children. This study seeks to :

- 1) Identify the level of gross motor development among young children in the sports of cricket, volleyball and athletics.
- 2) Determine differences in gross motor development of young children in the sports of cricket, volleyball and athletics.
- 3) Determine differences in the scores for age equivalent locomotor skills young children in the sports of cricket, volleyball and athletics.
- 4) Determine differences in the scores for age equivalent object control skills young children in the sports of cricket, volleyball and athletics.

Methodology

This ex-post facto study involves six tests of locomotor skills and object control skills using the Test of Gross Motor Development (TGMD) by Ulrich (2000). TGMD is a test of skills such as running, walking, gallop, jump on one foot, standing long jump, leaping , and sliding. Object control skills test involves hitting a stationary ball, catching, rolling, throwing, kicking and bouncing a ball. Both locomotor skills and control objects contain scores ranging from 0 to 48. The subject chosen was children who represented their school in cricket, volleyball and athletics in the state of Selangor.

Findings

ANOVA for Gross Motor Development Quotient (GMDQ) between groups

The three groups of subjects were analysed descriptively. Table 1 shows the scores for GMDQ to evaluate the mean and standard deviation for each group of subjects. The mean value for subjects in the cricket group was 46.0 with a standard deviation of 7.02. While the mean value for volleyball subjects was 73.5 with a standard deviation of 12.92 followed by mean of 85.5 for subjects in the athletics group with a standard deviation of 13.1.

Table 1. Descriptive Statistics for GMDQ Overall Score according to the Type of Sports

Variable	Sport	N	Mean	Standard Deviation
GMDQ	Cricket	30	46.0	7.02
	Volleyball	30	73.5	12.92
	Athletic	30	85.5	13.1

Subjects in the athletics group obtainde the highest mean and standard deviation (mean = 85.5 , sd = 13.1). Based on ANOVA analysis, there were significant differences in GMDQ scores for three different groups [F (2,87) = 108.2 , p = 0.00] as shown in Table 2 .

Table 2. Summary of ANOVA for Comparison between Sports Scores GMDQ

Variance	df	Min (Square)	F	P Value
Between Groups	2	12302.5	108.2	0.01
In Groups	87	113.6		

Post Hoc Analysis of Gross Motor Development Quotient (GMDQ) between groups

Post hoc analysis (Tukey HSD) is shown in table 3. There is a significant difference in GMDQ scores between those in the athletics group from those in volleyball and cricket ($p < .01$). Subjects in the volleyball and cricket groups also differed significantly also showed a significant difference ($p < .01$).

Table 3. Difference Scores GMDQ Post Hoc Analysis between Sports

Sport		Difference Mean	P Value
Athletic	Volleyball	12.00	0.01
	Cricket	39.5	0.01
Volleyball	Cricket	27.5	0.01

ANOVA for Age Equivalent Locomotor (AEL) and Age Equivalent Object Control (AEM) between groups

Table 4 shows the mean score for AEL for subjects in the athletics group was 7.30 with a standard deviation of 1.71. For the volleyball group, AEL mean score was 5.73 with a standard deviation of 1.31, followed by cricket (mean=3.10, s.dev = 0.16). For AEM, subjects in the athletics group obtained the highest mean scores of 7.77 with a standard deviation of 1.18 followed by volleyball (mean=6.74) and cricket (mean=3.58).

Table 4. Descriptive Statistics for Scoring Difference Age Equivalent of Locomotor and Object Control Overall by Sports

Variable	Sport	N	Mean	Standard Deviation
AEL	Athletic	30	7.30	1.71
	Volleyball	30	5.73	1.31
	Cricket	30	3.10	0.16
AEM	Athletic	30	7.77	1.18
	Volleyball	30	6.74	1.88
	Cricket	30	3.58	0.37

Results of ANOVA analysis age equivalent of locomotor for young athletes, there are significant differences in the level of $p < 0.05$ in AEL score for three games [$F(2, 87) = 86.6, p = 0.00$] as shown in Table 5.

Table 5. Summary of Comparison on ANOVA for AEL Scores between Sports

Variance	df	Min (Square)	F	P Value
Between Groups	2	135.5	86.6	0.00
In Groups	87	1.56		

Table 6 are the results of the analysis ANOVA test showed that there were significant differences [$F(2, 87) = 61.2, p = 0.00$] to age equivalent of control object for young athletes in sports.

Table 6. Summary of Comparison on ANOVA for AEM Scores between Sports

Variance	df	Min (Square)	F	P Value
Between Groups	2	143.1	61.2	0.00
In Groups	87	2.33		

Post Hoc Analysis age Equivalent Locomotor (AEL) and Age Equivalent Control Objects (AEM) Which of Sports

Table 7 shows a comparison between sports for age equivalent score locomotor and object control through analysis post hoc test. The findings indicate that there is a significant difference between the scores AEL and AEM sports with volleyball ($p = 0.00$), sport with cricket ($p = 0.00$) and between volleyball and cricket also showed a significant difference ($p = 0.00$).

Table 7. Difference Post Hoc Analysis of Test Scores AEL and AEM between Sports

Sport		Different mean	P Value
AEL:			
Athletic	Volleyball	1.57	0.00
	Cricket	4.20	0.00
Volleyball	Cricket	2.63	0.00
AEM:			
Athletic	Volleyball	1.02	0.00
	Cricket	4.19	0.00
Volleyball	Cricket	3.16	0.00

Discussion

Gross Motor Development Stage for Young Athletes by Different Type of Sport

This study aims to determine the level of gross motor development of young athletes based on three types of sports athletics, volleyball and cricket. Analysis shows that young athletes obtain sports scores better in the age of equivalent locomotor score, control objects and Gross Motor Development Quotient (GMDQ). Based on the interpretation GMDQ, young athletes that sport is a collection reached the highest level on the development of the locomotor, control objects and GMDQ. The second highest group is young volleyball athletes in all aspects and was followed by younger athletes cricket obtain low mean value of the three tests conducted. The development of gross motor skills in young athletes is important enhanced with the help of structured program for structured and unstructured. (Sofianidis, Hatzitaki, Douka, & Grouios; 2009). This shows that physical activity at this stage of preparation is very important and effective training program should be done properly because it is a basic skill that is very important for this group. In fact, different game types, equipment and activity area also needs to be improved to suit the type of sport offered (Raudsepp, & Pall ; 2006)

Difference of Level Age Equivalent for Locomotor Skills and Control Object for Young Athletes between Type Sports

Based on the analysis, the findings showed that there are differences in the level of age equivalent of locomotor skills and control objects for young athletes in sports. Sport in a mean value was found locomotor skill and object control followed by volleyball. While for cricket is a team of young athletes have the lowest mean value in both tests were carried out. The provision of appropriate according to the type of sport has to offer can help improve motor skills development of young athletes for each sport (Venetsanou & Kambas, 2010)

Conclusion and Recommendation

The conclusions of this study show that young athletes are the main stages that need to be focused on the development of the motor skill. The existence of gross motor developmental delay these athletes ranked in the primary school. It shows gross motor development is not balanced athlete sequence chronological age. The physical environment of the area in terms of facilities and equipment is a key factor to motor development of children of primary school. Appropriate facilities and comprehensive

scheduling regular activities helped improve their motor skills. Therefore, it is suggested that more physical activity was held in the training program. Element of fun during training is the main focus of each training session is to encourage them to improve their performance. Through fun and physical activity performed regularly, is believed to help the development of children's motor skills indirectly.

In addition, it is proposed also to the coach knows the development of gross motor skills of children. Gross motor development tests is one way that can be performed on children to determine their level of development according to age equivalent. Gross motor development test procedures can be included in the training of trainers program. This can help coaches provide program or activity different physical and motor skills appropriate to the achievement of these athletes (Bahtiri, 2012) . This situation can foster the development of motor skills of athletes in accordance with the age equivalent. It is hoped that the results of this study can help coach sports at school find out the level of development of motor skills of their athletes. Designing the coaching and learning activities appropriate to athletes to help improve gross motor skills among them.

References

- Bahtiri. (2012). Motor Development: Exploring Main Motor Skills of 6 Year Old Kosovar Children. *Sport Science* 5, 1 : 91-94.
- Venetsanou, F., & Kambas, A. (2010). Environmental factors affecting preschoolers motor development. *Early Childhood Educational Journal*, 37, pp. 319–327
- Hardy, L. (2009). Fundamental movement skills among Australian preschool children. *Journal of Science and Medicine in Sport*, 05.10.
- Ulrich DA (2000). *Test of gross motor development (2nd ed.)*. Austin, TX: Pro-ed, Inc.
- Gallahue, D.L. and Donnelly, F. C. (2003). *Developmental Physical Education for All Children*. Champaign, IL: Human Kinetics.
- Gallahue, D., & Ozmun, J.C. (1998). *Understanding Motor Development. Infants, Children, Adolescents, and Adults*. New York: McGraw-Hill.
- Gallahue, D., Ozmun, J., & Goodway, J. (2011). *Understanding Motor Development: Infants, Children, Adolescents, Adults 7th Edition*. McGraw-Hill Education
- Goodway, J.D., Crowe, H., & Ward, P. (2003). Effects of motor skill instruction of fundamental motor skill development. *Adapted Physical Activity Quarterly*, 20(3): 298.
- Raudsepp, L., & Pall, P. (2006). The relationship between fundamental motor skills and outside-school physical activity of elementary school children. *Pediatrics Exercise Science*, 18, 426-435.
- Sofianidis, G., Hatzitaki, V., Douka, S., & Grouios, G. (2009). Effect of a 10-week traditional dance program on static and dynamic balance control in elderly adults. *Journal of Aging and Physical Activity*, 17, 167-180.

MEDIATION EFFECT OF PERCEIVED LEARNING IN THE RELATIONSHIP BETWEEN INSTITUTIONAL FACTORS AND THE LEVEL OF COURSE SATISFACTION IN DISTANCE LEARNING

Azadeh Amoozegar, Shaffe Mohd Daud, Rosnaini Mahmud & Habibah Ab. Jalil
Faculty of Educational Studies, Universiti Putra Malaysia
azadehamoozegar@yahoo.com, shaffee@upm.edu.my, rosnaini@upm.edu.my,
habibahjalil@upm.edu.my

ABSTRACT

Acknowledging that distance learning dramatically increased in the past 20 years: on-line course retention and the continual participation of students in the same course; remains a significant challenge. In this case, identification of factors, which contribute to student satisfaction and experience from distance learning has become an important issue among on-line educators. Institutional factors in terms of support were found to be the key factors in students' satisfaction. The aim of this paper was to investigate the contribution of institutional factors toward course satisfaction in distance learning environment. This study was conducted in two Malaysian Research Universities among 367 undergraduate distance students. The quantitative data are based on student evaluation forms: their evaluation of university support, administrative support, technical support, and the overall course satisfaction. The result of the study revealed that institutional factor was a significantly positive, and strong factor associated with level of course satisfaction.

Keywords: Course Satisfaction, Institutional Factors, Administrative Support, Technical Support, and University Support

Introduction

In line with the first Malaysian concept, distance-learning programs are offered to all interested Malaysians irrespective of race to enable them acquire quality education at the tertiary level. The availability of this alternative-learning program allows those committed to their work or have family commitments to continue studying without having to leave their existing obligations. However, distance-learning model shifted from instructor centered to learner centered respectively. This suggests that knowledge was not passively acquired, but rather personally constructed by learners, or co-constructed through collaboration among peers. Hence, it involves exploring diverse learning activities through which the learner instructor and learner could interact. The increasing use of information technology in education has brought learners and teachers together by eliminating the boundaries of time and space for both site-based and distance learners (Taha & El-Hajjar, 2012). This type of learning instruction could enhance students' freedom from possible learning restrictions (Nakayama, Mutsuura, & Yamamoto, 2014). Consequently, there is numerous numbers of studies that highlighted an increasing participation in distance learning programs at higher education levels, which are enhanced through opportunities inherent in the distance learning education (Boston, Diaz, Gibson, Ice, Richardson, & Swan, 2010; Daniel, 2012; Ferguson & DeFelice, 2010).

Institutions in Malaysia are facing the challenges of promoting educational opportunities that could facilitate the country's advancement to a developed status (Parsons, 2008). For this reason, it is imperative that institutions equip their students with the requisite support services (San, 2010). Resource availability, which includes access to technology tools and its application as well as easy access to the Internet, was found to be the key factors influencing students' satisfaction (Accuosti, 2014). According to Alexander et al; (2009), receiving administrative and technical supports tend to boost students' satisfaction towards on-line learning. In view of the requisite elements related to support services such as administrative, university and technical supports are essential for enhancing students' satisfaction (Ghavifekr, Afshari, Siraj, & Razak, 2013). Kee et al; (2012) suggested that university, administration, and instructor supports were able to influence the adoption of distance learning among students in higher education. It is known that institutional factors in terms of support

are a crucial construct impacting student satisfaction. However, a lack of support from institutions is one of the main challenges in the Malaysian distance education (Embi, 2011). Consequently, to fill this knowledge gap, the study investigated the support services impact on the satisfaction of distance-learners' enrollment in on-line courses in Malaysia.

Literature Review

Institutional factors include support programs or requirements that an institution sets as standards, practices, or criteria for student participation to meet the established conditions required for graduation (Dixon, 2015). As individual institutions strive to make their distance-education programs successful, they need to pay attention to the support service issues that often-become barriers to achieving set goals. Chaney, Chaney, & Eddy (2010) suggested that successful distance-education program requires a significant amount of institutional supports for promoting the quality of distance teaching and learning. Similarly, in the studies of Hassan et al; (2009), the level of student satisfaction increased with a corresponding increase in the level of support services. Therefore, it is implied that institutional factors play crucial role in enhancing the level of satisfaction in a distance-education program. It has been addressed in depth that many institutional factors may have an influence on students' perception, satisfaction in literature; nevertheless, only those factors related to support services are considered to be relevant to this study. This is with regards to their importance in the distance-education environment: technical, administrative, and university support (Cheung and Huang, 2005; Ice, 2006; Smith, 2004; Song, 2004; Kee et al, 2012).

Technical support is considered as one of the crucial factors, which is mainly performed by providing support when required by specialized skill personnel on software and hardware related products (Alshammari, Ali, & Rosli, 2016). Technical support is considered as the assistance received by the learner on the usage of the technological environment (Barbera, Clara, & Linder-Vanberschot, 2013). Researchers have identified technical support as an important factor that relates to the satisfaction of students. This has a critical effect on students' experience in accepting or refusing an information system (Baleghi-zadeh, Fauzi, Mahmud, & Daud, 2017). When users receive practically no assistance while being faced with a challenge or problem, they may imply that operating with the system could be a waste of time and hence possibly quit (Dzega & Pietruszkiewicz, 2012). Poon (2013) suggested that technical support should be considered primarily as a means to facilitate student learning. This must be encouraged in order to enhance and ensure the success of a distance-education program. Although, technical support is one of the considerable elements, which encourage and persuade users toward having a certain perception and adoption of technological innovations (Alshammari et al., 2016). There is limited number of empirical research that investigated its influence on how it impacted on course satisfaction, especially in the context of Malaysia.

Another type of institutional factor is the administrative support. Administrative support is considered as those professional actions executed or endorsed by the building principal or the principal's agent to support counseling programs (O'Connor, 2000). Administrative support can develop the implementation of an innovation or technology based on the fact that administrators provide services such as learners' registration, security, record keeping and training as well as technical support (Kee, et al., 2012). Moses et al; (2012) emphasizes that administrators' support plays a crucial role in influencing the use of technology. It is suggested that the administrators who support the use of technology not merely in words, but also in action lead to the acceptance and adoption of the technology as a culture. However, administrative support is considered as those professional actions executed or endorsed by the building principal or the principal's agent to support counseling programs (Connor, 2002). Thus, the lack of administrator's support will hinder the implementation of a technology (Selim, 2007).

University support is considered as the tools, methods, facilities, personnel, and services offered by the educational establishment to assist and encourage students in their learning (Libron-Green, 2004). Romsa (2012) suggests that the university support can play an important role in retaining the students in a distance-learning environment. This is because the university supports

influences a student's ways of thinking, methods of problem solving, and interest in life goals. Numerous studies in organizational science and communication have strongly argued that university support is a key factor that greatly influences various aspects of student's cognitive and emotional outcomes (Gillet et al., 2012; Ohana, 2012; Rutherford et al., 2012). Studies show that as members perceive more support from their universities, they are more likely to be satisfied and less stressed (Cho and Yu, 2015). Therefore, it is important to understand the role of university support in the successful teaching-learning experience of distance learning. However, there has been no research study that had examined support of students.

Based on this literature discussed, it can be implied that there was a general consensus that institutional support has a vast influence on student satisfaction. Hence, universities should work very hard to evolve strategies that can facilitate learning within their distance learning environments (Christiana, 2014).

Theoretical Framework of the Study and Research Questions

The aim of this study was to investigate the impact of institutional factors (administrative support, university support, and technical support) on perceived learning as a mediator, while satisfaction is the dependent variable. Figure.1 indicates the relationship between the variables of current study.

The result of previous studies illustrated that institutional factor is a crucial construct which affects satisfaction, persistence and retention (Marsh, 2010; Sickler, 2013; Bean, 2008; Christiana, 2014; Curran, 2013; Dixon, 2015). For example, Rovai & Downey (2010) described the importance of the institution in students' success, especially in their satisfaction with on-line courses. They stated that: poor faculty development can adversely influence distance-program quality, lead to student dissatisfaction and attrition, and adversely affect the school's reputation and branding. According to Bhuasiri et al; (2012), providing support, equipment accessibility, and training are important issues for distance-learning acceptance.

Based on information obtained from the review of literature, in order to improve completion rates, the institution would benefit from further exploration of the institutional factors related to student satisfaction. This is because the literature reviewed showed that most barriers to the implementation of distance education are related to institutional issues (Neben, 2014). Therefore, it can be hypothesized that institutional factors in terms of technical support, administrative support, and university support may have direct influence on course satisfaction. This suggests that if distance learners are provided with sufficient support, they will be satisfied with on-line courses.

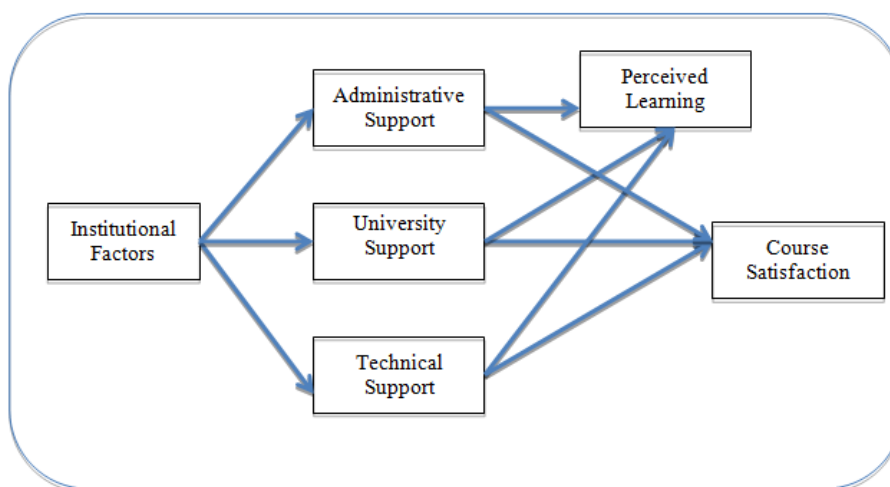


Figure1: The proposed model of the study

Fig.1 shows perceived learning mediating the influence of the institutional factors (technical, administrator, and university support) on course satisfaction. This suggests that the relationship between perceived learning and satisfaction is well established as a number of researchers have consistently found out that perceived learning is positively related to satisfaction. For example: a study conducted by Arbaugh & Rau (2007), relates to students' perceived learning and satisfaction with the delivery medium in a distance-learning environment. This study reveals a significant relationship between the two constructs. Similarly, Frick et al; (2009) used satisfaction and learning as indices for evaluating the overall teaching and learning quality in college courses. They found out that students' satisfaction and perceived learning were strongly correlated.

Perceived learning was identified as a mediating factor that influences the effect of the different factors on satisfaction and acceptance of on-line courses (Hu & Hui, 2012; Sharma and Chandel, 2014). Caetano (2007) analyzed the mediating role of perceived learning in the relationship between occupational satisfaction, affective reactions, and utility reactions and perceived training transfer. The population of the study was 185 teachers, which attended a professional training program. They got support from the direct effects of occupational satisfaction on perceived learning and training transfer respectively. They also predicted and got support from the direct effects of affective reactions on perceived learning and training transfer respectively.

Based on the literature reviewed, the theoretical and conceptual framework for the study, the following research questions were asked:

- 1) are there any significant relationships between institutional factors and course satisfaction?
- 2) are there any significant relationships between institutional factors and perceived learning?
- 3) does perceived learning have a mediating effect on the relationship between institutional factors and course satisfaction?

Methodology

This study was carried out in Universiti Kebangsaan Malaysia (UKM) and Universiti Putra Malaysia (UPM) respectively; two research universities, which use LMS from local vendors with global standards under the names SalMas and PutraBlast respectively. More so, these two universities own their specific department for distance-learning education. Survey was found to be the most appropriate design in order to achieve the research objectives. Survey design enables researchers to describe, organize, and summarize the observed data and the researcher can also gather information from a given sample of respondents in a relatively convenient manner (Pallant, 2013). Data were obtained through the administration of well-structured questionnaires on 303 third and fourth-year distance-education students respectively using purposive sampling technique. The questionnaire consisted of four sections, the first section solicited demographic information from the respondents. The second section solicited students' responses on the institutional factors, while questions from the third and fourth sections were related to the student's satisfaction and perceived learning respectively. The instrument was tested for reliability using cronbach's alpha value, which yielded a reliable coefficient score of 0.85 for institutional factors, 0.82 and 0.88 for student's satisfaction and perceived learning respectively. The retrieved data were analyzed using simple percentage and structural equation modeling (SEM).

Demographic Characteristics of the Sample

This section gives a brief description of the demographic characteristics of the target population. From Table 1, of the 303 respondents, majority 191 (63%) are females. Majority 164 (54.8%) are also within the age bracket 18-25, 105 (35.1%) within 26-35 years, 23 (7.7%) within 36-45 years while only 7 (2.3%) respondents are above 45 years of age. For employment, majority 157 (52.7%) of the respondents are unemployed, 103 (34.6%) are on part-time employment while only 38 (12.8%) have full-time employment. For marital status, majority 155 (52.2%) are singles, 93 (31.3%) are married while only 49 (1.5%) are divorced.

Table 1. Frequency Distribution of Students' Demographic Characteristics

Variable	Level	Frequency	Valid Percent
Gender	Male	112	37
	Female	191	63
Age	18-25	164	54.8
	26-35	105	35.1
	36-45	23	7.7
	>45	7	2.3
Employment	Unemployment	157	52.7
	Part-time	103	34.6
	Full-time	38	12.8
Marital	Single	155	52.2
	Married	93	31.3
	Divorced	49	16.5

Source: Field survey (2016)

Exploratory Factor Analysis

In this study, according to the preliminary data analysis using SEM: it was found that many of the items for two scales including course satisfaction and perceived learning were dropped respectively. Therefore, the natural grouping of latent construct using exploratory factor analysis (EFA) prior to confirmatory factor analysis (CFA) was checked by using principal component analysis (PCA) and orthogonal method with varimax rotation. Factor analysis was conducted with all the 18 items that relate to course satisfaction. Three factors with eigenvalues greater than 1 were extracted (Osborne & Costello, 2009; Maroof, 2012). The results after varimax rotation showed that these three factors explained 64.07 % of the total variance, which were more than 50%. These three factors were labeled as: course planning, course content, and course support respectively. Furthermore, the items of perceived learning were also dropped after the preliminary data analysis using SEM. Thus, to determine whether the collection of goal subscales loaded on separate factors as anticipated, EFA with varimax rotation was performed. Here, three factors with eigenvalues greater than one emerged (Miller et al., 1996). The results after varimax rotation showed that the three factors explained about 63.88 % of the total variance, which were more than 50%. Three items related to perceived learning were labeled as: with course material, course experience, and course skills respectively.

Integrated Measurement Model

A measurement model represents how the measured indicators joined together to represent constructs (Byrne, 2010). This sub-model is used to measure construct(s) validity, which includes discriminate and convergent validities (Harrington, 2009). To assess construct validity, a measurement model uses CFA. In fact, CFA tests whether the items measure the construct (s) of the study (Wang and Wang, 2012). In this study, to examine the fitness of the measurement model, seven indices were assessed. The results showed the fit measurement model with $\chi^2 (196) = 523.39$, $p=0.002$, $\chi^2/DF=2.67$, $GFI=0.878$, $AGFI=0.842$, $CFI=0.906$, $IFI=0.907$, and $RMSEA= 0.074$ respectively. In addition, the RMSEA was met with a cut-off point of 0.074, which fell between the recommended limits of acceptability.

For Table 3, the results of CFA for testing the integrated measurement model, including all the research variables confirmed that the measurement model had a good fit. In other words, the goodness-of-fit statistics implied that the model adequately fits the data.

Table 3. Fit Indices of Measurement Model

Model Fit Indices	Criteria	Values	References
χ^2	P>0.05	0.002	Hair et al. (2010)
χ^2/df	= < 2	1.458	Im and Grover (2004)
GFI	Near to 0.90	0.945	Schumacker and Lomax (2010)
AGFI	=<0.08	0.924	Im and Grover (2004)
IFI	Near to 0.90	0.981	Marsh,Hau, and Wen (2004)
CFI	>=0.90	0.981	Im and Grover (2004)
RMSEA	=<0.08	0.039	Hair et al. (2010)

Note: χ^2 : chi- square; **df**: degree of freedom; **GFI**: goodness of fit; **AGFI**: Adjusted GFI; **IFI**:Incremental fit index; **CFI**: Comparative fit index; **RMSEA**: Root mean squared error of approximation. Source: Awang (2014)

To investigate construct validity, convergent and discriminant validities were examined. Convergent validity determines the value of common variance in items of each construct. Hair et al; (2010) suggested three ways through which convergent validity is estimated: factor loading, average variance extracted (AVE), and construct reliability (CR) respectively. From the results of this study, it is suggested that all the constructs have convergent validity (Table 5).

Table 4. Convergent Validity of Proposed Measurement Model

Construct	Item	Loading Factor	CR	AVE
Perceived Learning	SK	0.774	0.844	0.644
	Mat	0.891		
	Exp	0.735		
Course Satisfaction	Sup	0.586	0.777	0.543
	Cont	0.745		
	Plan	0.855		
Institutional Factors	AS	0.738	0.733	0.481
	TS	0.575		
	US	0.754		

Source: Field survey (2016)

Discriminant validity refers to the extent to which a latent construct is truly distinct from other latent constructs (Hair et al., 2006). Discriminant validity was assessed by a method, suggested by Hair et al; (2006), in which the AVE for each construct is compared with the corresponding squared inter-construct correlations (SIC). The AVE estimate is consistently larger than the SIC estimates, which indicates support for discriminant validity of the construct. A construct will have adequate discriminant validity if the square root of AVE exceeds the correlation among the constructs (Fornell & Larcker, 1981; Hair et al., 2006). Besides, to meet sufficient dissimilarity, Urbach et al; (2010) suggested that factor loadings should be equal to or more than 0.70. Based on results in Table 5, square root of AVE for each variable (bolded numbers on a diagonal) is more than each of the correlation between variables, including instructor immediacy behaviour, perceived learning, course satisfaction, institutional factors and learner character respectively. Therefore, discriminant validity is adequate for the entire model.

Table 5. Discriminant Validity of the Measurement Model

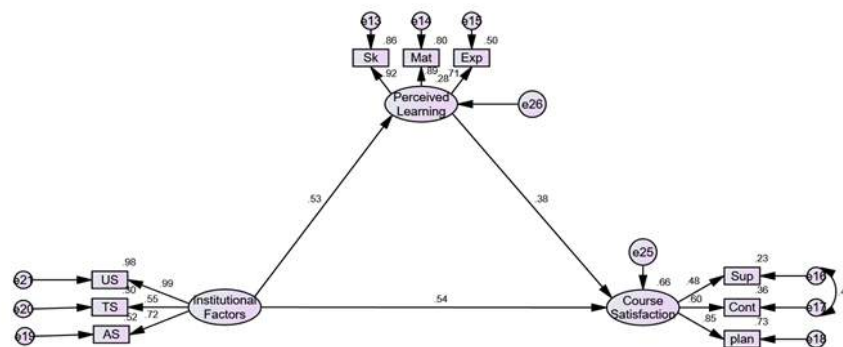
	PL	CS	IF
PL	0.803		
CS	0.690	0.737	
IF	0.437	0.504	0.694

CS: Course satisfaction, IF: Institutional factors, PL: Perceived learning
 (Bolded numbers are the square root of AVE). Source: Field survey (2016)

Structural Model

The structural modeling analysis was conducted, which was the ore analysis in this study after the measurement model analysis conducted (Awang, 2014). According to Hair et al. (2014), structural model is most useful in representing the relationships between exogenous construct (IV) and endogenous construct (DV) and testing direct and indirect effects (Table 6). The fit indices of the structural model without mediator were computed based on the maximum likelihood method (ML). The chi-square was significant ($\chi^2_{(143)} = 351.604$, $p < 0.001$). The GFI was 0.889, more than the cut off, 0.8. The CFI and IFI were 0.928 and 0.929 respectively, more than the cut off, 0.9. The RMSEA was 0.070, less than the threshold, 0.08 and χ^2/df was 2.459, below the threshold of 5.0. According to the results, institutional factors showed a significant effect on course satisfaction among the respondents ($\beta = 0.294$, $p < 0.01$).

This study used perceived learning as a mediator between institutional factors and course satisfaction (Figure 2). The results revealed that the chi-square was significant ($\chi^2_{(23)} = 44.222$, $p < 0.005$). The GFI was 0.959, more than the cut off, 0.8. The CFI and IFI were 0.979 and 0.979 respectively, which are more than the cut off, 0.9. The RMSEA was 0.065, less than the threshold of 0.08 and χ^2/df was 2.768, which is below the threshold of 5.0.



Chi-square (df) = 44.222 (23); P value (≥ 0.05) = .005
 ;Relative Chi-Sq (≤ 5) = 1.923; AGFI (≥ 0.8) = .920
 ;GFI (≥ 0.8) = .959; CFI (≥ 0.9) = .979; IFI (≥ 0.9) = .979
 ;RMSEA (≤ 0.08) = .065

Hence, the result of the model showed a good overall fit because the measures were all within the acceptable limits. According to the result of the path model after mediation (Table 6), institutional factors show a positive and significant effect on course satisfaction ($\beta = 0.164$, $p = 0.015$). The overall findings showed that the scores of R^2 value satisfy the requirement for the 0.10 cut-off value (Quaddus and Hofmeyer, 2007). This is because R^2 for course satisfaction was 0.505, which means that about 50.5% of course satisfaction can be explained by the suggested model.

Table 6. Test of the Total Effects of IVs on Self-value (with Mediators)

Path	B	β	S.E.	C.R.	P value
Path a					
IF-----> PL	0.190	0.201	0.06	3.158	0.002
Path b					
PL-----> CS	0.392	0.475	0.075	5.238	<0.001
Path c					
IF-----> CS	0.128	0.164	0.053	2.443	0.015

Source: Field survey (2016)

Mediation Effect of Perceived Learning

Bootstrapping method of path analysis was employed to assess the mediation effect of perceived learning. Both direct and indirect effects of institutional factors on course satisfaction were significant, which means the effect of this variable on course satisfaction is also partially mediated by perceived learning (Table 7).

Table 7. Distinguishing Total, Direct, and Indirect Effects of Model

Independent variables	Total effect	Direct effect	Indirect effects	Results
Institutional Factors	0.259 (p<0.001)	0.164 (P= 0.026)	0.095 (P= 0.016)	Partial mediation

Source: Field survey (2016)

Discussion

Institutional factors required for successful distance learning is the allocation of dedicated services to support and assist distance learners and facilitators throughout the development and use of modules (Poon, 2013). This includes preparing and spending resources on communication and interaction to help learners become actively involved in distance-education programs. Emphasis should focus on the learning and satisfaction of distance learners. In identifying the influence of institutional factors on satisfaction in a distance-learning environment, this study revealed that institutional factors were a significantly strong positive factor associated with course satisfaction. The finding implies that the respondents paid attention to the institutional factors. This is supported by the works of Gomez-Rey et al; (2015). In their study, they found out that institutional variables are more important than instructional variables. This suggests that on-line students who have a high level of support and interaction with their institutions tend to have a higher degree of satisfaction with the on-line courses.

This study confirms that institutional factors are perceived as important to learners. This is supported by the findings of Milman et al; (2015) and Dixon (2015) respectively. They found in their study that the institutional supports were important to distance students and participants. In their survey, the majority of supports and services were rated with a high level of importance. This is in line with the findings of this study. These findings contradict that of Hirt, Cain, Bryant, & Williams (2003) in their study. Their work involves a study of on-line students' perception with the various support services, in which they found out that these supports were of no importance to the students. They reported that the respondents were mostly on-campus students who registered for some on-line course(s) and were not students enrolled in programs that were completely offered online. However, based on the importance of institutional factors in the distance-learning environment, this study suggested that without adequate institutional factors, students are less likely to persist in the distance-education program even when other options may be available. Therefore, the efficient and real-time support should be provided from the variety of the available fields and locations all across the institution(s).

Finally, the outcome of this study showed that perceived learning significantly influences course satisfaction. This is in harmony with the findings of Frick et al; (2009), who used perceived learning and satisfaction as the indices for evaluating the overall teaching and learning quality in the courses offered in colleges. In their findings, they asserted that these two factors were strongly correlated. The result showed that perceived learning only partially mediated the relationship between learner characteristics, institutional factors and course satisfaction. In other words, both direct and indirect effects of learner characteristics and institutional factors on course satisfaction were significant. This suggests that the effect of learner characteristics on course satisfaction is partially mediated by perceived learning. These findings indicated that perceived learning as a partial mediator in the model produces the best model for predicting course satisfaction. Hence, supports the assumption predicting student satisfaction while enrolled for on-line courses.

Conclusion

The issue of distance-learning activities in Malaysia is very interesting and worthy of being explored due to the fact that a lot of successes are recorded in Malaysia. This suggests that the country may be in a relatively more advantaged position when compared with other Asian countries. Impliedly, a higher level of success would logically be related with a greater probability of student satisfaction with on-line courses, which may translate to better, improved academic performance. In consequence, this study attempted to explain the effect of institutional factors on student satisfaction.

Institutional factor in terms of support includes the combined set of student successes, which should precisely assist the students right from the commencement of their academic program up to the end of it. Institutions must have clear, well-planned strategies in order to facilitate optimizing student retention, satisfaction with distance-education programs. This may likely help to ensure the avoidance of attrition among potential students. However, the result of the study revealed that among three variables of institutional factors, university support was found to affect student satisfaction more than the others. Thus, universities should pay more attention to the institutional concerns: insufficient support and identifying overt and covert behaviors, and attitudes that are seen as being disaffectionate towards these concerns. This type of information is expected to facilitate and enhance the administrative and academic institutions improve on the structural system of distance learning and aspiration towards high-quality teaching and satisfactory learning experiences.

This study has some limitations. First, it investigated course satisfaction among distance learners. Hence, the findings of the study may not be generalizable to face-to-face students. Further, this study was limited to one external variable of institutional factors in terms of support. There are a variety of external variables, such as: instructor immediacy behavior, interaction and so on, which may affect the satisfaction of students with on-line courses. In fact, the proposed structural model could explain and predict about 50.5% of variance in course satisfaction. In other words, about 49.5% of variance in course satisfaction is still not explained. Therefore, the paper argued that a myriad of some other endogenous and exogenous factors plays significant roles in determining students' performance. These other endogenous and exogenous factors need to be investigated in future research. Finally, this study was limited to the investigation of respondents in the public research universities. It is recommended that future studies should focus on private universities with a similar research direction to this study.

References

- Accuosti, J. (2014). Factors affecting education technology success. Proceeding of the ASEE 2014 Zone I Conference, April 3–5, 2014, University of Bridgeport, Bridgeport, CT, USA.
- Alexander, M. W., Perreault, H., Zhao, J. J., & Waldman, L. (2009). Comparing AACSB faculty and student online learning experiences: Changes between 2000 and 2006. *Journal of Educators Online*, 6(1), 1-20.
- Alshammari, S. H., Ali, M. B., & Rosli, M. S. (2016). The Influences of Technical Support, Self Efficacy and Instructional Design on the Usage and Acceptance of LMS: A Comprehensive Review. *Turkish Online Journal of Educational Technology*, 15(2), 116.

- Arbaugh, J. B., & Rau, B. (2007). A study of disciplinary, structural, and behavioral effect on course outcomes in online MBA courses. *Decision Sciences Journal of Innovative Education*, 5(1), 65–93
- Baleghi-zadeh, S., Fauzi, A. M. A., Mahmud, R., & Daud, S. M. (2017). The influence of system interactivity and technical support on learning management system utilization, 9(1), 50–68.
- Barbera, E., Clara, M., & Linder-Vanberschot, J. A. (2013). Factors influencing student satisfaction and perceived learning in online courses. *E-learning and Digital Media*, 10(3), 226-235.
- Bean, B. W. (2008). Institutional, Financial, And Student Characteristics Affecting Persistence Of Scholarship Recipients: A Case Study Of First, Second, And Third Year Student Retention. *Journal of Chemical Information and Modeling*, 53(June), 1689–1699.
- Bhuasiri, W., Xaymoungkhoun, O., Zo, H., Rho, J. J., & Ciganek, A. P. (2012). Critical success factors for e-learning in developing countries : A comparative analysis between ICT experts and faculty. *Computers & Education*, 58(2), 843–855.
- Boston, W., Diaz, S. R., Gibson, A. M., Ice, P., Richardson, J., & Swan, K. (2010). An exploration of the relationship between indicators of the community of inquiry framework and retention in online programs. *Journal of Asynchronous Learning Networks*, 14(1), 3-18.
- Byrne, B. (2010). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming* (2 ed.). New York
- Caetano, R. V. A. (2007). Training transfer: the mediating role of perception of learning. *Journal of European Industrial Training*, 31(4), 283–296. <http://doi.org/10.1108/03090590710746441>
- Chaney, D., Chaney, E., & Eddy, J. (2010). The context of distance learning programs in higher education: Five enabling assumptions. *Online Journal of Distance Learning Administration*, 13(5).
- Cheung, W., & Huang, W. (2005). Proposing a framework to assess Internet usage in university education: an empirical investigation from a student’s perspective, 36(2).
- Cho, J., & Yu, H. (2015). Roles of University Support for International Students in the United States : Analysis of a Systematic Model of University Identification , Psychological Well-Being. <http://doi.org/10.1177/1028315314533606>
- Christiana, O. O. (2014). Institutional Factors Affecting the Academic Performance of Public Administration Students in a Nigerian University. *Public Administration Research*, 3(2), 171–177. <http://doi.org/10.5539/par.v3n2p171>
- Curran, M. J. (2013). Institution-Related, Instructor-Related, and Student-Related Factors That Influence Satisfaction for Online Faculty at a For-Profit Institution. ProQuest LLC.
- Daniel, J. (2012). Dual-mode universities in higher education: Way station or final destination? *Open Learning*, 27(1), 89-95. Doi:org/10.1080 /02680513. 2012. 640791.
- Dixon, M. J. (2015). Institutional factors affecting doctoral degree completion at selected Texas public universities. Texas A&M University-Commerce.
- Dzega, D., & Pietruszkiewicz, W. (2012). The Technological Advancement of LMS Systems and E-Content Software. In *Higher Education Institutions and Learning Management Systems: Adoption and Standardization* (pp. 219-245). IGI Global.
- Embi, M. A. (2011, November). e-Learning in Malaysian institutions of higher learning: Status, trends and challenges. In *Keynote Address presented at the International Lifelong Learning Conference (ICLLL 2011), Seri Pacific Hotel, Kuala Lumpur* (pp. 14-15).
- Eneh, O. C. (2010). Technology transfer, adoption and integration: a review. *Journal of Applied Sciences (Faisalabad)*, 10(16), 1814-1819.
- Ferguson, J. M., & DeFelice, A. E. (2010). Length of online course and student satisfaction, perceived learning, and academic performance. *The International Review of Research in Open and Distributed Learning*, 11(2), 73-84.
- Frick, T. W., Chadha, R., Watson, C., Wang, Y., & Green, P. (2009). College student perceptions of teaching and learning quality. *Education Technology Research Development*, 57, 705-720
- Fornell, C.R., Larcker, D.F., (1981). Evaluating structural equation models with unobservable variables and measurement error. *JMR* 18 (1), 39–50

- Gillet, N., Fouquereau, E., Forest, J., Brunault, P., & Colombat, P. (2012). The impact of organizational factors on psychological needs and their relations with well-being. *Journal of Business Psychology, 27*, 437-450.
- Gómez-Rey, P., Barbera, E., & Fernández-Navarro, F. (2016). The Impact of Cultural Dimensions on Online Learning. *Educational Technology & Society, 19*(4), 225-238.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). *Multivariate Data Analysis*. New Jersey: Prentice-Hall.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). New Jersey: Prentice-Hall
- Harrington, D. (2009). *Confirmatory factor analysis: Pocket guides to social work research methods*. New York: Oxford University Press.
- Hasan, H. F. A., Ilias, A., Rahman, R. A., & Razak, M. Z. A. (2009). Service quality and student satisfaction: A case study at private higher education institutions. *International Business Research, 1*(3), 163.
- Hirt, J. B., Cain, D., Bryant, B., & Williams, E. (2003). Cyberservices: What's important and how are we doing. *NASPA Journal, 40*(2), 98-118.
- Hu, P., & Hui, W. (2012). Examining the role of learning engagement in technology-mediated learning and its effects on learning effectiveness and satisfaction. *Decision Support Systems, 53*(4), 782–792
- Ice, P. R. (2006). The relationship between technical support and pedagogical guidance provided to faculty and student satisfaction in online courses (pp. 1-113).
- Kee, N. S., Omar, B., & Mohamed, R. (2012). Towards Student-Centred Learning : Factors Contributing to the Adoption of E-Learn @ USM. *Malaysian Journal of Distance Education, 14*(2), 1–24.
- Maroof, D. A. (2012). Exploratory Factor Analysis. In *Statistical Methods in Neuropsychology* (pp. 23-34).
- Marsh, G. B. (2010). An Exploratory Investigation Of The Relationship Between Institutional Characteristics And Student Retention In Public Four-Year Colleges And Universities, *61*(3), 839–846. <http://doi.org/10.2466/Pr0.1987.61.3.839>
- Miller, R. B., Greene, B. A., Montalvo, G. P., Ravindran, B., & Nichols, J. D. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. *Contemporary educational psychology, 21*(4), 388-422.
- Milman, N. B., Posey, L., Pintz, C., Wright, K., & Zhou, P. (2015). Online master's students' perceptions of institutional supports and resources: Initial survey results. *Journal of Asynchronous Learning Network, 19*(4), 2012–2013.
- Moses, P., Bakar, K. A., Mahmud, R., & Wong, S. L. (2012). ICT Infrastructure, Technical and Administrative Support as Correlates of Teachers' Laptop Use. *Procedia - Social and Behavioral Sciences, 59*, 709–714. <http://doi.org/10.1016/j.sbspro.2012.09.335>
- Nakayama, M., Mutsuura, K., & Yamamoto, H. (2014). Impact of Learner ' s Characteristics and Learning Behaviour on Learning Performance during a Fully Online Course, *12*(4), 394–408.
- Neben, J. (2014). Attributes and Barriers Impacting Diffusion of Online Education at the Institutional Level, *11*(1).
- O'Connor, P. J. (2000). Administrative Support Of Counseling Programs. *North*. <http://doi.org/10.16953/deusbed.74839>
- Ohana, M. (2012). Perceived organizational support as mediator of distributive justice and job satisfaction: The moderating role of group commitment. *Journal of Applied Business Research, 28*(5), 1063.
- Osborne, J. W., & Costello, A. B. (2009). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Pan-Pacific Management Review, 12*(2), 131-146.
- Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS*. New York, NY: Open University Press.
- Parsons, A. M. (2008). *A Delphi study of best practices of online instructional design practices in Malaysia* (Doctoral dissertation, Capella University).

- Poon, J. (2013). Blended Learning: An Institutional Approach for Enhancing Students' Learning Experiences. *Merlot Jolt*, 9(2), 271–290.
- Quaddus, M., & Hofmeyer, G. (2007). An investigation into the factors influencing the adoption of B2B trading exchanges in small businesses. *European Journal of Information Systems*, 16(3), 202-215.
- Romsa, K. (2012). Freshman student-faculty interactions and GPA: Predictors of retention and overall satisfaction, 73, 1254.
- Rovai, A. P., & Downey, J. R. (2010). Why some distance education programs fail while others succeed in a global environment. *The Internet and Higher Education*, 13(3), 141-147
- Rutherford, B. N., Wei, Y., Park, J., & Hur, W. (2012). Increasing job performance and reducing turnover: An examination of female Chinese salespeople. *Journal of Marketing Theory and Practice*, 20, 423-436.
- San, Ng Man (2010). Impact of service quality, satisfaction and personal factors on student retention in open distance learning institutions in Malaysia (Doctoral dissertation, Open University Malaysia).
- Selim, H. M. (2007). Critical success factors for e-learning acceptance: Confirmatory factor models. *Computers & Education*, 49(2), 396–413. [http://doi.org/ 10.1016/j.compedu.2005.09.004](http://doi.org/10.1016/j.compedu.2005.09.004)
- Sharma, S. K., & Chandel, J. K. (2014). Students' acceptance and satisfaction of learning through course websites, 7(2), 152–166.
- Sickler, S. L. (2013). Undergraduate Student Perceptions Of Service Quality As A Predictor Of Student Retention In The First Two Years (Doctoral dissertation, Bowling Green State University).
- Smith, A. (2004). “Off-campus support” in distance learning—how do our students define quality?. *Quality Assurance in Education*, 12(1), 28-38.
- Song, H. (2004). A study of selected factors related to satisfaction among students enrolled in online courses at Southwestern Baptist Theological Seminary (pp. 1-168).
- Taha, M., & El-Hajjar, S. (2012). Modeling Critical Factors Influencing the Implementation of E-Learning Related Studies of E-Learning, 283–293.
- Urbach, N., Smolnik, S., & Riempp, G. (2010). An empirical investigation of employee portal success. *Journal of Strategic Information Systems*, 19(3), 184–206.
- Wang, J., & Wang, X. (2012). *Structural equation modelling: Applications using M plus*. West Sussex: Wiley.

HUMANISTIC CURRICULUM IMPLEMENTATION EVALUATION OF MRSM ULUL ALBAB PROGRAMME

Umi Kalthom Abdul Manaf & Fadzilah Abdul Rahman
Faculty of Educational Studies, Universiti Putra Malaysia
umizat90@upm.edu.my, dzila@upm.edu.my

ABSTRACT

A drastic movement made by the *Majlis Amanah Rakyat* (MARA) through its subsidiary, MARA Junior Science College (MRSM) back in 2008 had made a combined scientific and *Quranik*-based programme possible; The Ulul Albab Programme. An existing MRSM (MRSM Kota Putra) was upgraded to become the MRSM Ulul Albab. The programme was first implemented in 2008. The same Ulul Albab Programme was carried out by Imtiaz, a private school conceptualised by Idris Jusoh, the then Minister of Education, in Kuala Besut Terengganu way back in 1996. Fundamentally, Ulul Alab Programme comprises of three major components which are *Quranik*, *Insiklopedik*, and *Ijtihadik*. Ideally, the Ulul Albab Programme is set to produce professional experts, entrepreneurs and technocrats that are well versed in Quran and portraying as well as practicing the values of Islam. Throughout the years of implementation, several positive outcome-based indicators from the Ulul Albab programme immersed at Imtiaz. Hence, the same outcome-based indicators are also expected from MRSM Ulul Albab Kota Putra. However, the outcome-based indicators were incapable of evaluating the *sahsiah* and *ijtihadik* components fairly. Therefore, a much more complex curriculum implementation evaluation initiative through students' and teachers' experiences are very much needed in order to holistically understand and evaluate the success of Ulul Albab program implementation at MRSM Kota Putra. This paper discusses; (1) The problems faced in evaluating the Ulul Albab curriculum implementation, (2) Conceptualising of a proper model, of which Stake's Responsive Evaluation for the evaluation of Ulul Albab's curriculum implementation, and (3) Conceptualising a theoretical framework for the evaluation of Ulul Albab's curriculum implementation.

Keywords: Curriculum implementation, curriculum evaluation, Stake's Responsive Evaluation model, MRSM Ulul Albab programme.

Introduction and Purpose

In the year 2009, our Prime Minister, YAB Dato' Sri Najib Tun Razak had announced six National Key Results Areas (NKRA) for a better Malaysia. Through the third NKRA, the government aimed to provide quality and affordable educational access to all Malaysians (Pusat Maklumat Rakyat, 2012). The third NKRA was translated into action by the former chairman of MARA, who was then the second Minister of Education, Dato' Seri Idris Jusoh through the introduction of MARA Junior College (MRSM) Ulul Albab. The MRSM Ulul Albab program was set to combine both scientific and *Quranik* (*hafazan*) based educations within a single curriculum, namely the Ulul Albab Programme. It is hoped that through the introduction of this programme, the quality of education in Malaysia, particularly within the MARA system can be elevated to a higher level, as well as producing better quality students and *hafiz* in the future. Moreover, the Ulul Albab programme is also hoped to produce intellectuals with towering personality and values, in line with the expectations of the National Philosophy of Education (Commissioner of Law Revision, 2006).

Conceptually, the Ulul Albab programme incorporates three main components which are (a) *Quranik*, (b) *Insiklopedik*, and (c) *Ijtihadik*. In making sure a success implementation of the Ulul Albab programme, a specific module is developed as well as various assessment methodologies were brought fourth, for instance the *Quranik* module, and specific academic and *sahsiah* assessment instrumentations. *Quranik* module is intended to assist teachers on students' *hafazan*, two main national examinations, of which *Penilaian Menengah Rendah* (PMR) and *Sijil Peperiksaan Malaysia* (SPM) were intended to measure students' academic excellences, and finally the Tennessee Self-Concept Scale (TSCS) as well as students' disciplinary track records were used to measure students' *sahsiah* development (Sarinah Sulaiman, 2012).

Although all these assessment instruments and module are seen enough to provide indicators on the success of Ulul Albab programme implementation, they only provide outcome-based results that are non-holistic in nature, particularly in assessing the students' *sahsiah* development and assessing the process of implementation itself. Therefore, a better-fit theoretical framework to assess the development of students' *sahsiah* development as well as assessing the actual process of implementation must be formulated in order to holistically evaluate the success of Ulul Albab programme implementation. Hence, in this paper, the authors discuss on the problems faced in evaluating the Ulul Albab curriculum implementation, and why the Stake's Responsive Evaluation was chosen for the evaluation of Ulul Albab's curriculum implementation. Next, the authors discuss on the conceptualisation of theoretical framework for the curriculum implementation evaluation of Ulul Albab's programme.

Problem Statement and Justification

It is generally accepted that scientific evaluation approach through outcome-based indicator is commonly used to evaluate the success of a particular curriculum. However, the urgency of having humanistic and holistic curriculum evaluation is very much needed due to the increasing number of innovative 21st century curriculum designs that integrate not only the intellectual domain but also other important elements such as affective and social domains (Grimson, 2002). The movement towards 21st century education has been long foreseen by the government of Malaysia back in 1987 when the National Philosophy of Education (NPE) was fully written and implemented. Since the introduction of NPE, various educational institutions were developing their curricula based on a holistic approach, of which focusing not only the academics, but other aspects of meaningful education as well. In regard, MARA has taken an innovative approach by introducing the Ulul Albab programme for MRSM.

Evaluating the implementation of the Ulul Albab programme is indeed challenging and abstract in nature. This is the case because; the success of Ulul Albab programme does not only involve students' academics, but also the students' *sahsiah*. Through years of implementation, Ulul Albab programme at Imtiaz has shown several positive outcome-based achievements. For instance, Imtiaz was ranked top ten in 2009 PMR, and ranked top 20 in 2009 SPM examinations, as well as winning several state and national level competitions in the same year (Shukery Mohamed, 2011). Although positive outcome-based achievements are evident, Imtiaz has not yet sure the success of students' *sahsiah* development due to the dynamicity and complexity of measuring students' *sahsiah* development. Often, a so-called long-term effect was always used to justify the development of students' *sahsiah*. The same positive outcome-based indicators are also seen for MRSM Kota Putra. Based on the Ministry of Rural and Regional Development (KKLW) outcome-based assessment report in 2012, the overall academic performance is significantly increased (Sarina Sulaiman, 2012). Moreover, the report also stated since the number of discipline cases is low, it is concluded that *sahsiah* development is happening in MRSM Kota Putra. In contrary, the outcome of TSCS showed a conflicting research finding. Overall the students' self-concept scores were lower than expected (Sarina Sulaiman, 2012). In regard, the researcher speculated that the finding was highly associated with students' modesty attribute in answering the TSCS questionnaire; hence their self-concepts scores were lower than expected.

Based on the speculation, it is evident that the instrument used to measure students' *sahsiah* was unreliable and improper. The authors agreed that, the real issue in getting a reliable research finding was actually not the students' modesty attribute but rather improper theoretical framework in evaluating the success of Ulul Albab implementation holistically and unreliable instruments used to measure students' *sahsiah*. Literally, in order to carry out a holistic curriculum evaluation, a humanistic-oriented curriculum evaluation model must be applied (Orstein & Hunkins, 2004). Through the implementation of this humanistic-oriented model, the focus of evaluating will not only on finding the outcomes of a particular curriculum but rather understanding the process of its implementation holistically (Stake, 1974; Orstein & Hunkins, 2004). This will results in a much more in-depth understanding and analysis of what is the real situation experienced by teachers and students of Ulul Albab programme.

It is agreed that, in order to understand holistically the experiences of Kota Putra teachers and students while implementing the Ulul Albab programme, a classical model of curriculum evaluation

named Responsive Evaluation Model by Stake (1975) should be implemented. The model was named 'responsive' due to the initial requirement to determine stakeholders' expectations on a particular curriculum before one actually evaluating a curriculum. For the case of Ulul Albab programme, stakeholders of MARA are indeed the think-tanks whom expectations must be acknowledged. Therefore, this model is fairly suitable since it acknowledges views and expectations of the stakeholders and later uses the expectations to guide the evaluation process through series of interviews with the Ulul Albab programme implementers –teachers and students. Moreover, due to the in-depth and holistic nature of Stake's model, a much more meaningful finding in evaluating the students' *sahsiah* can be documented.

Theoretical Framework

This section briefly explains (a) the Ulul Albab curriculum model and Stake's Responsive Evaluation Model, and (b) formulating the theoretical framework for Ulul Albab curriculum implementation evaluation by combining both Ulul Albab curriculum model and Stake's Responsive Evaluation Model.

Ulul Albab Curriculum Model

Ulul Albab programme was designed based on three main components. The components are *Quranik*, *Ensiklopedik*, and *Ijtihadik* (Shukery Mohamed, 2011). *Quranik* component focuses on two aspects which are acquiring skills in *hafazan*, and Arabic language. *Insiklopedik* focuses on two aspects as well which are acquiring the multi-disciplinary and multi-lingual, whereas *Ijtihadik* focuses on the critical and creative thinking skills (Shukery Mohamed, 2011), as well as other domains of 21st century skills. Although these three components are the basis of Ulul Albab curriculum, *Quranik* is regarded as the key component in designing the Ulul Albab curriculum. This is the case since every student that undergoes the programme must be highly proficient in Quran recital, *hafazan*, and interpretation. Additionally, the Ulul Albab programme is also integrating three main extra-curricular activities, of which horseback riding, swimming, and archery. These extra-curricular activities are regarded crucial in cultivating the *Ijtihad* component in Ulul Albab programme since these are th *sunnah* of prophet Muhammad, peace be upon him. The main stakeholders of MARA believed that by re-living the *sunnah*, students will be more engaged with the values and virtues of Islam and later develop their skills and *sahsiah* within the worldview of Islam. In regard, these hands-on co-curricular activities are expected to benefit the students by relating the values acquired from the Quran and knowledge acquired from academic subjects with real life situations. To summarise, Figure 1 illustrates the Ulul Albab curriculum model.

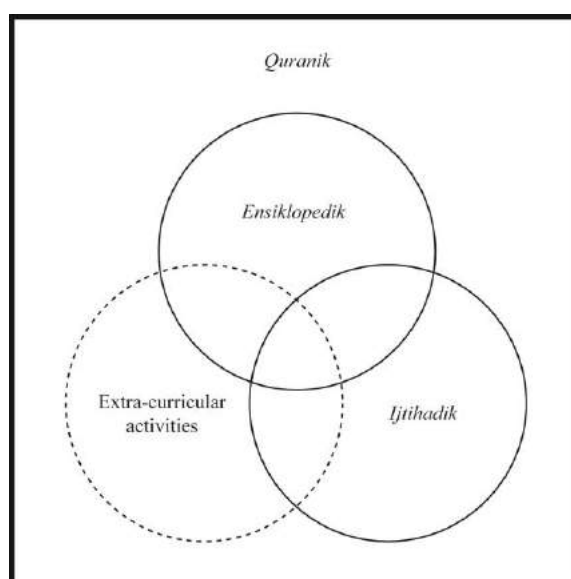


Figure 1. The Ulul Albab Curriculum Model

Stake's Responsive Evaluation Model

Responsive evaluation proposed by Stake (1975) is considered as less formal and pluralistic in nature since its central focus is on addressing the stakeholders' expectations and experiences such as administrators, teachers, students, and parents. It emphasizes evaluation being conducted in the settings where teaching and learning activities occur through interactions and observations rather than giving too much attention on predetermined issues. In regard, Stake's model of evaluation relies heavily on qualitative techniques such as interview and observation. In order to carry out a responsive evaluation model, an evaluator must first meet the clients of a particular educational programme to gain their perspectives and expectations towards the programme. Later the evaluator determines the type of document analysis to determine the scope of the evaluation project. Next, the evaluator observes the program closely to get a sense of its operation and to note any unintended deviations from announced intents. Next, the evaluator discovers the stated and real purposes of the project and the concerns that various audiences have about it and the evaluation. Later the evaluator identifies the issues and problems with which the evaluation should be concerned. For each issue and problem, the evaluator develops an evaluation design, specifying the kinds of data needed. More to that, the evaluator then selects the means needed to acquire the data desired. Most often, the means will be human observers or judges. Only then the evaluator implements the data-collection procedures. Next the evaluator later organizes the information into themes and prepares "portrayals" that communicate in natural ways the thematic reports based on the data collected. The portrayals may involve videotapes, artefacts, case studies, or other "faithful representations". Lastly, by again being sensitive to the concerns of the stakeholders, the evaluator decides which audiences require which reports and chooses formats most appropriate for given audiences (Glatthorn, 1987). In summary, the steps of responsive evaluation are illustrated in Figure 2 below.

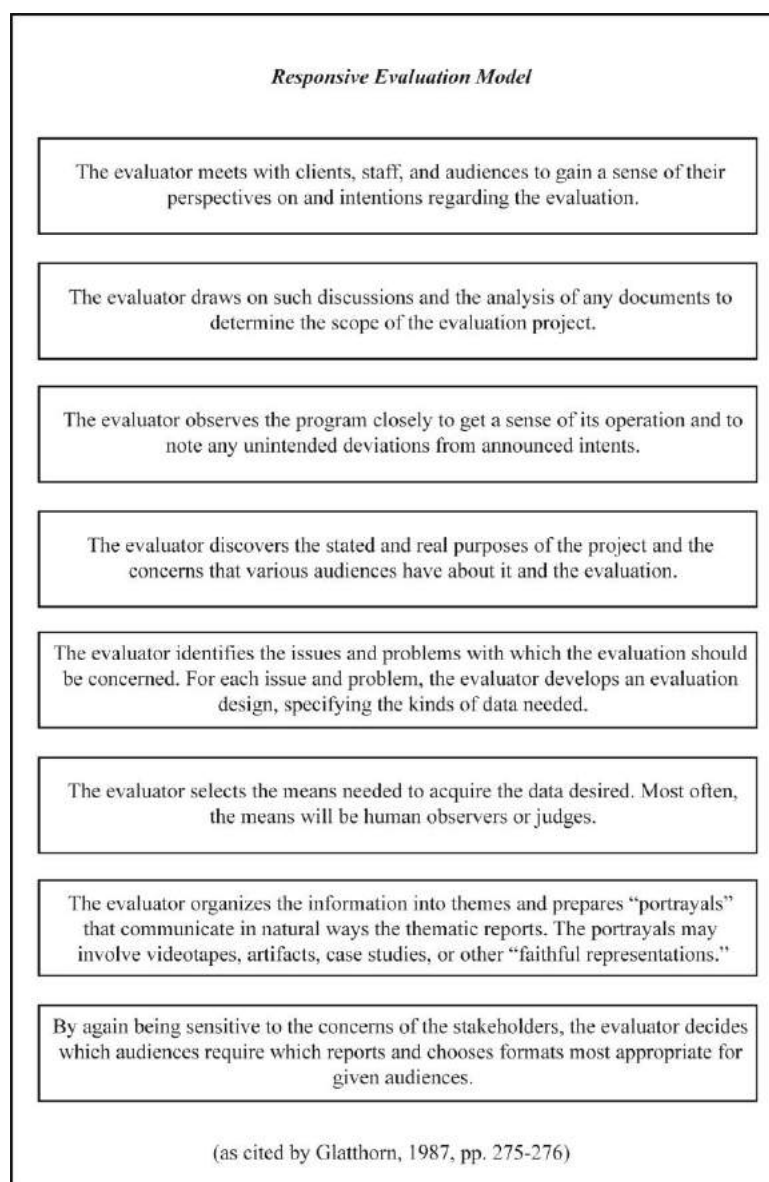


Figure 2. Responsive Evaluation Steps

Theoretical Framework for Ulul Albab Curriculum Implementation Evaluation

In order to make the Ulul Albab curriculum implementation evaluation meaningful, both Ulul Albab curriculum model and Responsive Evaluation Model are combined. The combination of these two models makes up the theoretical framework for the evaluation process. Essentially, the Ulul Albab curriculum model makes up the basic framework, of which consist of three major components, *Quranik*, *Ensiklopedik*, and *Ijtihadik*. In evaluating the curriculum implementation of Ulul Albab, every aspect of these three components must be taken into consideration by documenting evidences and data from three main groups, of which the main stakeholders of MARA, teachers, and students through implementing the eight steps of evaluation outlined by Stake (1975). Specifically, MARA main stakeholders will provide the expectations of Ulul Albab programme towards learning and teaching processes that promote academic achievement and *sahsiah* development. Teachers will provide insights based on their teaching experiences, while students will provide insights based on their learning experiences towards academic and *sahsiah* development. Altogether, the data collected will be used to determine whether or not the implementation of Ulul Albab curriculum at MRSM Kota Putra is a

success. In summary, **Error! Reference source not found.** below illustrates the theoretical framework for Ulul Albab curriculum implementation evaluation.

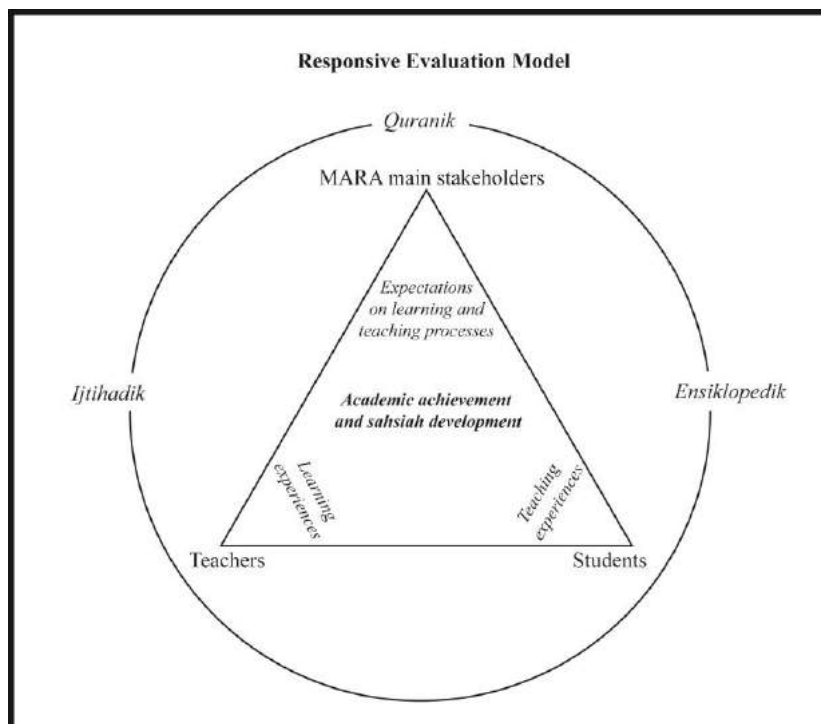


Figure 3. Theoretical Framework for Ulul Albab Curriculum Implementation Evaluation

Conclusion

Ulul Albab programme at MRSM has come to its five-year cycle of implementation. Therefore, a curriculum evaluation must be carried out in order to determine the effectiveness of the program in improving students' academic achievements and whether or not the programme promotes students' *sahsiah* development. Although a study was done to evaluate the outcomes of Ulul Albab programmes, the fact that it only gathers information through outcome-based indicators was inevitably unfair and misleading towards the whole process of Ulul Albab programme implementation, particularly on determining the success of promoting students' *sahsiah*. Furthermore, since there was no apparent formularisation of theoretical framework to direct the evaluation process, it made the study even more indistinct. As a result, conflicting findings on the students' *sahsiah* development was evident. Therefore, a proper holistic model of curriculum evaluation must be taken into consideration in order to provide insights of what is really happening within the process of Ulul Albab curriculum implementation, through understanding teachers' and students' experiences. In regard, a humanistic model of curriculum evaluation is very much needed since it focuses on understanding the process of curriculum implementation rather than outcomes of a particular curriculum (Stake, 1974; Orstein & Hunkins, 2004). Furthermore, the curriculum evaluation model must be able to seek expectations of the stakeholders towards the Ulul Albab programme and later match the expectations with the actual experiences of teachers and students in order to evaluate how far the expectations are met. Thus, Stake's Responsive Evaluation Model is suggested, along with specific theoretical framework in order to direct the curriculum implementation evaluation of Ulul Albab programme at MRSM Kota Putra.

*The authors acknowledge grant received from Majlis Amanah Rakyat (MARA) that allows the research to be carried out.

References

- Abu Bajar, N., & Ikhsan, O. (2003). *Falsafah pendidikan dan kurikulum*. Tanjong Malim: Quantum Books.
- Commissioner of Law Revision. (2006). *Laws of Malaysia: Act 550 education act 1996*. Kuala Lumpur: Percetakan Nasional Berhad.
- Curran, V., Christopher, J., Lemire, F., Collins, A., & Barrett, B. (2003). Application of a responsive evaluation approach in medical education. *Medical Education*, 37(3), 256–66.
- Glatthorn, A. A. (1987). *Curriculum leadership*. New York: Harper Collins.
- Grimson, J. (2002). Re-engineering the curriculum for the 21st century. *European Journal of Engineering Education*, 27(1), 31-37.
- Ornstein, A. C., & Hunkins, F. P. (2004). *Curriculum: Foundations, principles, and issues* (4th ed.). Boston, MA: Allyn and Bacon.
- Pusat Maklumat Rakyat. (2012). Enam bidang keberhasilan negara. Accessed on December 22, 2012, from, <http://pmr.penerangan.gov.my/index.php/component/content/article/466-pengenalan-nkra/4808-pointers-6-bidang-keberhasilan-utama-negara-nkra.html>
- Sarinah Sulaiman. (2012). *Laporan program pembangunan pelajar ulul albab*. Kuala Lumpur: Majlis Amanah Rakyat, Bahagian Pendidikan Menengah.
- Shukery Mohamed. (2011). *Inovasi kurikulum sekolah menengah: Kes sekolah Imtiaz*. Kuala Terengganu: Penerbit Universiti Malaysia Terengganu.
- Stake, R. E. (1975). *Program evaluation: Particularly responsive evaluation*. Kalamazoo, MI: Evaluation Center of Western Michigan.

DEVELOPING CONNECTION IN POSITIVE YOUTH DEVELOPMENT: LEADERSHIP LEARNING THROUGH MENTORING PROCESS AMONG YOUTH LEADERS IN MALAYSIA

Mohd Mursyid Arshad, Ismi Arif Ismail, Turiman Suandi & Zoharah Omar
Faculty of Educational Studies, Universiti Putra Malaysia

m_mursyid@upm.edu.my, ismi@upm.edu.my, tj@upm.edu.my, zoharah@upm.edu.my

ABSTRACT

Youth leadership development is one of the important agenda needed in the country's development agenda as outlined in the 'Transformasi Nasional 2050' (TN 50) (Najib Razak, 2017). The involvement of young leaders can be strengthened through wider exposure and professional training, including via mentoring that enhances Positive Youth Development among youths. Thus, mentoring has the potential in providing that kind of learning process. Therefore, this study was conducted to explore the process of mentoring towards PYD and how protégé enhanced connection in the mentoring process? Therefore, the question addressed in this paper is how mentoring contributes to the process of connection building to youth to develop their leadership ability and eventually fulfilling the overall PYD needs.

Keywords: Positive Youth Development, mentoring, youth leaders, leadership development

Introduction

Unleashing the potentials and abilities of youth to develop their readiness to take the lead will contribute directly to positive youth development (PYD). According to Li and Wang (2009), youth involvement in leadership activities is one of the approaches in the PYD concept as it involves youth development process. Youth development is described as an ongoing process to meet the physical needs and social demands in building youth competencies (Delgado, 2002), which in turn, promotes positive youth development (PYD) (Lerner et al., 2005). However, youth leadership development requires facilitated learning and role models that can be followed. Thus, mentoring has the potential in providing that kind of learning process. The focus on PYD process serves as the basis for developing positive youth elements in self potential (Lerner et al., 2015), which principally require empirical understanding to reveal the potential of youth leadership talent on PYD through mentoring.

In Malaysia, the current policy also supports the youth development agenda at the national level through initiative to plan for the future of Malaysia in the period 2020 to 2050 (Najib Razak, 2017). From the vision of becoming a developed nation, TN50 has put efforts in strengthening the leadership development process among youth and strive to be amongst the top countries in the world in economic development, citizen well-being and innovation. However, youth leadership development may also facing some challenges. According to Hastings, Human, and Bell (2011), as leaders, youths often fail to see themselves as decision-makers because some adult leaders do not really pass on the skills, experience, needs and motivation on how to be leaders systematically to them. The continuity of guiding youth leadership, if not well planned, may cause the young leaders not being able to participate actively within the existing community development process, which will then, lead to having youths who are not strongly connected to the community (Christens & Dolan, 2011). This situation can be seen in Malaysia, whereby the youths' readiness to lead is found to deteriorate, as there is a decline in the 2015 index score in the leadership category (Malaysian Youth Index, 2015). Based on the situation, there are concerns involving the ability of more Malaysian youths to lead, what more when the definition of a youth's age ranges between 15 to 40 years old as mentioned in the National Youth Development Policy 1997 and in the Youth Societies and Youth Development Act 2006 is being reduced to 15 to 30 years old as suggested in the Malaysian Youth Policy 2015.

Considering that youth leadership development requires participative learning and role models that can be emulated, developing youth's leadership competence through mentoring has the potential in providing that kind of learning process. Therefore, this study was conducted to explore the process of

mentoring towards PYD and how youth, who participated in leadership programs that incorporate leadership mentoring, learned via the mentoring process enhanced connection in the mentoring process. This study also discusses the potential development of connection element is one of the '5C' in Positive Youth Development (PYD) and concerns involving the ability of Malaysian youths and in this context, university students and graduates, to lead. The mentoring process studied involve input from the university as one of the training providers, the ministry and the industry as the program planner and mentoring provider. Through positive youth development, the nation aspires to develop and produce future leaders who can lead organizations, communities and the nation to greater heights.

Literature Review

Theories and Approaches in Leadership Mentoring

Leadership mentoring highlights learning input at one-on-one basis, especially in traditional mentoring (Reagan-Porras, 2013), with the more senior and experienced individual as the mentor who supports the protégé's career development (Ragins & Kram, 2007; Eller et al, 2013). Chaudhuri and Ghosh (2012), assert that traditional mentoring builds normative impression towards the suitable age to become a mentor and protégé, so as to ensure in-depth mentoring.

Positive Youth Development (PYD)

Positive youth development (PYD) perspective basically combines two main ideas. The first perspective is that youths possess the strength as displayed through the development of their ability in cognitive, emotion, social and behavioural changes (Phelps et al., 2009; Gestsdottir et al., 2011). Furthermore, the second perspective is the hypothesis assuming that the PYD element will increase when the youth strength is compatible with the strength to react to their surrounding (Benson, Skala, Hamilton, & Sesma, 2006), for a healthy development in their ecology. The individual development process in the PYD context involves adaptation of developmental regulations between youth strength and asset development within a particular ecology (Phelps et al., 2009).

According to Theokas et al. (2005), the combination of internal and external situations for the development of PYD elements abovementioned are known as the ecological and individual assets (Lerner et al., 2010). The internal asset is an element that guides youths to make choices related to their strengths, that is their hopeful future expectation, internal self-regulation and positive school engagement. Meanwhile, the external assets are ecological assets mostly related to positive experiences obtained from others, and the institutions they are involved with (Lerner et al., 2012). This may lead to individual joined benefit as the context of relationship with PYD consist of five elements '5C' (competence, confidence, character, connection and caring) (Lerner et al., 2005; 2015).

PYD in the Mentoring Process

From the youth leadership aspect, knowledge formation process, behavior and positive attitude of the participants cultivated from the leadership development programmes may be an indicator of the production of positive youth development (Lerner et al., 2005; Silbereisen & Lerner, 2007; Lerner et al., 2011). Through mentoring, youths are given the opportunity to develop individual asset through skills, build youth leadership and its continuity, and maintain the relationship between youths (protégé) and adults (mentor). The advantage obtained by the youths through leadership mentoring is associated with the criteria of effective youth development. Other than that, it provides the opportunity for youths to gain access using the ecological asset in the community they are involved in. This will directly develop each of the '5Cs' elements in developing positive youths, which in the end may be the contribution made by the youths (Lerner et al., 2013).

Methodology

The study was conducted through qualitative approach informed by the case study paradigm. Using the Perdana Leader Fellowship Program (PLF) and Perdana Fellows Program (PFP) as the context for data collection, a total of 13 informants were involved in this study. They include mentors,

protégé, the organizer and training providers and were identified using purposive sampling techniques. Data were collected through in-depth, semi-structured interviews and supported with relevant information from focus group discussions, participant observation, document analysis and field notes. Transcription of the interview session were examined several times. The data were further analyzed through coding and categorizing of themes using the NVivo as data managing software which eventually answer the research questions.

Research Findings and Discussion

From verbatim transcripts and significant statements extracted, this study identified how protégé expand the network through mentor in the mentoring process. There are several things that can be discovered from the informants on the causes for their involvement and engagement. Based on participant observation, mentoring provides opportunity for the protégé to communicate directly with their mentors. The study also found that mentoring has opened the access to protégé in network construction and at the same time mentor has strengthened the network. Based on interview findings, protégé recognize the role of mentor in providing the connection platform, as recognized by Protégé 1:
“... I admit that when I'm under my mentor, I collaborate with many parties. I got a new network for example with a person in charge at National Sports Institute, with the top gun of the Malaysian Youth Council. Most of the network when I was handling Fit Malaysia. So I agree that mentoring was beneficial in strengthening my network. ...”.

A mentor is a medium for linking protege with stakeholders and other shareholders to create a wider network of partnerships to the organization. Protégé 2 stated that "... in the ministry, there are various parties and agencies that work together and assist the minister in implementing policies. All of them are ministries. I am indirectly involved mentor in strengthening the cooperation. ... ". During the mentoring process, the protégé was also involved in various series of discussions and negotiations with mentor. Through that platform, the protege can build a wider network of disciplines in the same expertise. Protégé 3 stated that:

“...many companies and consultants who have consulted with the ministry, luckily I can join the discussion. I do not expect that I can build my network and contacts with professional person in the same field with me. I will definitely take advantage of that opportunity. ...”.

Indirectly, connection through mentoring enable protege to be easily identified by community leaders. Protégé 4 also said the same thing about leadership learning through connection from mentor:
"... During mentoring, I joined my mentor while he went down to visit various areas under his parliament. It can be said every time he visits the area, I will join and together with him. Indirectly, I can build my connection and networks with local leaders, community leaders and youth movement leaders as well. ... ".

The connection that has been built by protégé through access from mentor has opened up the space to indentify leadership talent and more recognizable society. Indirectly, the protégé is more easily known his potential in leadership. Protégé 5 describes the indirect benefits of a mentor's provided platform by stating:

"... Although I was active in the youth movement in Segamat, but in my mentor area I was able to get the support. Because in the past I have connection with them through my mentor. They recognize name there, people know. That time there was no intention of contesting as a member of the youth parliament. It's easy for me. When I want to contest for youth member of parliament, this network is help my campaign. That's the effect when we are placed under somebody as a mentor. People will know us easily. ... ".

Access obtained from a mentor-owned network helps accelerate the development of their ecological assets that help to improve PYD. Agans et al. (2014) states that youth are often left out in the context of social activity and positive connection. Therefore, the construction of an external network is

necessary for the youth to exhibit positive values that induce bonding with other individuals and institutions as well as helping to build youth capacity in connection towards PYD (Agans et al., 2014).

Provision of a platform by mentors helps to bond mutually beneficial relationships between individuals and peers, institutions and communities.

Conclusion

More efforts should be made to explore the Malaysian youths' involvement in leadership development via mentoring, which may contribute to positive youth development. Efforts made on youth development through leadership process could elevate positive values within youths. This study was conducted to explore how youth, who participated in leadership programs that incorporate leadership mentoring, learned and built connection via the mentoring process. The previous discussions suggest that the influence of mentoring is one of the factors that assist in the formation of new leadership potentials among youths. All in all, leadership mentoring is one of the insightful mechanisms that helps in developing leadership abilities among youth. Protégé's learning occurs in the locus of mentor's organization and not limited only to the learning between mentor and protégé. In fact, learning also occurred through mentor's organizational community.

Generally, positive values discussed from the PYD perspective have also reviewed traditional youth services, which also include services for the community and organization. Therefore, it can be seen that the PYD values have strong relationship with leadership values shaped through mentoring. Therefore, it can be seen that the PYD emanated through strong relationship and bond between the young leaders and the leadership community of practice in the mentoring process. More initiatives that link academic institution, public sector and corporate in the form of mentoring should be provided to youth to enhance the leadership learning and eventually the overall holistic, balanced and entrepreneurial traits expected from them as espoused in the Transformasi Nasional 2020-2050.

References

- Agans, J. P., Champine, R. B., DeSouza, L. M., Mueller, M. K., Johnson, S. K., & Lerner, R. M. (2014). Activity involvement as an ecological asset: Profiles of participation and youth outcomes. *Journal of Youth and Adolescence*, 43, 919–932. <http://doi.org/10.1007/s10964-014-0091-1>
- Benson, P. L., Scales, P. C., Hamilton, S. F., & Sesma, A., Jr. (2006). *Positive youth development: Theory, research, and applications*. In R. M. Lerner (Ed.), *Theoretical models of human development*. Volume 1 of *Handbook of Child Psychology* (6th ed.) (pp. 894-941). Editors-in-chief: W. Damon & R. M. Lerner. Hoboken, NJ: Wiley.
- Christens, B. D., & Dolan, T. (2011). Interweaving Youth Development, Community Development, and Social Change Through Youth Organizing. *Youth & Society*, 43, 528–548. <http://doi.org/10.1177/0044118X10383647>
- Delgado, M. (2002). *New frontiers for youth development in the twenty-first century revitalizing youth development*. New York: Columbia University Press.
- Eller, L. S., Lev, E. L., & Feurer, A. (2013). Key components of an effective mentoring relationship: A qualitative study. *Nurse Education Today*, 13(1), 1-6.
- Gestsdottir, S., Urban, J. B., Edmond, P., Lerner, J. V., & Lerner, R. M. (2011). Intentional Self-Regulation, Ecological Assets, and Thriving in Adolescence: A Developmental Systems Model. In R. M. Lerner, J. V. Lerner, E. P. Bowers, S. Lewin-Bizan, S. Gestsdottir, & J. B. Urban (Eds.), *Thriving in childhood and adolescence: The Role of self-regulation processes*. *New Directions for Child and Adolescence Development*, 133, 61–76.
- Hastings, L. J., Human, N., & Bell, L. C. (2011). Developing a Paradigm Model of Youth Leadership Development and Community Engagement: A Grounded Theory. *Journal of Agricultural Education*, 52(1), 19–29. doi:10.5032/jae.2011.01019
- Lerner, R.M., Lerner, J.V., Almerigi, J., Theokas, C., Phelps, E., Gestsdottir, S., Naudeau, S., Jelicic, H., Alberts, A.E., Ma, L., Smith, L.M., Bobek, D.L., Richman-Raphael, D., Simpson, I., Christiansen, E.D., & von Eye, A. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth grade

- adolescents: Findings from the first wave of the 4-H study of positive youth development. *Journal of Early Adolescence*, 25(1): 17–71.
- Lerner, R. M., von Eye, A., Lerner, J. V., Lewin-Bizan, S., & Bowers, E. P. (2010). The meaning and measurement of thriving: A view of issues. *Journal of Youth and Adolescence*, 39 (7), 707-719.
- Lerner, R. M., Lerner, J. V., Lewin-Bizan, S., Bowers, E. P., Boyd, M., Mueller, M., Schmid, K., Napolitano, C. (2011). Positive youth development: Processes, programs, and problematics. *Journal of Youth Development*, 6(3), 40-64.
- Lerner, R. M., Bowers, E. P., Geldhof, G. J., Gestsdottir, S., & Desouza, L. (2012). Promoting positive youth development in the face of contextual changes and challenges: The roles of individual strengths and ecological assets. *New Directions for Youth Development*, 135(1), 119-28. doi: 10.1002/yd.20034
- Lerner, R. M., Napolitano, C. M., Boyd, M. J., Mueller, M. K., & Callina, K. S. (2013). Mentoring and positive youth development. In D. L. DuBois, & M. J. Karcher (Eds.), *The handbook of youth mentoring* (2nd ed.). (pp. 17-27). Thousand Oaks: Sage Publications Inc.
- Lerner, R. M., Lerner, J. V., Bowers, E. P. & Geldhof, G. J. (2015). Positive youth development: A relational developmental systems model. In R.M. Lerner, W. F. Overton, & P. C. M. Molenaar (Eds.), *The handbook of child psychology and developmental science* (7th ed.). (pp. 607-651). New Jersey: John Wiley and Sons Inc.
- Li, G., & Wang, B. (2009). Adolescent Leadership Development: A Review. International Conference on Teaching and Computational Science (WTCS 2009) Proceedings (pp. 753–758). Shenzhen: Advances in Intelligent and Soft Computing.
- Malaysian Youth Index (2015). Institut Penyelidikan Pembangunan Belia Malaysia. Putrajaya: Kementerian Belia dan Sukan Malaysia.
- Najib Razak. (2017). *Transformasi Nasional 2050*. Retrieved from <https://www.najibrazak.com/en/blog/transformasi-nasional-2050/>
- Phelps, E., Zimmerman, S., Warren, A. E. A., Jeličić, H., von Eye, A., & Lerner, R. M. (2009). The structure and developmental course of Positive Youth Development (PYD) in early adolescence: Implications for theory and practice. *Journal of Applied Developmental Psychology*, 30(5), 571-584.
- Ragins, B. R., & Kram, K. E. (2007). The roots and meaning of mentoring. In B. R. Ragins, & K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research and practice* (pp. 3-17). Thousand Oaks: Sage Publications Inc.
- Reagan-Porras, L. L. (2013). Dynamic duos: A case review of effective mentoring program evaluations. *Journal of Applied Social Science*, 7(2), 208–219. doi:10.1177/1936724412467019
- Silbereisen, R. K., & Lerner, R. M. (2007). *Approaches to positive youth development*. London: Sage Publications.
- Theokas, C. (2005). Conceptualizing and modeling individual and ecological asset components of thriving in early adolescence. *The Journal of Early Adolescence*, 25(1), 113–143. doi:10.1177/0272431604272460

EXPATRIATES' PERCEPTION ON FACTORS AFFECTING KNOWLEDGE TRANSFER BETWEEN ASIAN EXPATRIATES AND LOCAL EMPLOYEES

Nurul Afiqah Zulkifly, Maimunah Ismail, Siti Raba'ah Hamzah, Eriko Yamato & Nur
Nasuha Gan Muhammad Azlan Gan
Faculty of Educational Studies, Universiti Putra Malaysia
afiqahzulkifly@gmail.com, mismail@upm.edu.my, sitirabaahhamzah@gmail.com,
eriko@upm.edu.my, nasuhaazlan93@gmail.com

ABSTRACT

This paper aims to investigate the influence of individual factors (cultural intelligence and feedback seeking behavior) and social capital factors (shared vision and trust) on knowledge transfer between Asian expatriates and host country nationals (HCNs), as perceived by the former. This paper integrates the use of the Human Capital Theory, the Social Capital Theory, and the Anxiety and Uncertainty Management Theory to support the knowledge transfer framework between the two groups of human resources. Data were analyzed from a sample of 108 expatriates who are employed in multinational corporations and private companies in the area of Klang Valley, Malaysia. Results disclose that majority of these Asian expatriate are from South-East Asian and Far Eastern countries with a mean age of 39.6 years old, and have a moderate level of knowledge transfer and high levels of individual and social capital factors. Two factors were found as significant predictors of knowledge transfer, namely shared vision and cultural intelligence with a determination power of 23.6%.

Keywords: Knowledge transfer, expatriates, host country nationals, social capital

Introduction

In this increasingly globalized world, there is an urgent need for companies and organizations to go cross-border to survive and prosper. This calls for the process of expatriation. With projection of increasing international assignments over the early decades in the third millennium, expatriation will be an increasingly common work experience (Forster, 1997) as there will be continuous international human resource mobility involving many countries. It has long been known that organizations send expatriates abroad to work in foreign countries (Kjerfve & McLean, 2012). Expatriates are considered among key resources to organization as they are able to gain knowledge about new market, new culture and innovative ways of doing business, and transfer the knowledge gained to the other parts or groups of employees of organizations (Lazarova & Cerdin, 2007). According to Palthe (2008), many international organizations depend on expatriates for their successful operation and continuous growth. In other words, good performance of expatriates has become a critical point to the success of organizations that go cross-border (Selmer, 2006). Due to global organizational and business expansion, there is a need to better understand the performance of these international assignees (Templer, 2010), one of which is in the area of knowledge transfer.

Knowledge transfer is a learning process within one unit (group, department, division or firm) that is affected by the experience (skills and knowledge) of other people in the unit (Argote & Ingram, 2000). It can also be considered as an exchange of knowledge between the sender and the receiver in unidirectional and bi-directional forms (Rogers, 2003; Szulanski et al., 2004). At the individual level, the process of knowledge transfer depends on the characteristics of individuals acted as the provider and recipient of knowledge as well as the social capital factors (Szulanski, 1996; Easterby-Smith et al., 2008) in addition to the characteristics of the knowledge to be transferred. This study focuses on selected individual and social capital factors contributing to knowledge transfer involving expatriates and local employees or host country nationals (HCNs).

The World Investment Report (UNCTAD, 2010) exposed that Malaysia has remained one of the top 15 host countries for foreign direct investment (FDI) for 2010-2012. This means, Malaysia

continues to increase in FDI inflows, making more foreign companies from other Asian countries such as Japan, China, South Korea, Taiwan, India and many more from the Western countries such as the UK, the US, Germany, Canada and the other European and Gulf Countries to come, thus leading to a greater demand for expatriates locally. As of July 2011, based on the Economic Report 2010/2011 (The Starbiz, 2011), the number of expatriates in Malaysia is 31,371, and it has increased to 61,113 in 2012, and 90,000 in 2014. The statistics in 2012 show that Asian expatriates (55.1%) are more than those from Western countries in the Europe, North America, as well as other non-Asian regions (44.9%).

The word expatriate is a professional term used to define an individual who temporarily or permanently residing, usually as immigrant, in a country other than that of his/her own country of birth, and at least they possess a minimum of professional or tertiary educational qualification of diploma or bachelor degree (Richardson & McKenna, 2002; Collings, Scullion & Morley, 2007). HCN is an individual whose nationality is the same as that home country in which the MNC or business company is operating. For example, a Malaysian manager who works in a subsidiary of a Japanese company based in Malaysia. It is expected that HCNs will enhance the process of knowledge transfer involving expatriates as they are working together to achieve the mission of the company.

Past research on knowledge transfer involving expatriates has argued that behavior of knowledge senders seemed to be one the determinants of knowledge transfer (Szulanski, 1996; Gupta & Govindarajan, 2000) but the research did not explore more on social capital factors of senders and receivers. An expat-focused prevails in much expatriate management research, but the main focus is on expatriates' leadership role in the organizations, their adjustment to and socialization in the host country (e.g. Paik et al., 2008; Tahir & Ismail, 2009), as well as their function in knowledge transfer from parent company to subsidiaries (Nery-Kjerfve & McLean, 2012). An integrated study focusing on the individual and social capital factors of expatriates seems unavailable based on Malaysian context. Therefore, this study is conducted to fill these knowledge gaps.

This article addresses the following research questions: Do individual and social capital factors positively relate to knowledge transfer between expatriates and HCNs as perceived by expatriates? Which of the independent variables (cultural intelligence, feedback seeking behavior, shared vision and trust) significantly influences knowledge transfer between expatriates and HCNs as perceived by expatriates?

Theoretically, this study expands knowledge transfer literature, in which, knowledge transfer should be understood by incorporating individual factors (cultural intelligence and feedback seeking behavior) and social capital factors of shared vision and trust. This study enriches the relevance of the Human Capital Theory, the Social Capital Theory and the Anxiety Uncertainty Management theory as used in the study based on a Malaysian context. Practically, this study helps human resource practitioners to realize dimensions of knowledge transferring behavior of expatriates in organizations. Consequently, practitioners could establish suitable knowledge management initiatives such as training and development, pre-departure training program as well as training need analysis in order to create a conducive organizational learning culture for employees.

The next section of this paper provides a literature review on knowledge transfer conceptualization and factors influencing knowledge transfer from the perspective of expatriates. The paper continues with the development of research framework and hypotheses, research procedures undertaken, the results, conclusion and recommendations.

Literature Review

Conceptualizing Knowledge Transfer

Cheng (2009) stated that the process of knowledge transfer among expatriates and Malaysian workers in organizations is crucial for many reasons, one of which is for sustainability of the institutions as a

learning organization. Mazloomi and Jolly (2008) asserted that a company's knowledge package such as technological knowledge, global markets, laws and regulations are crucial for the creation of a competitive advantage. Bou-Llugar and Segarra-Cipre (2009) also argued that a successful knowledge transfer depends on the intensity of the relationship between the source and the recipient.

Knowledge can be categorized into two groups: explicit knowledge and tacit knowledge (Crowne, 2009; Bou-Llugar and Segarra-Cipre's, 2006). Explicit knowledge or academic knowledge is described in a formal language, print or electronic media, frequently founded on established work processes and use people-to-documents approach (Smith, 2001). This "know-what" knowledge is a technical form of knowledge and it is readily to be communicated along and shared through formal means (Smith, 2001). Explicit knowledge is described as personal knowledge that an individual learns and cannot easily be transferred to another individual (Bou-Llugar & Segarra-Cipre's, 2006). Tacit knowledge involves understanding that comes with experience and is not taught in the normal sense, but learned (Elias & Wright, 2006) and it is unique (Crowne, 2009). As such, explicit and tacit knowledge have different economic values, in which the former is less expensive than the latter (Reychav & Weisberg, 2010).

Theorizing Knowledge Transfer

The Human Capital Theory

This study uses human capital theory to explain knowledge transfer. Becker (1964) highlights the theory as the potential relationship between the talent, quality, and skills of the personnel for organizational performance. Human capital which includes knowledge (tacit and explicit), skills and experience are key sources of an organization's competitive advantage within the global arena. This theory supports the use of the two individual factors of cultural intelligence and feedback seeking behavior in relation to knowledge transfer in which the loss or gain of this capital influences the performance in knowledge transfer. The theory has been used in past research on knowledge transfer such as by Hsu (2012). Therefore, the human capital theory is used in this study to support the arguments on how individual and social capital factors affect knowledge transfer between expatriates and HCNs as perceived by the former.

The Social Capital Theory

Ismail (2015) highlights social capital interaction between expatriates and HCNs as it facilitates coordination. One of the factors of successful knowledge transfer is the quality of social capital resulting from the relationship of individuals in the social system (Song et al., 2003; van Wijk et al., 2008). This theory was used by Yong et al. (2013) in explaining the role of relational resources embedded in social relationships, and by Yang and Farn (2009) to investigate employee's knowledge transfer behavior between individuals. He, Qiao and Wei (2009) suggested that employees' shared goals and social trust have a combined effect on knowledge transfer. Therefore, shared vision and trust are two social capital variables which are expected to influence knowledge transfer. Thus, it is appropriate to consider shared vision and trust as independent variables in this research as supported by the social capital theory.

The Anxiety and Uncertainty Management Theory

The anxiety and uncertainty management (AUM) theory proposes that anxiety and uncertainty are vital in determining the effectiveness of intergroup communication, especially in a cross-cultural context involving employees of different backgrounds such as expatriates and HCNs. Anxiety is the fundamental problems faced by individuals when they are interacting with other people (Yoshitake, 2002). The AUM theory supports the use of personal characteristics which foster the expatriates-HCNs relationship in their intercultural communication research. Examples of personal characteristics are feeling of anxiety and uncertainty that are important for individuals to manage and adjust to the new environment (Gudykunst, 2005). Uncertainty can be categorized as cognitive uncertainty (how people think about others) or behavioral uncertainty (the extent to which people are relatively certain that their counterpart will behave in an expected way). Therefore, if the expatriates are aware of the differences around them, they would better manage their communications with HCNs. This underlines the

significance of cultural intelligence in the knowledge transfer. For instance, if anxiety is too high, people interpret others' behaviors using their own frame of reference (Brandl & Neyer, 2009). Therefore, mindfulness, which can be closely related to cultural intelligence and feedback-seeking behavior supports the use of the AUM theory in this study involving expatriates and HCNs.

Relationship between Individual Factors (Cultural Intelligence and Feedback Seeking Behaviour) and Knowledge Transfer

Cultural Intelligence

Cultural intelligence is an individual's ability to behave and manage effectively in culturally diverse contexts (Ang et al., 2007). Earley and Ang (2003) defined cultural intelligence as an individual's capability to adapt effectively when they faced new cultural contexts. In addition, Thomas (2006) refers to cultural intelligence as an ability of an individual to understand and interact effectively with people from dissimilar cultures. According to Lii and Wong (2008), cultural intelligence has linkage to cultural adjustments among the expatriates. Expatriate who has higher cultural sensitivity and flexibility enable him/her to adapt to the new cultural surrounding in short period of time (Early & Peterson, 2004; Templer et al, 2006). Previous studies also have demonstrated the ability of cultural intelligence to predict various behavioral outcomes of expatriate and local employees, one of which is knowledge transfer (Ang et al., 2004).

Individuals need to be socially sensitive and adept in deciding on the most suitable behavior in an intercultural interaction. Research by Ney-Kjerfve and McLean (2012) and Ng, Van Dyne and Ang (2009), found cultural intelligence is important to enhance the likelihood that individuals on international assignments and would actively engage in the four stages of experiential learning (experience, reflect, conceptualize and experiment), which in turn leads to global leadership development including role in knowledge transfer and management. Cultural intelligence is also relevant to the adaptability of expatriates as learners (Feitosa et al., 2014) and in knowledge transfer (Kodwani, 2012). Specifically, those who have high cultural intelligence are intercultural competent (Ang et al., 2007). Based on the above reviews, therefore it is hypothesized that:

H1a: Cultural intelligence significantly influences knowledge transfer between expatriates and HCNs, as perceived by expatriates.

Feedback Seeking Behavior

Feedback seeking behavior becomes both an individual engagement practice and a managerial issue because it helps individuals reach their goals. It is a proactive personal behavior that is appropriate for professionals such as expatriates, repatriates and top management teams to increase performance in cross-border assignment (Crowne, 2009). Krasman (2010) stated that feedback seeking behaviour is a process by which individuals assess themselves through comparisons to others. Chang et al. (2012) suggested that this behavior also refers to how individuals use social relationships to overcome difficulties when transferring knowledge. Thus, knowledge workers such as expatriates and HCNs who are interested in feedback devise creative ways to ascertain whether they are on the right track or otherwise. It has been posited that in order for knowledge transfer to be in force, organizations have to provide the right atmosphere to capture knowledge (Lazarova & Tarique, 2005). Feedback seeking behavior allows peers to interact more often, especially in culturally diverse settings. It is therefore, hypothesized that:

H1b: Feedback seeking behavior significantly influences knowledge transfer between expatriates and HCNs, as perceived by expatriates.

The Relationships of Social Capital Factors (Shared Vision and Trust) and Knowledge Transfer

Shared Vision

Shared vision refers to a clear and common picture of a desired future state that members of an organization identify with themselves. It is also a universally agreed and expected position that the organization will hold. Shared vision is closely linked with organizational learning. A shared vision helps to create and clarify an organizational purpose. Oddou et al. (2009) suggested that the direction of knowledge transfer in the social context may be hindered by differences in shared vision, values and beliefs between two individuals. Research suggests that a shared identity (Kane, Argote & Levine, 2005) and a shared vision (Fey & Furu, 2008) increase knowledge transfer. Previous study by Inkpen and Tsang (2005) suggest that shared vision is an important cognitive element characterizing social relations that influences knowledge transfer. It is therefore hypothesized that:

H2b: Shared vision significantly influences knowledge transfer between expatriates and HCNs, as perceived by expatriates.

Trust

Trust is widely accepted in a management literature and a vital element for organizational success (Meyerson et al., 2006). Moreover, trust is a fundamental for successful cooperation and quality of communication within a company (Sankowska, 2013). Trust motivates to disclosure and exchange knowledge (Quigley et al., 2007) as it increases reliance on the trustworthy knowledge (Lee et al., 2010). Trust facilitates knowledge transfer through knowledge interchange between a source and a receipt unit (Ko et al., 2005). Levin and Cross (2004) revealed a significant positive effect for trust on knowledge transfer. Levin and Cross (2004) however suggest that the knowledge acquirers who trust knowledge providers are more likely to listen, to absorb, and to act on the information acquired by the latter to support knowledge transfer. It is therefore hypothesized that:

H2b: Trust significantly influences knowledge transfer between expatriates and HCNs, as perceived by expatriates.

Based on the above literature, the hypothesized framework illustrating the link between the independent and dependent variables is shown in Figure 1.

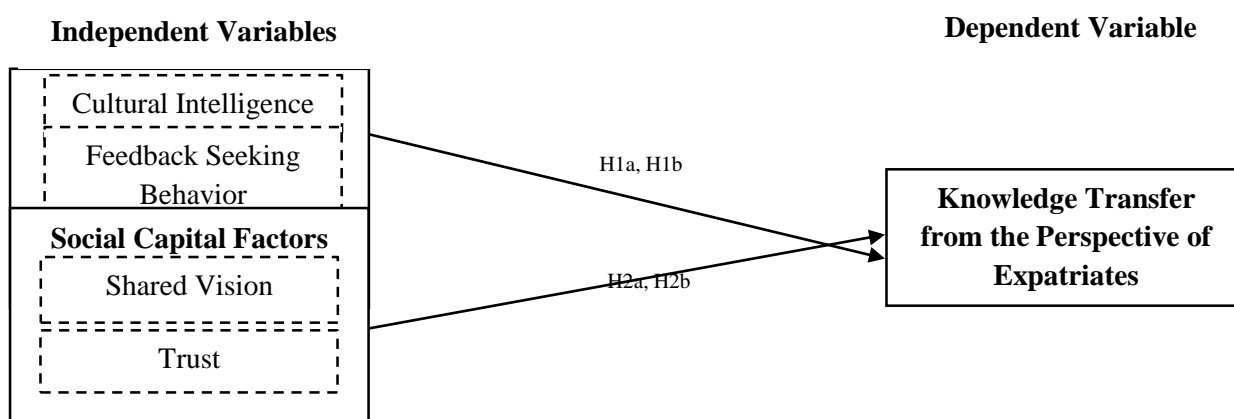


Figure 1: The hypothesized framework illustrating the independent and dependent variables

METHODOLOGY

This population of the study is Asian expatriates who work in private organizations (including MNCs) in Klang Valley, Malaysia. The sample size of this study was obtained using the formula of $50 + 8k$ (Green, 1991) in which k represents the number of independent variables. Therefore, the minimum

number of sample required: $50 + 8(4) = 82$ respondents. The total number of respondents obtained in this study were 108. Simple random sampling technique was used in identifying the expatriate sample. The study instrument contains items of knowledge transfer, cultural intelligence, feedback-seeking behavior and shared vision. For knowledge transfer construct, this study has used the instrument by Dhanaraj et al. (2004). This instrument consists of a 6-item questionnaire with a 7-point Likert-type scale. Knowledge transfer instrument requires the expatriates and HCNs to evaluate the extent to which they have learnt tacit knowledge such as “new marketing skill”, knowledge about foreign cultures and tastes as well as “managerial techniques” from their partners. The expatriates and HCNs are also required to evaluate the extent to which they have learnt explicit knowledge such as “written knowledge about firm’s technology”, “procedural or technical information”, and “written knowledge about management techniques” from their expatriate/HCN colleagues.

We used the instrument from Ang & Van Dyne (2008) to measure cultural intelligence, which consists of a 9-item questionnaire with a 5-point Likert-type scale. For this, expatriates and HCNs are required to rate the extent to which they agree with statements in the instrument such as “I know the values and religious beliefs of other cultures”. Furthermore, feedback-seeking behavior is measured using the instrument from Ashford (1986). The measurement consists of a 7-item questionnaire with a 5-point Likert-type scale where expatriates and HCNs are required to rate the extent to which they agree with statements in the instrument such as “I would like to get feedback on what behaviors will help me advance within the company”.

Shared vision was measured using the instrument developed by Gutiérrez, Lloréns-Montes & Sánchez (2009). It consists of a 6-item questionnaire with a 5-point Likert-type scale to measure the extent to which respondents have engaged in shared vision. For this item, expatriates and HCNs are required to rate the extent to which they agree with statements in the instrument such as “My HCN/expatriate colleague and I share a clear vision guiding the strategic goals and missions of the organization”. The questions used to measure trust were adapted from an instrument developed by Cook and Wall (1980). Trust was measured using 8-items questionnaire with a 5-point Likert-type response scale. The sample question is “If I encounter any difficulty at work, I know my HCN colleague would try and help me out.” The Cronbach’s alpha values of the instruments ranged from 0.78 to 0.92. Data were collected through the assistance of the Human Resource Division of each organization to administer the pen and paper questionnaire, as well as online survey procedures.

Results

Profile of Respondents

Table 1 presents the socio-demographic profiles of the respondents. The sample consisted of 108 respondents, 75.0% were men, 25.0% women. Most of the respondents are in the range age group of 25.0 – 35.0 years old (40.7%), followed by those in the range of 35.1 – 45.0 years old (35.2%), and 45.1 years old and above (24.1%), with the $M = 39.6$ and $SD = 10.1$. Based on the mean age, and the fact that 41% are below the age of 35 years, it can be said that most of the respondents are in the category of Generation Y employees and the younger category of Generation X employees.

Generation Y employees are more cooperative, they are better team players and more optimistic on their future careers (Zemke et al., 2000; Gursoy et al., 2008). They are described as “tech savvy”, “like informality”, “learn quickly” and “embrace diversity” (Society of Human Research Management, 2004). Thus, younger generation employees are open to learn new things at work and these characteristics may facilitate the knowledge transfer process.

The distribution of the respondents based on four regions in Asia are as follows: South-East Asia (32.4%), Eastern Asia (31.5%), South and Central Asia (25.0%) and Western Asia/Middle East (11.1%). The respondents from South-East Asia include Indonesian expatriates (13.8%), followed by those from Singapore (8.3%), the Philippines (6.5%) and Thailand (3.7%). Expatriates from Japan (26.9%) dominated the East Asian region, followed by Korea (3.7%) and China (0.9%). India presents

the highest percentage of respondents from South and Central Asia (23.1%), followed by Nepal and Uzbekistan with 0.9%, respectively. Expatriates from Western Asia/ Middle East constitute 11.1% from the total respondents.

Table 1. The Socio-demographic Profile of Respondents (n=108)

Variables	Frequency (f)	Percentage (%)	Mean	Std. Deviation
Gender				
Male	81	75.0		
Female	27	25.0		
Age (years)				
25.0 - 35.0	44	40.7	39.6	10.1
35.1 – 45.0	38	35.2		
> 45.1	26	24.1		
Country by Asian Geographic Regions				
South-East Asia (Indonesia, Singapore, Philippines and Thailand)	35	32.4		
Eastern Asia (Japan, Korea, China)	34	31.5		
South and Central Asia (India, Nepal, Uzbekistan)	27	25.0		
Western Asia/Middle East (Palestine, Turkey, Yemen, Iran, Lebanon, Syria)	12	11.1		

Table 2 portrays the professional profile of the respondents. Most of them work in the IT-based company (19.5%), followed by oil and gas industry (17.1%), private institutions of higher learning (15.9%), airlines industry (13.4%), engineering-based company (11.0%) and automotive industry (9.8%). A variety of other types of industry represented by the respondents are 8.5% such as bookstore outlets, private school as well as food and beverages industry.

In terms of the duration of service in the organizations (M=4.7, SD= 4.5), most of the respondents work less than 5 years (75.0%), followed by the range between 5.1 – 10.0 years (14.8%) and 10.1 years and above (10.2%). Furthermore, the duration of expatriates working closely with their HCN colleagues presents the values of M=3.8 and SD=3.5. Majority of the expatriates work less than 5 years with their HCN colleagues (79.6%), followed by the duration range of 5.1 – 10.0 years (12.0%) and 10.1 years and above (8.3%).

Table 2. The Professional Profile of Respondents

Variables	Frequency (f)	Percentage (%)	Mean	Std. Deviation
Type of Industry (n=82)				
IT-Based Company	16	19.5		
Oil and Gas Industry	14	17.1		
Private Institutions of Higher Learning	13	15.9		
Airlines	11	13.4		
Engineering-Based Company	9	11.0		
Automotive	8	9.8		
Retailing	4	4.9		
Others	7	8.5		

Duration of Service in Organization (years) (n=108)			4.7	4.5
< 5.0	81	75.0		
5.1 – 10.0	16	14.8		
> 10.1	11	10.2		
Duration of working closely with HCNs (years) (n=108)			3.8	3.5
< 5.0	86	79.6		
5.1 – 10.0	13	12.0		
> 10.1	9	8.3		

Level of Knowledge Transfer, Cultural Intelligence, Feedback Seeking Behavior, Shared Vision and Trust

Table 3 portrays the level of knowledge transfer, cultural intelligence, feedback seeking behavior, shared vision and trust experienced by the respondents. Most of the respondents experienced moderate level of knowledge transfer (29.6%, M=4.4, SD=1.3) from their HCN colleagues, followed by high level of cultural intelligence (70.4%, M=3.9, SD=0.5), feedback seeking behavior (62.0%, M=3.9, SD=0.8), shared vision (71.3%, M=4.0, SD=0.7) and trust (71.3%, M=3.9, SD=0.8).

Table 3: Level of Knowledge Transfer, Cultural Intelligence, Feedback Seeking Behavior, Shared Vision and Trust

Variables (n=108)	Frequency (f)	Percentage (%)	Mean	Std. Deviation
Knowledge Transfer			4.4 (Moderate)	1.3
Low	19	17.6		
Moderate	42	38.9		
High	47	43.5		
Cultural Intelligence			3.9 (High)	0.5
Low	0	0.0		
Moderate	32	29.6		
High	76	70.4		
Feedback Seeking Behavior			3.9 (High)	0.8
Low	6	5.6		
Moderate	35	32.4		
High	67	62.0		
Shared Vision			4.0 (High)	0.7
Low	4	3.7		
Moderate	27	25.0		
High	77	71.3		
Trust			3.9 (High)	0.8
Low	5	4.6		
Moderate	26	24.1		
High	77	71.3		

Note: For Knowledge Transfer; Low (1.00-2.99), Moderate (3.00-4.99), High (5.00-7.00)
 For Cultural Intelligence, Feedback Seeking Behaviour, Shared Vision and Trust; Low (1.00-2.32), Moderate (2.33-3.65), High (3.66-5.00)

Correlation

The Pearson's Product Moment correlation analysis was conducted in investigating the relationships between the antecedents and knowledge transfer. Table 4 shows that there is a significant, low and positive relationship between individual factors (cultural intelligence and feedback seeking behaviour) with knowledge transfer ($r=.382$, $p=0.000$; $r=.342$, $p=.000$), respectively. The results also showed that there is a significant, low and positive relationship between shared vision and knowledge transfer ($r=0.439$, $p=.000$). Meanwhile, there is a significant, little and positive relationship between trust and knowledge transfer ($r=.286$, $p=.003$) as perceived by expatriates.

Table 4: Pearson's Product Moment Correlation Analysis Results

Variables	r	p
(Constant)		
Cultural Intelligence	.382**	.000
Feedback Seeking Behavior	.342**	.000
Shared Vision	.439**	.000
Trust	.286**	.003

Notes: $p < 0.05$; ** Correlation is significant at alpha of .05

Multiple Linear Regression

Table 5 depicts that there are two significant predictors of knowledge transfer, which are cultural intelligence ($\beta=.249$, $p=.011$) and shared vision ($\beta=.607$, $p=.004$) as perceived by the expatriates. Thus, H1a and H2a are supported in this study. Other variables of feedback seeking behaviour ($\beta=-.006$, $p=.961$) and trust ($\beta=.050$, $p=.635$) did not show significant influence on knowledge transfer from the perspective of expatriates. Thus, H1b and H2b are not supported. Additionally, 22.3% of the variance in knowledge transfer is explained by cultural intelligence and shared vision. Since two variables of cultural intelligence and shared vision are significant, another regression analysis was conducted to test the influence of these two specific variables on knowledge transfer as perceived by the expatriates.

Table 5: Results of Multiple linear regression

Variables	b	Std. Error	β	t	p
(Constant)	-.761	.939		-.810	.420
Cultural Intelligence	.629	.244	.249	2.580	.011
Feedback Seeking Behavior	-.010	.205	-.006	-.049	.961
Shared Vision	.607	.207	.329	2.934	.004
Trust	.088	.184	.050	.477	.635

$p < .05$; $F=8.672$; $Sig. F=.000$; $R=.502$; $R^2=.252$; $Adjusted R^2=.223$

The first-round regression analysis however, is yet to provide researchers with the most optimum regression results. As argued by Anderson and Bro (2010, p. 730), a proper approach in regression analysis is to perform variable selection in which the very least significant variables identified through the previous regression analysis are removed and the remaining significant variables are re-analysed in regression analysis. By taking this approach, the remaining variables' role might change and thus, leads to a better accuracy.

Based on Table 6, it is shown that the influence of cultural intelligence ($\beta=.257$, $p=.006$) and shared vision ($\beta=.346$, $p=.000$) on knowledge transfer are statistically significant. A slight increase to 23.6% of the total variance in knowledge transfer is obtained due to the influence of the two factors. The results further conclude that shared vision is the strongest predictor of knowledge transfer.

Table 6: Results of repeated multiple linear regression

Variables	b	Std. Error	β	t	p
(Constant)	-.657	.905		-.726	.469
Cultural Intelligence	.649	.229	.257	2.835	.006
Shared Vision	.638	.167	.346	2.822	.000

$p < 0.05$; $F = 17.516$; $Sig. F = .000$; $R = .500$; $R^2 = .250$; $Adjusted R^2 = .236$

Discussion, Conclusion and Recommendations

As Asian expatriates are the main focus of respondents in the study, as such it is believed that they are able to cope and tolerate with the culture and environment in Malaysia as they are from the same geographic regions, which is Asian region. Most of the respondents are in the younger age, which is below 35 years old, with the average age of 39.6 years. This indicates that the respondents are in the category of Gen Y and the younger group of Gen X. This gives an important characteristic of the Asian expatriates in this country because the younger generation of the workforce are considered as quick learners, energetic employees and ambitious generations, which may facilitate the process of knowledge transfer with the local employees.

The positive and significant influence of cultural intelligence on knowledge transfer is supported by previous study such as by Ang et al., (2007), in which cultural intelligence affects cultural judgement, decision making, cultural adaptation and task performance. Meanwhile, a component of cultural intelligence, cross-cultural motivation has been found to affect expatriate work adjustment (Chen et al., 2010) and expatriate performance (Rose et al., 2010). Dagher (2010) claimed that aspect of cultural intelligence is related to general interactions and work adjustment of expatriates. In addition, it was found that individuals who had been abroad either for education or work purpose had higher level of cultural intelligence (Crowne, 2009). Pless et al. (2011) further stated that executives who participated in Foreign Service learning programs showed an increase in their level of cultural intelligence. This is owing to the fact that there is an intercultural confrontation that challenges their assumption and thinking that affects their performance, one of which is in transferring knowledge to their peers (Earley & Peterson, 2004).

Another important predictor on knowledge transfer found in this study is shared vision. Past research stated that shared vision possesses a quality of inter-individual communication that would lead to interactions between individual in the knowledge flow process (Ismail, 2015). Brush (2008) stated that shared vision set the initial culture, practices and policies of the organization that motivated expatriates and local employees. Meanwhile, Subramaniam and Youndt (2005) asserted that shared vision increases the willingness of expatriates and HCNs to consider and incorporate views, and eventually it boosts out the knowledge transfer process. Finally, shared vision promotes mutual understanding and provides a crucial bonding mechanism that helps different actors to integrate, share and transfer knowledge in organization (Hsu, 2012).

This research has reached several conclusions. Firstly, Asian expatriates working in Malaysia mostly constitutes those from combined Generation Y and younger Generation X. This is important as due to their quick-learning nature, which enhances cross-border knowledge transfer process. Secondly, high level of cultural intelligence among the respondents shows that Asian expatriates are well adapted with Malaysian work culture environment, thus facilitates the process of knowledge transfer with their local peers. Thirdly, sharing of common sets of goals helps the expatriates and their HCNs to understand a sense of purpose and direction in the organizations. Consequently, they fulfill one of the requirements of teamwork, in which knowledge transfer process occurs. This is a crucial driver to achieve the desired

long-term organizational goals and success. Finally, this research further concludes that the co-existence of each of the individual (cultural intelligence) and social capital (shared vision) factors contribute to an important impact on the knowledge transfer process involving the Asian expatriates and the local employees in the companies involved in this study.

This research is not without its limitations that should be considered in future research. Firstly, as the result presented in this article are based on Asian expatriate samples, it is therefore, suggested that a greater sample is required involving expatriates from other Western countries who are assigned in organizations in Malaysia such as American or European expatriates. Secondly, future studies are suggested to include specific knowledge characteristics such as technological and managerial-related knowledge, or types of knowledge based on sectors such as medical, agricultural or manufacturing knowledge. The third suggestion is to study this particular research in the perspective of both expatriates and HCNs concurrently, which will lead to a dyadic expatriates-HCNs link or bi-directional knowledge transfer. Finally, it is crucial for future research in knowledge transfer to be examined from a gender perspective as more women have taken up an international assignment as a form of their non-traditional career choice.

References

- Anderson, C. M., & Bro, R. (2010). Variable selection in regression analysis – a tutorial. *Journal of Chemometrics*, 24(11-12), pp. 728-737
- Ang, S., Van Dyne, L., Koh, C., Ng, K. Y., Templer, K. J., Tay, C. & Chandrasekar, N. A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation and task performance. *Management and Organization Review*, 3(3), 335-371.
- Ang, S., & Van Dyne, L. (2008). Conceptualization of cultural intelligence: Definition, distinctiveness, and nomological network. *Handbook of cultural intelligence: Theory, measurement, and applications*, 3-15.
- Crowne, A. K. (2009). Enhancing knowledge transfer during and after international assignments. *Journal of Knowledge Management*, 13, 134-147. <http://dx.doi.org/10.1108/13673270910971888>
- Argote, L., & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, 82, 150-169. <http://dx.doi.org/10.1006/obhd.2000.2893>
- Ashford, S. J. (1986). Feedback-seeking in individual adaptation: A resource perspective. *Academy of Management journal*, 29(3), 465-487.
- Becker, G. S. (1964). Human Capital Theory. *Columbia, New York*.
- Bou-Lluisar, Juan Carlos & Segarra-Cipre's, Mercedes. (2006) Strategic knowledge transfer and its implications for competitive advantage: an integrative conceptual framework. *Journal of knowledge management*, vol. 10, iss: 4, pp. 100-112.
- Brandl, J., & Neyer, A. K. (2009). Applying cognitive adjustment theory to cross-cultural training for global virtual teams. *Human Resource Management*, 48(3), 341-353.
- Brush, C.G. (2008). Pioneering strategies for entrepreneurial success. *Business Horizons*, Vol. 51 No. 1, pp. 21-27.
- Chang, Y. Y., Gong, Y., & Peng, M. W. (2012). Expatriate knowledge transfer, subsidiary absorptive capacity, and subsidiary performance. *Academy of Management Journal*, 55, 927-948. <http://dx.doi.org/10.5465/amj.2010.0985>
- Chen, G., Kirkman, B. L., Kim, K., Farh, C. I. C., & Tangirala, S. (2010). When does cross-cultural motivation enhance expatriate effectiveness? A multilevel investigation of the moderating roles of subsidiary support and cultural distance. *Academy of Management Journal* 53(5): 1110-30.
- Cheng, N. (2009). Knowledge transfer and knowledge broker of organizations. *Proceeding of the second international conference on future information technology and management engineering*, June, Sanya: pp. 195-198

- Collings, D. , Scullion, H. and Morley, M. (2007). Changing patterns of global staffing in the multinational enterprise: challenges to the conventional expatriate assignment and emerging alternatives. *Journal of World Business* Volume 42, 198-213.
- Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfilment. *Journal of occupational psychology*, 53(1), 39-52.
- Dagher, G. K. (2010). The relation between motivational and behavioral cultural intelligence and the three dimensions of cross-cultural adjustment among Arabs working in the USA. *Business Review, Cambridge* 15 (1): 137–43.
- Dhanaraj, C., Lyles, M. A., Steensma, H. K., & Tihanyi, L. (2004). Managing tacit and explicit knowledge transfer in IJVs: the role of relational embeddedness and the impact on performance. *Journal of International Business Studies*, 35(5), 428-442.
- Earley, P. C., & Ang, S. (2003). *Cultural Intelligence: Individual Interactions across cultures*. Palo Alto, CA: Stanford University Press.
- Earley, P. C., & Peterson, R. S. (2004). The elusive cultural chameleon: Cultural intelligence as a new approach to intercultural training for the global manager. *Academic Management and Learning Education*, 3(1), 100-115.
- Easterby-Smith, M., Lyles, M. A., & Inkpen, E. W. K. (2008). Interorganizational knowledge transfer: Current themes and future prospects. *Journal of Management Studies*, 45, 677–690. <http://dx.doi.org/10.1111/j.1467-6486.2008.00773.x>
- Elias, N., & Wright, A. (2006) Using Knowledge Management Systems to Manage Knowledge Resource Risks. *Advances in Management Accounting*, vol. 15, pp. 195-227.
- Feitosa, J., Kreutzer, C., Kramperth, A., Kramer, W. S., & Salas, E. (2014). Expatriate adjustment: Considerations for selection and training. *Journal of Global Mobility*, 2, 134– 159. doi:10.1108/JGM-06-2013-0042
- Fey, C. F., & Furu, P. (2008). Top management incentive compensation and knowledge sharing in multinational corporations. *Strategic Management Journal*, 29, 1301–1323. <http://dx.doi.org/10.1002/smj.v29:12>
- Forster, N. (1997). The persistent myth of high expatriates failure rates: a reappraisal. *The International Journal of Human Resource Management*, Vol. 8, No. 4, pp. 414-433.
- Green, S. B. (1991). How many subjects does it take to do a regression analysis. *Multivariate behavioral research*, 26(3), 499-510.
- Gudykunst, W., B. (2005). An anxiety/uncertainty management (AUM) theory of strangers' intercultural adjustment. *Theorising about Intercultural communication*, Sage, Thousand Oaks, CA
- Gupta, A. K., & Govindarajan, V. (1994). Alternative value chain configurations for foreign subsidiaries: Implications for coordination and control within MNCs. In H. Thomas, D. O'Neal & R. White (Eds.), *Building the strategically responsive organization* (pp. 375-392). Chichester, UK: John Wiley.
- Gursoy, D., Maier, T.A. & Chi, C.G. (2008). Generational differences: An examination of work values and generational gaps in the hospitality workforce. *International Journal of Hospitality Management*, 27(3), 448-458.
- Gutiérrez, L. J., Lloréns-Montes, F. J., & Bustinza Sánchez, Ó. F. (2009). Six sigma: from a goal-theoretic perspective to shared-vision development. *International Journal of Operations & Production Management*, 29(2), 151-169.
- He, W., Qiao, Q., & Wei, K. K. (2009). Social relation and its role in knowledge management system usage. *Information and Management*, 46, 175-180.
- Hsu, Y.-S. (2012). *Knowledge transfer between expatriates and host country nationals: A social capital perspective* (Theses and dissertations, Paper 33). University of Wisconsin Milwaukee UWM Digital Commons, Milwaukee, MI. <http://dx.doi.org/10.1037/e518332013-315>
- Inkpen, A. C., & Tsang, E. W. (2005). Social capital, networks, and knowledge transfer. *Academy of management review*, 30(1), 146-165.
- Ismail, M. (2015). Conceptualizing knowledge transfer between expatriates and host country nationals: The mediating effect of social capital. *Cogent Business & Management*, 2: 1101803 <http://dx.doi.org/10.1080/23311975.2015.1101803>

- Kane, A. A., Argote, L., & Levine, J. M. (2005). Knowledge transfer between groups via personnel rotation: Effects of social identity and knowledge quality. *Organizational Behavior and Human Decision Processes*, 96, 56–71. <http://dx.doi.org/10.1016/j.obhdp.2004.09.002>
- Ko, D.G., Kirsch, L.J. and King, W.R. (2005). Antecedents of knowledge transfer from consultants to clients in enterprise systems implementations. *MIS Quarterly*, Vol. 29 No. 1, pp. 59-85.
- Kodwani, A. D. (2012). Beyond emotional intelligence (EQ): The role of cultural intelligence (CQ) on cross-border assignments. *World Review of Business Research*, 2, 86–102.
- Krasman, J. (2010). The feedback-seeking personality: Big five and feedback-seeking behavior. *Journal of Leadership and Organizational Studies*, 17(18), 1–15. doi:10.1177/1548051809350895
- Lazarova, M. and Cerdin, J. (2007). Revising repatriation concerns: organizational support versus career and contextual influences. *Journal of International Business Studies* Volume 38, 404-429.
- Lazarova, M., & Tarique, I. (2005). Knowledge transfer upon repatriation. *Journal of World Business*, 40, 361–373. <http://dx.doi.org/10.1016/j.jwb.2005.08.004>
- Lee, P., Gillespie, N., Mann, L. and Wearing, A. (2010). Leadership and trust: their effect on knowledge sharing and team performance. *Management Learning*, Vol. 41 No. 4, pp. 473-91.
- Levin, D.Z. and Cross, R. (2004). The strength of weak ties you can trust: the mediating role of trust in effective knowledge transfer. *Management Science*, Vol. 59 No. 11, pp. 1477-1490.
- Lii, S. Y., & Wong, S. Y. (2008). The antecedents of overseas adjustments and commitment of expatriates. *International Journal of Human Resource Management*, 19(2), 296-313.
- Mazloomi, H. K., & Jolly, D. R. (2008). Knowledge transfer in alliances:determinant factors. *Journal of Knowledge Management*, vol. 12, iss: 1, pp. 37-50.
- Meyerson, D., Weick, K.E. and Roferick, M. (2006). Swift trust and temporary groups in Kramer, R.M. (Ed.), *Organizational Trust*, Oxford University Press, New York, NY, pp. 415-44.
- Nery-Kjerfve, T., & McLean, G. N. (2012) Repatriation of expatriate employees, knowledge transfer, and organizational learning: What do we know?. *European Journal of Training and Development*, vol. 36, iss: 6, pp. 614-629.
- Ng, K. Y., Van Dyne, L., & Ang, S. (2009). From experience to experiential learning: Cultural intelligence as a learning capability for global leader development. *Academy of Management Learning & Education*, 8, 511–526.
- Oddou, G., Osland, J. S., & Blakeney, R. N. (2009). Repatriating knowledge: Variables influencing the “transfer” process. *Journal of international business studies*, 40(2), 181-199.
- Osterloh, M., & Frey, B. S. (2000). Motivation, knowledge transfer, and organizational forms. *Organization science*, 11(5), 538-550.
- Paik, Y., Vance, C. M., Gale, J., & McGrath, C. A. (2008). Improving global knowledge management through inclusion of host country workforce input. *Strategic knowledge management in multinational organizations*, 167-182.
- Palthe, J. (2008), “The role of interaction and general adjustment in expatriate attitudes: evidence from a field study of global executives on assignment in South Korea, Japan and The Netherlands”, *Journal of Asia Business Studies*, Vol. 3 No. 1, pp. 42-53.
- Pless, N. M., Maak, T., & Stahl, G. K. (2011). Developing responsible global leaders through international servicelearning programs: The Ulysses experience. *Academy of Management Learning and Education* 10(2): 237–60.
- Quigley, N., Tesluk, P.E., Locke, E. and Bartol, K. (2007). A multilevel investigation of the motivational mechanism underlying knowledge sharing and performance. *Organization Science*, Vol. 18 No. 1, pp. 71-88.
- Reychav, I., & Weisberg, J. (2010). Bridging intention and behavior of knowledge sharing. *Journal of Knowledge Management*, 14, 285–300.
- Richardson, J. & McKenna, S. (2002). International experience and academic career: What do academics have to say? *Personnel Review*, 32(6), 774 – 793).
- Rogers, E. M. (2003). *The diffusion of innovation* (5th ed.). New York, NY: Free Press.

- Rose, R. C., Ramalu, S. S., Uli, J., & Kumar, N. (2010). Expatriate performance in international assignments: The role of cultural intelligence as dynamic intercultural competency. *International Journal of Business and Management* 5(8): 76–85.
- Sankowska, A. (2013). Relationships between organizational trust, knowledge transfer, knowledge creation, and firm's innovativeness. *The Learning Organization*, Vol. 20 Iss 1 pp. 85 - 100
- Selmer, J. (2006). Adjustment of business expatriates in greater China: a strategic perspectives. *International Journal of Human Resource Management*, Vol. 17 No. 12, pp. 1994-2008.
- Smith, E. A. (2001). The role of tacit and explicit knowledge in the workplace. *Journal of Knowledge Management*, Vol. 5 Iss 4 pp. 311 – 321
- Society of Human Research Management. (2004) . *SHRM generational differences survey report: A study by the Society for Human Resources Management*. Alexandria, VA: Author.
- Song, J., Almeida, P., & Wu, G. (2003). Learning–by–Hiring: When is mobility more likely to facilitate interfirm knowledge transfer?. *Management Science*, 49(4), 351-365.
- Subramaniam, M. & Youndt, M.A. (2005), “The influence of intellectual capital on the types of innovative capabilities”, *Academy of Management Journal*, Vol. 48 No. 3, pp. 450-463.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic management journal*, 17(S2), 27-43.
- Szulanski, G., Cappetta, R., & Jensen, R. J. (2004). When and how trustworthiness matters: Knowledge transfer and the moderating effect of causal ambiguity. *Organization Science*, 15, 600–613.
- Tahir, A., & Ismail, M. (2007). Cross-cultural challenges and adjustments of expatriates: A case study in Malaysia. *Alternatives: Turkish Journal of International Relations*, 6(3): pp. 72-99
- Templer, K.J. (2010). Personal attributes of expatriate managers, subordinate ethnocentrism, and expatriate success: a host country perspective. *The International Journal of Human Resource Management*, Vol. 21 No. 10, pp. 1754-1768.
- Templer, K. J., Tay, C., & Chandrasekar, N. A. (2006). Motivational cultural intelligence, realistic job previews, and realistic living conditions preview, and cross-cultural adjustment. *Group and Organization Management*, 31(1), 154-173.
- Thomas, D. C. (2006). Domain and development of cultural intelligence: The importance of mindfulness. *Group & Organization Management*, 31(1), 78-99.
- United Nation Conference on Trade and Development (UNCTAD) (2010), *World Investment Report 2010*, Geneva: UNCTAD.
- van Wijk, R., Jansen, J. J. P., & Lyles, M. A. (2008). Inter- and intra-organizational knowledge transfer: A metaanalytic review and assessment of its antecedents and consequences. *Journal of Management Studies*, 45, 830–853.
- Yang, S. C., & Farn, C. K. (2009). Social capital, behavioural control, and knowledge sharing-A multi-informant design. *International Journal Information Management*, 29, 210–218.
- Yong, S. H., Kim, B., Lee, H., Kim, Y. G. (2013). The effect of individual motivations and social capital on employees ‘tacit and explicit knowledge sharing intentions. *International Journal of Information Management*, 33: pp. 356-366
- Yoshitake, M. (2002). Anxiety/uncertainty management (AUM) theory: A critical examination of an intercultural communication theory. *Intercultural Communication Studies*, XI, 177–194.
- Zemke, R., Raines, C., & Filipczak, B. (2000). *Generations at work*. New York: American Management Association.

WORK-LIFE BALANCE AND WORKPLACE ADAPTATION: THE EFFECT OF ORGANIZATIONAL SUPPORT OF MALAYSIAN SELF-INITIATED REPATRIATES

Mageswari Kunasegaran & Maimunah Ismail
Faculty of Educational Studies, Universiti Putra Malaysia
mag8515@upm.edu.my, mismail379@gmail.com

ABSTRACT

This study aimed to investigate the relationship between work-life balance and workplace adaptation of Malaysian self-initiated repatriates. It mainly focused on self-initiated repatriates' challenges upon their returning and adapting to the local working environment through work-life balance and organizational support. Work-life balance is one of the most debated issues when repatriates decide to return to the home country. A balance approach between work and life maintain the returned self-initiated repatriates in the local organization. The study employed a qualitative method whereby 25 respondents were interviewed from various group of professions who are worked around Klang Valley, Malaysia. The Cross-Cultural Adaptation Theory (Kim, 2001) and Social Exchange Theory (Cropanzon & Mitchel, 2005) were used to explain the relationship between work-life balance, organizational support and workplace adaptation. Four themes were derived from the empirical findings, i) culture variations, ii) work-life conflict, iii) organizational support, and iv) family support. The implications focus on policymakers and practitioners who are involved in preparing self-initiated repatriates for a socialization program through work-life balance approach. This study is an extension of current repatriation literature by focusing on self-initiated repatriates. The empirical analysis of workplace adaptation incorporates both work-life balance and organizational support as a valid perspective of self-initiated repatriates.

Keywords: Work-life balance, Workplace adaptation, Organisational support, Self-initiated repatriates

Introduction

Whether it is a large high-tech organization like Google or more established conglomerate companies in Malaysia are facing challenges to retain the returned self-initiated repatriates (SIR). Abreast with Human Resource (HR) globalization, many international organizations are exercising international staffing strategy such as an expatriation-repatriation program to cultivate their resources and develop their professional development in order to maintain the competitive edge. Staffing international, one of the highest costs in human development strategy (Nery-Kjerfve & McLean, 2012), yet, it is a necessity to capitalize human resources and measurement credibility on talented resources. It stated in the Harvard Business Review that international organizations, even shows their commitment during the recession period, such as 1997 to 1999 by investing 70% to 80% of their resources on staff development through expatriation-repatriation program (Gulati, Nohria & Wohlgezogen, 2010). On top of that, the expatriation-repatriation program costs around \$300,000 to 1 million annually for an individual (Black & Gregersen, 1999). The return on investment could be absorbed into the organization when the expatriates are returned and served in the organization (Nery-Kjerfve & McLean, 2012). Indeed, it is one of the fast ways to understand the international employee behavior changes and the market. The returning process becomes more challenges due to internal force like the lack of the management support and external force like economics turbulence had forced them to make a "U-turn" in the their returning process.

Past studies had concluded that 25% of repatriates are engaging in a re-migration process (MacDonald & Arthur, 2005) due to dissatisfaction. 60% of them were unable to overcome their reverse culture shock experiences (Black, Gregersen & Mendenhall, 1992) and felt the returning decision to the home country was a waste. The similar scenario happens to Malaysian SIR, where they were silently leaving the country (Lim, Krishnan & Yap, 2014) due to lack of organizational support and economic instability (Lazarova & Cerdin, 2007; Kunasegaran, Ismail, Rasdi & Ismail, 2016; Lim et al., 2014). With this, it is a clearly shows that Malaysian repatriates are facing a dilemma while returning and adapting in the home country. However, studies have proven that organizational support has changed

repatriates intention to leave the organization (Kraimer, Bolino & Mead, 2016; Lazarova & Caligiuri, 2001). For instance, Fischlmayr and Kollinger (2010) study have validated that work-life balance (WLB) secured a smooth transition for Austrian female expatriates to adapt in the host and home countries. Despite that, less attention is given on the SIR in the home country. Now, there is a need to apply WLB on workplace adaptation (WA) study due to organizational changes and intention to retain the SIR. Therefore, how WLB able to help Malaysian SIR to adapt in the local working environment? Besides that, what are the roles of organizational support in WLB and WA?

The study is aimed to explore SIR' of WLB in the WA study. This paper investigates the challenges faced by Malaysian SIR to adapt and to fit into the local working environment? It begins with reviewing the research background concerning on WLB in the WA study, theorizing of WA and its implications of WLB on WA research framework that can enhance in-depth understanding of the SIR viewpoint in the developing countries like Malaysia. In this study, the terms repatriates and talent are interchangeably used. The semi structured method was selected and discussed. Drawing upon the empirical findings, we able to present a propose model that summarizes the implications of considering WLB on WA study and future recommendations are proposed.

Background of the Study

Self-Initiated Repatriates Definition

SIR is defined as a group of individuals who were returned to the local working environment independently due to various reasons such as family issues, health, to extend business networking or a better opportunity (Begley, Collings, & Scullion, 2008; Collings, Scullion & Morley, 2007; Lazarova & Caligiuri, 2001). SIR are different from corporate repatriates who were sent abroad to gain international exposure, for a knowledge transfer from the parent company as well as to integrate with the local operating system (Suutari & Brewster, 2003). Corporate repatriates are those who are assigned by subsidiaries to headquarter as an expatriate. They will return to subsidiaries upon in the assignment agreement (Tharenou & Caufield, 2010). Meanwhile, SIR are a group of risk-takers who advancing their career development individually as well as enhanced their skills and knowledge upon their returning (Ismail, Baki, Kamaruddin & Malik, 2016). In the context of Malaysian SIR, there are two groups of repatriates, i) repatriates who have returned to Malaysia without going through the Talent Corporation, and ii) through the Talent Corporation. In the current study, most of Malaysian SIR were returned through the Talent Corporation programme which was on "calling back Malaysian experts" or known as Returnees Expert Program (REP) (Talent Roadmap 2020, 2010). The second group of SIR was given a special returning package as an incentive of the returning by the Malaysian government. Furthermore, studies have confirmed that SIR are more versatile, adventurous and entrepreneurial credibility compares to corporate repatriates due to their multi-dimensional exposures (Wang, 2012; Lazarova & Cerdin, 2007; Kraimer, Shaffer & Bolino, 2009; Cho, Hutchings & Marchant, 2013). Moreover, Paul Cooper, a managing director of Page Group Malaysia, has highlighted that "repatriates should be treated as unique resources", as stated in the Malaysia today (Minderjeet, 2016 p. 1). It means SIR is an important resource to drive the nation's economic growth and enhance human capital development.

Self-initiated Repatriates Stimulates Malaysian Economics

Malaysia depends on skillful employees like SIR to achieve its aspiration to become a high-income nation by 2020 and to fulfill Malaysia's skills gap (World Bank, 2015). Malaysia is located in the East Asia and Pacific region, with Growth Domestic Profit (GDP) 5% (2015), 4.2% (2016), 30.33 million populations (World Bank, 2016) and ranked 36th place out of a total 60 countries in the competitive talent ranking, Global Talent Competitive Index Report, 2015-2016 (Lanvin & Evan, 2015). Talent competitive index is one of the measurement tools to determine the country's human capital strength and a process to identify skillful employees in building cutting edge economy. Malaysia like other Asian countries has been continuously pressured to sustain their talent due to the global economic downturn, shortage of skilled employees, "brain drain" or "talent flow" phenomenology, talent capitalization by the neighboring countries, as well as promising career advancement in the

developed countries. According to World Bank (2015), there are about 800,000 to 1.5 million talented Malaysian working abroad. The Malaysian government has promoted various potential talent development programs through the Economic Transformation Programme (ETP). ETP was born to achieve Malaysian dreams to be developed nation by 2020 with comprises 12 National Key Economic Area (NKEAs) which representing 12 main industries in Malaysia to strengthen Malaysian talent pool. SIR are needed in the Malaysian workforce to increase human capital development and to improve country's competitive ranking, due to they are able to; i) understand cross-cultural communication and assimilate culture to the local setting (Kunasegaran et al., 2016), ii) have an "umbrella overview" on innovative ideas and knowledge sharing (Wang, 2012), iii) integrate the business networks between the host and home countries (Kraimer et al., 2009; Lazarova & Cerdin, 2007) iv) close the gap in the technical competence (Cho et al., 2013).

This study is an extension of the past studies on repatriation literature (Black et al., 1992; Black & Gregersen, 1999), work adjustment of SIR in Ireland without any support from the local organizations (Begley et al., 2008) and the survival of repatriates in the home country (Collings et al., 2007; Tharenou & Caulfield, 2010), repatriates retention through organizational support (Lazarova & Cerdin, 2007; Kraimer et al., 2009; Cho et al., 2013), and repatriates retention through WLB (Fischlmayr & Kollinger, 2010; Makela & Suutari, 2013). The local studies have explored on the influences of push and pull factors on Malaysian SIR' career aspirations (Ismail et al., 2016), repatriates job adjustment through social support (Yusoff & Ramayah, 2007), WLB and intention to leave the organization (Noor, 2011) and returnees (SIR) intercultural adaptation (Kunasegaran et al., 2016).

Work-life balance and Workplace Adaptation of Malaysian Self-Initiated Repatriates

WLB defined as an

"Individual's ability, respective of age and gender, to find a life rhythm that allows individuals to combine their work with other responsibilities, activities or aspirations" (Feldstead, Jewson, Phizacklea & Walter, 2002 p. 54).

WLB is a balance approach method between work and non-work related factors that able to minimize a personal conflict at the workplace (Makela & Suutari, 2013). The work refers to career related aspects; meanwhile non-related work (life) refers to family and social integration (Harju, 2015). Work progress is the main aspect, SIR expected from the local organization (Jassawalla & Sashittal, 2009). Furthermore, Philipsen (2010) have extended the meaning of the WLB concept beyond that includes friendship, partnership, meaningful activities which has been developed from the working environment to social networks. WLB also viewed as an act of juggling between workload at the workplace and family in the social context (Noor, 2011). WLB is a continuous process and needs an equal approach between work and family or social matters (Harju, 2015). In this study, WLB is conceptualized as work and working environment.

There is a large body of extended literature on WLB and self-initiated expatriates (Begley et al., 2008; Collings, Scullion, & Morley, 2007; Tharenou & Caulfield, 2010) but, few concerns on the SIR. Theoretically, there is differences impact of WLB on SIR and self-initiated expatriates. For instance, SIR was struggling with issues related to culture clash or culture shock, communication barriers, concern on effective working hours, career development and family perspective. Meanwhile, expatriates were experienced issues that related to unfamiliar working culture, extended working hours, language barriers and the absence of extended family (Noor, 20011; Harju, 2015; Makela & Suutari, 2011; Tharenou & Caulfield, 2010). Despite the differences in individual perceptions and challenges, the further analysis on WLB and WA is needed. We need to understand the meaning of WA, in order to maximize the integration of WLB on WA study. WA viewed as a process adjustment and acculturation (accepting the local culture as it is) (Hanninghan, 1999). It is also an art of communication, adaptation between an individual experience and psychological well-being in the process of adapting (Ahn & Kim, 2015). Generally, WA is a stimulation process that helps newcomers like SIR to socialize

in the new working environment (Reio & Sutton, 2006). Basically, there are four levels of adaptation that experienced by SIR in the home country: i) the general adjustment or adaptation (i.e. culture, social and politic changes); ii) work adaptation (i.e. job roles, job norms and job expectation); iii) psychological adaptation (i.e. the adjustment period between individual expectation and organization's ability to offer); iv) interaction adaptation (i.e. the cross cultural and communication process with organization members) (Collings et al., 2007; Ahn & Kim, 2015).

The integration between WLB and WA have reduced repatriates turnover and increased their job satisfaction (Tharenou & Caulfield, 2010; Fischlmayr & Kollinger, 2010). For instance, WLB has contributed 70% of job retention and job satisfaction among repatriates' bankers in Kenya (Boru, 2015). The finding revealed that when organizational act as an emotional supporter to repatriates and their family members, it develops a positive working environment at workplace. A similar finding shared by Fischlmayr and Kollinger's (2010) study that female expatriates achieved their WLB through social networks, spend more leisure time and participate in sport activities. Moreover, WA is an overall process; meanwhile, WLB is a personal participation towards work adjustment. The integration WLB to WA study will extend SIR trust and believe in the local organization. Few case studies have been highlighted that Malaysian professionals left to developed countries like Australia, Singapore and the United Kingdom because the imbalance of WLB (Lim et al., 2014).

Work-life balance, Workplace Adaptation and Organizational Support

Scholars have been investigated in the importance of organizational support on WA (Lazarova & Cerdin, 2007; Kraimer et al., 2010; Sreeleakha & Raj, 2014). Organizational support refers as an organization concern on employees' (SIR') contributions, values and cares towards the organization or wise-verse. Besides that, this integration also strengthens the relationship between SIR and other employers in the organization, as well as to fulfil organization, missions (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Furthermore, fair treatment, supervisory support, equal compensation and favourable working condition were likely to support SIR satisfaction and retention (Rhoades & Eisenberger, 2002; Kraimer et al., 2009). Long working hours, erratic working schedule, double responsibilities, family commitment, social integration are some of the common issues that debated by the returned SIR on WLB while adapting to the local environment (Fischlmayr & Kollinger, 2010; Makela & Suutari, 2013).

Furthermore, organisational support has improved SIR loyalty of local organisation which increases their job retention (Sreeleakha & Raj, 2014). Previous study also agreed that organisational support has transformed SIR towards perceived a positive warmness and carefree (Lazarova & Caliguiri, 2001). It happens when an organisation cared about SIR the overall well-being, which led to reduce turnover (Shaffer, Kraimer, Chen & Bolino, 2012). Besides that, empirically finding shows a positive connection between SIR with organisational support, job satisfaction and organisation commitment (Jassawalla & Sashittal, 2009; Lazarova & Cerdin, 2007; Kraimer et al., 2009). Cho et al.'s, (2013) study has confirmed that a lack of organizational support has weakened repatriates adaptation process which leads to job withdrawal. When organization interference by introducing a flexible working mode such as work from home, telecommunication facilities, virtual meetings and discussion have minimized retention cost and increased adaptability among SIR (Makela & Suutari, 2013; Sreeleakha & Raj, 2014). Additionally, job flexibility and a matched job placement have enriched the WLB concept among repatriates.

Theorizing of Work-life balance and Workplace Adaptation

The core idea of this study is analyses the role of the WLB concept of WA study, as well as to integrate with organisational support. In doing so, we draw upon Kim and McKay-Semmler (2013) Cross-Cultural Adaptation Theory (CCAT) as a grounded theory. This theory was established to understand the behaviour changes of SIR,

“the dynamic process by which individuals, upon relocating to a new, unfamiliar, or changed sociocultural environment, establish (or re-establish) and maintain a relatively stable, reciprocal, and functional relationship with the environment” (Kim, 2001, p. 31).

CCAT is used to explain the relationship between the individual (i.e. SIR) and the working environment (WA), to maximise social life obligation (Kim, 2001). Furthermore, this theory explains the initial challenges faced by SIR as a career traveller to the host countries (Tharenou & Caulfield, 2010) and return as skilful resources to the home country (Kunasegaran et al., 2016). According to Kim (2001; 2013) culture shock and reserve culture shock is not a bad phenomenology, but it is a necessity for SIR to adapt them to the familiar working environment. It was aligned with the principal of CCAT (Kim, 2013) that “stress-adaptation-growth” is a part of the learning process that SIR earned through experiences, as well as adapting and growing in the current working environment. This process is known as a coping strategy. Maydell-Steven, Masgoret and Ward (2007) have verified coping strategy as a social support element during the cultural adaptation process such as having a positive thinking and self-persuasion. For instance, if the SIR’ feel positive towards WLB practices in the local organisation, then WA and a coping strategy were exercised. On the other hand, the cultural differences between the host and home countries organization should be acknowledged for further understanding of WLB. Culture is an embedded process with values and norms of the organisation (Hofstede, 1982), meanwhile cross-cultural is blended of various of subculture in one main culture or adaptation process to a new culture (Kim, 2013).

The second theory used in this paper is the SET, to explain the relationship between WLB and organisational support in the WA study. According to a SET, if one person treats another person, it means the reciprocity is obligated to the favorable (Gouldner, 1960). The mutual exchange between employees (SIR) and the employer in term of well-being, fair treatment and policy enforcement are benefited both parties (Rhondes & Eisenberger, 2002). Moreover, this theory has an economics value that relates to cost and benefit effort, which often lies on formal contacts (Mitchell, Cropanzano & Quisenberry, 2012). The exchange approach is more meaningful with a mutual collaboration or understanding between the two parties, for example, SIR and employer. It means when SIR willingly to share their valuable knowledge and expertises for the organisation development and the local employer provides benefited treatment and equal compensation, then WLB concept was practised. As mentioned above, the SIR are skilful and talented employees, and when they return and join the Malaysian workforce, satisfying their desires and demands should be part of returning and WA. In terms of repatriation context, SET plays a role in balancing a mutual transition between work and life. The support from the organization enhanced SIR ability to cope with the local changes and stress of adjusting (Lazarova & Cerdin, 2007).

Methodology

This study employed a qualitative method to understand SIR’ behaviour, cross-cultural perspectives, views and feelings upon their re-joining the local working environment. A qualitative research is able to provide in-depth explanation of social proecess through individual self-justification (Hakim, 2000). A semi-structured interview was conducted through personal appointment via mails and business contacts. Each of the interview session lasted between one and half hours to two hours. The questions were designed based on introduction and career path, cross-cultural challenges, work-life interference, perceived value from WLB to WA and supporting elements (i.e organisation and family). Thematic analysis approach was applied due to the interview session generate large amonut of information. Further, this analysis was conducted by identify, analyse and reports themes within the collected data (Braun & Clarke, 2006). Since, the sample of this study was independent repatriates, their willingness to accept and share their experiences is a crucial part (Alkinson & Flint, 2001). A snowball sampling technique was selected to increase respondents’ trust and willingness to participate in this study (Heckathorn, 2011; Alkinson & Flint, 2001). The respondents were identify through informal channel like blog (www.outstation.my), and formal channel like professional recruitment agencies (i.e. Kelly Services, Korn-Ferry and Monster) and business-personal contacts.

Research Findings

Malaysian Repatriates Profiling

There were 25 respondents participated in this study from the Klang Valley area on their experiences upon returning and joining Malaysian workforce. It represents 80% of male respondents and 20% of female respondents. They were represents from various industries such as education (5), healthcare (5), biotechnology (5), construction (2), banking (3), manufacturing (2), tourism (1), oil and gas (2). Most of them were aged from 35 to 65 years, located in public and private sectors. They were posted in high positions such as senior managers (3), engineers (1), directors (3), scientists (4), CEO (1), doctors (5), accountant (1), IT consultant (3) and academics (4). Most of the self-initiated repatriates were have a high academic qualification such as degree (30%), master degree (33%), doctorate degree (20%) and professional certificates (16%).

Repatriates Issues and Challenges

Various perceptions were recorded upon rejoining Malaysian workforce. Although technology advancement would be a great assistance for them while they were in the host countries, yet, the physical and psychological adaptation at workplace becomes unpredictable. There were for four themes derived from the study, i) culture variations, ii) work-life conflict, iii) organisational support and iv) family support.

Theme 1: Culture variations

The re-entry of self-initiated repatriates in the familiar working environment has been encountered with cross-cultural experiences. This process is also refers as a reverse culture shock (Black et al., 1992). Reverse culture shock occurs when repatriates assume a positive, welcoming in a new workplace, but unfortunately it turns to be unfavorable that hindering WA (Nery-Kjerfve & McLean, 2012). On the other hand, SIR are enmeshed between cross-cultural variations between the adjusted working environment in the host countries and unchanged working culture in the home country, known as a social-psychological adaptation (Cao, Hiraschi & Deller, 2014). In additional, Malaysian SIR are effected by various type of business entities, such as government base companies, multinational companies (MNCs) or family enterprises that influenced their adaptation pattern (Bhaskaran & Sukumaran, 2007). Each of the business entities has its own business platform that molds the organisation culture. Malaysian SIR shared their cultural experiences as follows:

“I am able to adapt to socio-cultural changes, but not to Malaysian working environment. It is the biggest challenge for me, it took me a couple of years to accept and adapt to the changes here. It is totally different working culture in the UK. I have worked as a senior lecturer in one of the university in the UK. It only took me 8 years to be in top management, whereas, here, in biotechnology industry, it took me almost 20 years to reach the same stage.” (Director, Biotechnology Company).

“When we were abroad, we were exposed to the latest information right from the technology advancement to the working methods, but here, they were still using backward systems with reasoning costs. Then, they expect us to produce international quality standard. A stressful working environment.” (Senior Manager, Manufacturing Company).

Culture shock occur due to misunderstanding in communication terms, sensitivity, and less open communication (Chaban, William, Holland, Boyce & Warner, 2011). Malaysian SIR are shared their culture variations as follows,

“When I presented my research finding to the top management, they had doubtful thoughts due to lack of confidence and trust in my finding especially when it indicated negative results. The local management believed western researchers or consultation more than us in providing the best solutions. But it is totally different in the country where I worked before they listened and analyzed my ideas and solutions. That is where I found it was difficult to adapt to Malaysian

working culture. Our local management doesn't trust us, how they want to listen to my ideas. I am totally disappointed." (Scientist, Biotechnology Company).

"I worked independently and received many appreciation awards from the previous university. Here, they asked me to do many things such as marketing, business networking and publications, however, I received less benefit and even, sometimes there is no promotion. Most of the private higher education only focused on teaching rather than research. It does not represent a career development for academics." (Professor, Private University)

According to Chaban et al. (2011), most of the developing countries are applying collectivism working culture rather than individualistic. Collectivism and individualistic are interlinked with high-culture context and low-culture context. Generally, western countries are practicing the low-culture context compare to Asian countries like, Malaysia towards high-context culture.

For instance,

"I went to London to further my study and I worked more than 10 years. I returned to Malaysia through REP programme. Even though I don't enjoy high salary like in the UK, but I am happy with my family, having a good living style and career opportunities. Yes, I do face culture shock and other challenges upon I joined work here, but I can overcome it. My intention is to contribute to our community and educate them about healthcare related information. In the private sector, I still work independently, so there no much different compare to the UK. I also involved in charity and NGO work to help the needed group." (Medical consultant, Private Healthcare Company).

"For biotechnology industry, fast decision and speed process are important factors for us to execute the laboratory process. Here, I need to wait for a couple of months to get approval to buy equipment or tools for my research work. It's a long protocol procedure, as well as it's too late to execute the action plan. But in the Canada, I only need to get approval from the research principal and things are getting done within a week." (Scientist, Biotechnology Company)

Theme 2: Work-life Conflict

Work-life conflict occur when SIR fails to manage between work, commitment and family responsibility (Tharenou & Caulfield, 2010). There is a positive correlation between work progress, WA and organization support (Lazarova & Cerdin, 2007). However, SIR felt stress when they are requested to work for longer hours, then it caused imbalance feeling and dissatisfaction (Fischlmayr & Kollinger, 2010). For instance,

"Yes, I experienced difficulties to understand my peers and my boss' expectation. Whenever I express my ideas, my boss suppresses it by saying ... it's not applicable here. This is how we work here. It gives me a lot of depression that I not able express my ideas ..." (Manager, Research and Development Company)

"it is ridiculous to pay me according to the Malaysian market. I went to abroad to study by myself and worked there for a couple years in the software companies, in the UK and Australia. They refused to pay me according to international standard and doubtful about my ability. This is an unfair justification." (Software Engineer, ICT/Software Company)

The WLB was found to be bi-directional and tempering by the organisation perception. Bi-direction means repatriates somehow direct towards work commitment rather a family or social obligation (Tharenou & Caulfield, 2010). It is quite common in a local environment whereby, Malaysian companies are demanding their employees to work for longer hours with a multi-task job (Yusoff & Ramayah, 2007), with an argument it is a part of the job. Contradict viewpoint, work commitment in the developed countries was measured by the work productivity and not the long hours in the office (Jassawalla & Sashittal, 2009). On top of it, family time is compulsory factors that highly

focused in the western WLB, which make repatriates feel unhappy working in the local environment. For instance,

“While I am working in the headquarter I felt less stress. I return to home at the same time every day. Here, the management expects me to work beyond the office hour to show our commitment towards the organization. Previously, I have more time to socialize with my friends and family compare to here. Each of the extra works was accredited equally. I received a fair treatment regardless the seniority or education level.” (Chief Risk Executive, Financial Company)

“I have to work long hours, even at home. I spend less hours with my family. Salary wise, it is not equal to my experiences but I willing to accept payment cu-off compare to market value because of my family.” (IT Consultant, ICT/Software Company)

“My current dean practices open and flexible working, where he allows me to work on my own capacity with allocates a research grant. It made me easy to work in the education sector.” (Senior Lecturer, Public University)

Theme 3: Organizational Support

It is not an easy process for SIR to leave their reputable job and career progress in the host country and return to the home country (Kraimer et al., 2009). However, the organizational support has an enormous impact on SIR (Lazarova & Cerdin, 2007; Tharenou & Caulfield, 2010). For instance,

“I have worked more than 17 years in various hospitals and universities as a brain surgeon in the U.K. I return through REP programme 4 years back, with the intention to provide a better healthy lifestyle and to set up a brain center in Malaysia. I faced difficulties due to lack of institutional support. There is no direct access for medical practitioners to be an entrepreneur. However, my current organization encourages me, allocates a research fund and laboratory facilities for me to conduct a research.” (Brain Surgeon, Private Hospital).

“The top management has given me a full freedom to re-structure talent strategy and build human capital development programme without any restrictions. With this, I able to share my past experiences from the banking and finance sector in the UK and Qatar to Malaysian working environment. My management always welcomes my ideas and suggestions, as well as concern on my career progress. I am able to balance between my work and family obligation.” (Director of Human Capital, Construction Company)

The organizational support has helped SIR to perform effectively beyond than their job scope (Kraimer et al., 2009). For instance, an engineering professor, who has served at the National University of Singapore for more than ten years, was happily working in Malaysian university.

“I am happy working at the local university and the management given me the privilege to set up a new laboratory with the latest equipment in the engineering department. Furthermore, I also allow to apply the new methodology in teaching and learning perspective, whereby my students are receiving international awards in research design. I am willing to work extra days to achieve our research key performance. The dean and management are supportive towards my adaptation process.” (Engineering Professor, Public University)

Theme 4: Family Support

This is one of the core predictor that directly pushed SIR to make a “U” turn due to family discomfortable in the home country (Nery-Kjerfve & McLean, 2012). Studies have highlighted that family members took about six months to one year to adapt to the home country environment (Linehan & Scullion, 2002) and to other social networks, it took longer (Jassawalla & Sashittal, 2009). A family

support means the family members able to fit into the social network (Stahl, Chua, Caliguiri, Cerdin & Taniguchi (2009). Malaysian SIR shared their concern of life component in the WLB concept.

“My family, wife, and kids are struggling to adapt to the social environment. International school fees are expensive and my kids hardly understand the national language due to 10 years of schooling in the international medium in the Middle East countries. The current company is not included children facilities as part of my compensation package. They feel culture shock and difficult to communicate with their schoolmates. It somehow rather affects my emotional feeling and affects my performance.” (HR Director, Oil, Gas and Energy Company).

“I return back because of my parent. I worked so long in the US. It is the time to coming back home. I am not married yet. I am intent to establish my own business.” (Accountant, Financial Company)

“My kids are in the international school. They are able to adjust themselves well.” (Senior Manager, Tourism Company)

Discussion and Conclusion

In this study, we have investigated Malaysian SIR' experiences on WLB and WA with the organizational support that involved professionals group. Building on the early contributions of [Begley et al. \(2008\)](#), [Kraimer et al. \(2009\)](#) and Lazarova and Cerdin (2007), who have analyzed SIR from cross-cultural adjustment, career advancement and organizational support; through this study, we have extended the repatriation literature on WLB. One of the major contributions from this study is the confirmation of cross-cultural experiences in the Malaysian working environment. It was practically argued and agreed by many scholars that cross-cultural challenges is a fundamental aspects that effect SIR and their adaptation process at workplace (Black et al., 1992; Nery-Kjerfve & McLean, 2012; Kim, 2013; Chaban et al., 2011). The empirical finding indicates an adaptive pattern among Malaysian SIR from various professions. Most of the repatriates in MNCs (i.e. medical repatriates) are having a balance adaptation between the work and life, compared to the government based companies. However, in the education sector, academics (SIR) are more likely being worked and satisfied with the government university rather than private university. It is clearly shown by their commitment towards work and the community

Second, Malaysian SIR are experiencing work-life conflict in term of salary distribution, long working hours, family obligation and conflict of interest with the management. Malaysian SIR felt disappointed when the local management did not recognized their foreign working experiences as a valuable asset to uplift the organization performance. It was aligned with Linehan and Scullion's (2002) study on female repatriates from the European countries had negatively violated their oversea working experiences. It could be a cultural norm in Malaysia to work for long hours, but to SIR it is a conflict to adapt and having a WLB. It was similar to Jassawalla and Sashittal's (2009) study that the local organization measuring repatriates' commitment based on working hours rather than quality of the job. Overall, the empirical evidences are strongly highlighted two fundamental aspects, the lack of open communication and less socialization programme to build SIR trust and adaptability skill.

Third, it is empirically proven that organizational support affects SIR adaptation process and WLB. The finding was aligned with past studies (Lazarova & Cerdin, 2007; Kraimer et al., 2009; Begley et al. 2008), that organizational support has positively impacted SIR decision to adapt to the local environment. This finding has presented that Malaysian SIR are welcoming and encouraging organizational support towards their career development, which means positive WLB. Therefore, a warm welcoming from the organization would add a comfortable feeling to SIR in the workplace. It is consistent with Lazarova and Cerdin's (2009) study that the good relationship between the employer and employees has changed SIR perception on WLB and WA. As a conclusion, organizational support has been proven as an important construct on WLB and WA of SIR.

Finally, family support as an external source played a vital role in determining WLB and WA of SIR. When family members positively support SIR's WA, the transition process from the host to the home countries is smooth. If family members failed to adapt in the home country social network, it likely effect SIR adaptation at the workplace. This finding agrees with the previous studies by Linehan and Scullion's (2002), and Stahl et al. (2009) that family member adaptation directly influenced SIR. As a summary, organization and family support are truly helped repatriates to balance their career and professional development in Malaysia. The pressure of adapting to the home country organization can be reduced through WLB, if organizations address issues like cultural variations, work-life conflict, providing a mutual organization mutual and supporting family-related matters.

Implications for HRD, Limitation and Recommendation

This study has a number of theoretical contributions for HRD. First, this study has extended the scope of CCAT (Kim, 2001) by applying WLB to WA study. Most of the previous studies have focused on communication, intercultural or cross-cultural perspectives in WA study. This study has fulfilled the research gap by integrating WLB and organization support to the WA literature by providing a new adaptive skill for SIR. Furthermore, the combination of CCAT and SET in WA study has extended the cross-cultural adaptation dimension with mutual exchange or reciprocity. It means a mutual exchange between SIR and the organization would increase WLB and WA. The combination theories have demonstrated a collaborative effort to integrate the newcomers like self-initiated repatriates in the local working environment. Further, it also contributes to the theory by distinguished the term "fitting" between the SIR and the working environment. Second, the semi-structured interview has given in-depth analyses of SIR in Malaysian workforce. This would help HRD practitioners to design suitable HRD strategies to maintain them in a Malaysian working environment. As recommended by Paul Cooper on his article for future HR, "*in order to retain Malaysian talent in the country, companies should drive up strong retention strategies,*" (Minderjeet, 2016 p.1), would be an ideal way to sustain SIR in Malaysia. Communication and coping strategies would be a better solution to increase SIR trust and confidence in the local organizations. This is an exploratory study in the form of semi-structured and hence requires further in-depth empirical verification, such as case study on one particular industry. A future study should be extended on the area of WLB implementation, leadership, gender adaptability and cross-cultural communication.

References

- Atkinson, R., & Flint, J. (2001). Accessing hidden and hard-to-reach populations: Snowball research strategies. *Social research update*, 33(1), 1-4.
- Begley, A., [David G. Collings](#), D.G., & [Scullion](#), H. (2008). The cross-cultural adjustment experiences of self-initiated repatriates to the Republic of Ireland labor market. *Employee Relations*, 30, Issue: 3, 264-282.
- Bhaskaran, S., & Sukumaran, N. (2007). National culture, business culture and management practices: consequential relationships? *Cross Cultural Management: An International Journal*, 14 (1), 54-67.
- Black, J.S. & Gregersen, H.B. (1999). The right way to manage expats. *Harvard Business Review*, 77(2), 52-57.
- Black, J.S., Gregersen, H.B., & Mendenhall, M.E. (1992). Towards a theoretical framework of repatriation adjustment. *Journal of International Business*, 24, 737-760.
- Boru, K. (2015). *Employee perception of organizational support towards work-life balance at the Gulf African bank (Kenya)*. Unpublished doctoral dissertation. The School of Business, University of Nairobi, Kenya.
- Chaban, N., Williams, A., Holland, M., Boyce, V. & Warner, F. (2011). Cross-cultural: Analysing the experiences of New Zealand returnees from EU (UK vs non-UK). *International Journal of Intercultural Relations*. Science Direct. Elsevier Ltd. Available at: www.elsevier.com/locate/ijntrel.
- Cho, T., Hutchings, K. & Marchant, T. (2013), Key factors influencing Korean expatriates' and spouses' perceptions of expatriation and repatriation, *The International Journal of Human Resource Management*, 24(5), 1051-1075.

- Collings, D.G., Scullion, H. & Morley, M.J. (2007). Changing patterns of global staffing in the multinational enterprise: challenges to the conventional expatriate assignment and emerging alternatives. *Journal of World Business*, 42 (2), 198-213.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31, 874-900.
- Eisenberger, R., Huntington, R., Hutchison, S. & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71(3), 500–507.
- Felstead, A., Jewson, N., Phizacklea, A., & Walters, S. (2002). Opportunities to work at home in the context of work-life balance. *Human Resource Management Journal*, 12(1), 54-77.
- Fischlmayr, I. & Kollinger, I. (2010). Work-life Balance – A Neglected Issue Among Austrian Female Expatriates. *The International Journal of Human Resource Management*, 21(4), 455–487.
- Gouldner, A.W. 1960. The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 61-78.
- Gulati, R., Nohria, N. & Wohlgezogen, F. (2010). Roaring out of recession. *Harvard Business Review*. [http: hbr.org/2010/03/roaring-out-of-recession](http://hbr.org/2010/03/roaring-out-of-recession).
- Hakim, C. (2000). *Research design: Successful designs for social and economic research*. Psychology Press.
- Hannigan, T.P. (1990). Traits, attitudes, and skills that are related to intercultural effectiveness and their implications for cross-cultural training: A review of the literature. *International Journal of Intercultural Relations*, 13, 89-111.
- Ismail, M., Kamaruddin, N. A. Y., Baki, N.U., & Rasdi, R. M. (2014a). *Predictors of career aspiration of Malaysian returnees from European and non-European countries*. Conference paper presented at 15th International Conference on Human Resource Research and Practices across Europe, 4-6 June 2014, Edinburg Napier University, United Kingdom.
- Ismail, M., Kunasegaran, M. & Rasdi, R. M. (2014b). Evidence of reverse brain drain in selected Asian countries: Human resource management lessons for Malaysia. *Organizations and Market in Emerging Economies*, 5(9), 1-18. Online ISSN: 2345-0037.
- Jassawalla, A. R., & Sashittal, H. C. (2009). Thinking strategically about integrating repatriated managers in MNCs. *Human Resource Management*, 48, 769-792.
- Kim, Y. Y. (2009). Cross-cultural adaptation theory. In S. Littlejohn & K. Foss (Eds.), *Encyclopaedia of communication theory* (pp. 243–247). Thousand Oaks, CA: Sage.
- Kim, Y. Y., & McKay-Semmler, K. (2013). Social engagement and cross-cultural adaptation: An examination of direct and mediated interpersonal communication activities of educated non-natives in the United States. *International Journal of Intercultural Relations*, 37, 99–112.
- Kraimer, M. Bolino, M. & Mead, B. (2016). Themes in expatriates and repatriates research over four decades: What do we know and what do we still need to learn. *Annual Review of Organisational Psychology and Organisational Behaviour*, 3(1), 83-109.
- Kraimer, M. L., Shaffer, M. A., & Bolino, M. C. (2009). The influence of expatriate and repatriate experiences on career advancement and repatriation retention. *Human Resource Management*, 48(1), 27-47.
- Kunasegaran, M., Ismail, M., Rasdi, R. M., & Ismail, I. A. (2016). Intercultural and Workplace Adaptation: A Case Study of Malaysian Professional Returnees. *Procedia-Social and Behavioral Sciences*, 219, 448-454.
- Lazarova, M.B. & Caligiuri, P. (2001). Retaining repatriates: The role of organizational support practices. *Journal of World Business*, 36(4), 389-401.
- Lazarova, M.B. & Cerdin, J.L. (2007). Revisiting repatriation concerns: Organizational support versus career and contextual influences. *Journal of International Business Studies*, 38(3), 404-429.
- Linehan, M. & Scullion, H. (2002). Repatriation of female executives: empirical evidence from Europe, *Women in Management Review*, 17 (Issue: 2), 80 – 88.
- MacDonald, S., & Arthur, N. (2005). Connecting career management to repatriation on adjustment. *Career Development International*, 10(2), 145-158.
- Maideen, M. & Aminun. (2015). To investigate the support of technology in minimizing reverse culture shock: A focus on expatriates working in Malaysia. *Journal of Human and Social Science Research*. 6(1), 022-034. ISSN: 2331-4974.

- Makela L. & Suutari V. (2013). *The Work-Life Interface of Self-Initiated Expatriates: Conflicts and Enrichment*. In: Vaiman V., Haslberger A. (eds) *Talent Management of Self-Initiated Expatriates*. Palgrave Macmillan, London
- Maydell-Stevens, E.M., Masgoret, A.M, & Ward, T (2007). Problems of psychological and sociocultural adaptation among Russian-speaking immigrations in New Zealand. *Social Policy Journal of New Zealand*, Issue 30, 1-21.
- Mitchell, M., Cropanzano, R., & Quisenberry, D. (2012). Social Exchange Theory, Exchange Resources, and Interpersonal Relationships: A Modest Resolution of Theoretical Difficulties. In K. Törnblom & A. Kazemi (Eds.), *Handbook of Social Resource Theory*. 99-118. Springer New York.
- Minderjeet, K. (2016). *Brain drain worsens with ringgits woes: A job placement says Malaysia will come continue to be a net exporter of talent*. The Malaysia Today. 22 December, 2016. <http://www.freemalaysiatoday.com>
- Mohd Tahir, A. H. & Ismail, M. (2009). Cross-Cultural Challenges and Adjustments of Expatriates: A Case Study in Malaysia. *Turkish Journal of International Relations*, 6(3), 72-98.
- Nery-Kjerfve, T. & McLean, G.N. (2011). Labor migration and national HRD in the context of Post-Soviet Kyrgyzstan. *Human Resource Development International*, 14(2), 199-215
- Noor, K. M. (2011). Work-life balance and intention to leave among academics in Malaysian public higher education institutions. *International Journal of Business and Social Science*, 2(11). 240-248.
- Philipsen, M. (2010). Balancing personal and professional lives: Experiences of female faculty across the career span. *Vitae Scholasticae*, 27(2), 9-29.
- Shaffer, M., Kraimer, M., Chen, Y.P. & Bolino, M. (2012) Choices, Challenges, and Career Consequences of Global Work Experiences: A Review and Future Agenda. *Journal of Management*, 38(4), 1282–1327.
- Stahl, G. K., Chua, C. H., Caligiuri, P., Cerdin, J. L., & Taniguchi, M. (2009). Predictors of turnover intentions in learning-driven and demand-driven international assignments: The role of repatriation concerns, satisfaction with company support, and perceived career advancement opportunities. *Human Resource Management*, 48(1), 89-109.
- Suutari, V. & Brewster, C. (2003). Repatriation: Empirical evidence from a longitudinal study of careers and expectations among Finnish expatriates, *International Journal of Human Resource Management*, 14(7), 1132-1151.
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87, 698-714.
- Talib, N. A., Sofian, S., Mohamad, N. A., Senin, A.A., Kadir, H.A. & Aslan, A.S. (2012). Leveraging Malaysian Diaspora for cluster development initiatives. *Business Strategy Series*. 13(5), 239-247. ISSN: 1751 5637.
- Talent Corporation Roadmap (2012). *Talent Roadmap 2020: Malaysia Has Talent*. 1-163. Available at <http://www.talentcorp.com.my/>.
- Yusoff, Y.M. & Ramayah, T. (2007). Job variables and work re-adjustment among repatriates: the moderating role of social support. *Journal of International Studies*, 137-156.
- Wang, D. (2012). *Skilled returnees as contingent brokers of cross-border knowledge transfer*. Ph.D. Dissertation. Department of Sociology, Stanford University.
- World Bank (2015). *The World Bank Annual Report 2015. Chapter 29: The regions*. 29. Washington, D.C.
- World Bank (2016). *The World Bank Annual Report 2016. The Asia Pacific*. 45. Washington, D.C.

A CORRELATIONAL STUDY OF MULTICULTURAL COMPETENCY AND SELF-EFFICACY IN DEALING WITH LEGAL AND ETHICAL ISSUES

Neerushah Subarimaniam, Noor Syamilah Zakaria & Wan Marzuki Wan Jaafar
Faculty of Educational Studies, Universiti Putra Malaysia
shahmaniam@gmail.com, syamilah@upm.edu.my, wanmarzuki@upm.edu.my

ABSTRACT

Value helps counselor to navigate the challenges of being a professional helper. The evolution and integration of multicultural counseling have been mushrooming in a number of research fields. Multicultural competency is one's awareness, knowledge, and skills about various cultures. While self-efficacy is an individual's beliefs regarding his or her ability to accomplish a task successfully. The purpose of this study is to examine the relationship between multicultural competency and trainee counselors' self-efficacy in dealing with legal and ethical issues. One hundred and forty eight respondents from three private universities in Malaysia participated in the study through simple random cluster sampling. There were a total of two instruments used to measure perceived multicultural competency and self-efficacy respectively. The data was analyzed using Pearson Correlation. Correlation analysis revealed that there is positive relationship between perceived multicultural competency and self-efficacy ($r = 0.418$, $p < .01$). The strength of relationship or the coefficient of r value between perceived multicultural competency and self-efficacy reflects a substantial relationship. Hence, this study is vital as it provides the idea of incorporating value in the process of shaping counselors who eventually will be able to deal with legal and ethical issues.

Keywords: Multicultural Competency, Self-Efficacy

Introduction

Multicultural competency is associated with the differences between counselor and client and those differences can be the result of traumatic life events, socialization, or ethnic environment (Gladding, 2013). Besides that, Nelson-Jones (2009) stated that multicultural counseling involves clients from various cultures, different levels of assimilation, and they can differ from the counselor in the aspect of race, social class, biological sex, marital status, gender role identity, sexual and affectionate orientation, values, physical disability, religion or philosophy, and age.

Objectives of the Study

- a) To measure the level of perceived multicultural competency and self-efficacy among trainee counselors.
- b) To find significant relationship between perceived multicultural competency and self-efficacy in dealing with legal and ethical issues in counseling.

Hypothesis

There is significant relationship between perceived multicultural competency and counselors' self-efficacy in dealing with legal and ethical issues.

Significance of the Study

This study will assist counselors to become aware of the need to be efficacious. Counselors must understand that higher level of self-efficacy can prepare them to become better decision makers, provide them more confident to deal with ethical dilemmas, and finally make them feel competent to tackle any issues presented by their clients.

Conducting counseling sessions without certain level of self-efficacy will deteriorate counselor's performance. According to Bandura, it is always true that a well-prepared counselor will

show greater self-efficacy when dealing with legal and ethical issues (as cited in Sawyer, Peters, & Willis, 2013). Efficacious counselors will also be able to stand and fight for justice despite any circumstances and challenges.

In addition, this study will provide insights that in the current modernized world, basic personal qualities are just not sufficient to produce good counselors. Each day, clients are facing with more life challenges and unique issues. Therefore, counselors need to be well-prepared to infuse other core values such as multicultural competency within themselves and throughout their helping services.

Multicultural competency is a miracle quality that every counselor should have in order to tackle client's situational and developmental problems. The current study will be a part of literature reviews where it shall enhance the researchers' knowledge in producing innovation strategies to help counselors deal with clients. We can improve the counseling education by integrating and focusing more on value such as multicultural competency in order to prepare counselors deal various profession challenges.

However, there are potential impacts on counselor's self-efficacy due to various multicultural issues such as the process of ethnic or racial identity development and gender role conflict (GRC) (Lam, Tracz, & Lucey, 2013). These issues can direct to legal and ethical dilemmas too. Thus, counselor with high level of multicultural competency would be able to deal with these legal and ethical dilemmas efficaciously.

Literature Review

The attention given to multicultural issues in counseling have been increasing (Barden & Greene, 2015; Constantine, 2001; Lam, Tracz, & Lucey, 2013; Maizatul Mardiana Harun, Rusnani Abdul Kadir, & Sidek Mohd Noah, 2014; Maldonado, 2008; Ngcobo & Edwards, 2014; Ponterotto, Rieger, Barrett, Harris, & Sparks, 1996; Vespia, Fitzpatrick, Fouad, Kantamneni Neeta, & Yung-Lung Chen, 2010). According to Cayleff, Helms, and Smith, the significant construct of multicultural competency reflects counselor's awareness of his or her own ethnicity, power status, race, culture, language, and awareness of how these aspects function in his or her client's life (as cited in Sadowsky, Taffe, Gutkin, & Wise, 1994).

Multicultural competency encompasses knowledge, awareness, and skills that every counselor should have in order to meet the need of multicultural, multilingual, and multiracial clients (Dodson, 2013). Besides that, Maizatul Mardiana Harun et al. (2014) also stated that there are three components that define multicultural counseling which are attitudes and beliefs, skills, and knowledge. This statement is similar to what Constantine (2001), Dodson (2013), Maldonado (2008), Ponterotto et al. (1996), and Sadowsky et al. (1994) revealed in their study. The term 'awareness' that defines multicultural counseling refers to the counselors' awareness of their own cultural biases and how counselors translate these biases into counseling sessions that is culturally insensitive (Ponterotto, 1996).

Next, 'knowledge' reflects the counselors' understanding of their own worldview (Ponterotto et al., 1996). Besides that, counselor must have knowledge of his or her client's worldview inclusive of culture-specific information such as models of acculturation, impact of racism on their clients, and racial identity development. Sadowsky et al. (1994) stated that knowledge is the cognitive domain that involves knowing the cross-paradigmatic approaches, theories, and researches of multicultural counseling in order to understand the cultural diversity. In contrast, skill refers to counselor's capacity or competency to translate their awareness of biases and worldview into culturally sensitive and appropriate interventions (Ponterotto, 1996).

A counselor who is multiculturally competent believes that he or she should treat every client fairly and equally, regardless of the client's cultural background. On the contrary, a counselor who has high level of multicultural competency conducts counseling session by considering the counselor's and

client's culture differences. This type of counselor perceives multicultural competency as important value in methods of resolution, counseling goals, and case conceptualization (Sodowsky et al., 1994). A counselor who is multiculturally encapsulated will definitely conduct counseling session without considering the cultural, race, and ethnicity background of client (Sodowsky et al., 1994).

According to Owen, Bodenhorn, and Bryant (2010), one's multicultural competence leads to positive results and guides counselor in the counseling process. A counselor's responsibility of being multiculturally competent besides being empathy, non-judgmental, ethical, and so forth can be very challenging. This challenge requires counselor to be prepared and be efficacious with multicultural counseling competency (Maizatul Mardiana Harun et al., 2014). Counselors who have strong foundation in multicultural competency would be able to expand their self-efficacy in providing positive counseling outcomes (Maizatul Mardiana Harun et al., 2014).

However, a counselor would seek for assistance if they are not multiculturally competent; and this would lead to counselor's avoidance behaviors such as avoid dealing with clients and failure to address a dilemma. Drinane, Owen, Adelson, and Rodolfa (2014) discussed about a model of multicultural competencies (MCCs) adopted by American Psychological Association (APA). They stated that this model of MCCs guides professionals through the cultural complexities and helps them serve their clients at the best level they could. However, counselor has to focus on the multicultural aspects at the very early stage and not wait till the occurrence of racial incident or culture clash which will end in legal and ethical dilemmas (Sodowsky et al., 1994). Thus, counselor must be multiculturally competent to prepare self deal with any legal and ethical issues, subsequently solve them efficaciously.

The preparation can be done by attending courses, training, seminars, conferences, multicultural classes, social service, or reading books and articles. To date, there is not even one study literally investigates the relationship between multicultural competency and counselor's self-efficacy in dealing with legal and ethical issues. Most of the articles or journals examine on the general multicultural counseling competency, multicultural counseling self-efficacy, alteration of ethic codes from multicultural perspectives, and ethical issues due to lacking of multicultural competency, and so forth. Thus, the current study will refine the existing studies and hope to contribute knowledge about values in counseling especially in the area of counseling ethics.

Methodology

A correlational design was used to achieve the objectives of the study. The study was conducted in three selected private universities that offer Masters in Counseling program. The size of population was 243 including both male and female students. The sample size was determined by using Krejcie and Morgan (1970) formulas. Krejcie and Morgan (1970) developed a table using sample size formula for finite or known population. Therefore, based on the table, population size of 243 required a sample size with a minimum of 148 trainee counselors, assuming confidence level of 95%. In addition, simple random cluster sampling was selected from the several types of probability sampling. There were many groups of Masters in Counseling students at the three universities. They were clustered based on the semesters. Therefore, the researcher randomly selected few clusters and used the members of the selected clusters as the respondents for the current study.

Furthermore, four instruments were used to gather data for the study. The survey questionnaire was divided into 5 sections. There were a total of 77 items and the sections in the questionnaire were as following: (a) Demographic background; (b) Spirituality Index of Well-Being (SIWB), (c) The Religious Commitment Inventory-10 (RCI-10), (d) Multicultural Counseling Knowledge and Awareness Scale (MCKAS), and (d) Ethical and Legal Issues in Counseling Self-Efficacy Scale (ELICES).

The data obtained from the questionnaires were analyzed using descriptive analysis to get the mean and standard deviation of participants being appraised as multicultural competent and efficacious.

Last but not least, correlation analysis was carried out to identify the relationship between multicultural competency and counselor's self-efficacy in dealing with legal and ethical issues.

Research Finding

Objective 1: To measure the level of perceived multicultural competency and self-efficacy among trainee-counselors.

Table 1 reports the mean (M) and standard deviation (SD) of two variables. The mean and standard deviation of perceived multicultural competency was (M= 4.46, SD= 0.40), followed by self-efficacy which was (M = 68.9, SD = 11.4).

Table 1. The Mean and Standard Deviation of Variables

Variables	M	SD
Perceived Multicultural Competency	4.46	0.40
Self-Efficacy	68.9	11.4

Objective 2: To find significant relationship between perceived multicultural competency and self-efficacy in dealing with legal and ethical issues in counseling.

Based on Table 2, the results showed that perceived multicultural competency is positively related with the counselors' self-efficacy in dealing with legal and ethical issues ($r = .418$, $p < .01$), which were also significant at $p < .05$. According to Guilford's rule of thumb, the coefficient of r value which is between .40 and .70 reflects a moderate correlation or substantial relationship. Thus, the hypothesis is accepted.

Table 2. Pearson Correlation Coefficient between Perceived Multicultural Competency and Self-Efficacy

Scale	N	Sig. (2 tailed)	Pearson Correlation (r)
Perceived Multicultural Competency	148	.000	1
Self-Efficacy	148		.418**

**Correlation is significant at the 0.01 level (2-tailed).

Discussion

Objective 1: To measure the level of perceived multicultural competency and self-efficacy among trainee-counselors.

The mean score of perceived multicultural competency was at a moderate level. The maximum mean score that can be achieved is 7.0 and the mean score of perceived multicultural competency obtained in this study was 4.46. Thus, the mean score is above median and the level of multicultural competency is considered as moderately high. Last but not least, the mean score of counselors' self-efficacy was 68.9 which is above median and the standard deviation was 11.4. The mean score obtained showed that the respondents or trainee counselors are prepared to handle legal and ethical issues faced during counseling sessions. This also reflects the good strength of self-efficacy in the trainee counselors.

Objective 2: To find significant relationship between perceived multicultural competency and self-efficacy in dealing with legal and ethical issues in counseling.

The correlation analysis revealed the significant relationship between perceived multicultural competency and self-efficacy. In addition, the results of this analysis are in line with the findings by Drinane et al. (2014); Greene et al. (2014); and Maizatul Mardiana Harun et al. (2014). According to these researchers, multicultural competency involves counselors' knowledge, awareness, and skills. A

counselor who has the ability to utilize their multicultural knowledge, awareness, and skills using the right methods will be able to tackle the issues of legal and ethical in counseling. This process will eventually prove counselors' improved self-efficacy due to maximized potential in applying the essence of multicultural competency.

Conclusion

The attentions given to multicultural competency and self-efficacy as mentioned above have been mushrooming. However, there are even places where the acceptance of values almost absent especially in the counseling practices. The degree of attention given to all these two values is unknown. However, researcher felt contented to mention that many people are becoming aware of the importance of values.

The current study revealed positive association between perceived multicultural competency and counselors' self-efficacy in dealing with legal and ethical issues. This shows that the greater the level of multicultural competency, the more efficacious the counselor is. Furthermore, an increase in the level of self-efficacy also increases the level of counselor's multicultural competency. In short, one increases when the other one increases. The development occurs simultaneously and thus, multicultural competency and self-efficacy positively related and affect the growth of counselors.

References

- Barden, S. M., & Greene, G. H. (2015). An Investigation of Multicultural Counseling Competence and Multicultural Counseling Self-Efficacy for Counselors-In-Training. *International Journal of Advanced Counseling*, 37, 41-53, doi: 10.1007/s10447-014-9224-1.
- Constantine, M. G. (2001). Multiculturally-Focused Counseling Supervision: Its Relationship to Trainees' Multicultural Counseling Self-Efficacy. *The Clinical Supervisor*, 20(1), 87-96, doi:10.1300/J001v20n01_07.
- Dodson, F. K. (2013). Exploring the Multicultural Competence of School Counselors. *Journal of Counselor Preparation and Supervision*, 5(2), 18-29, doi: <http://dx.doi.org/10.7729/52.0041>.
- Drinane, J. M., Owen, J., Adelson, J. L., & Rodolfa, E. (2014). Multicultural Competencies: What are we measuring? *Psychotherapy Research*, doi: 10.1080/10503307.2014.983581.
- Gladding, S. T. (2013). *Counseling A Comprehensive Profession*. Upper Saddle River, NJ: Pearson.
- Greene, J. H., Barden, S. M., Richardson, E. D., & Hall, K. G. (2014). The Influence of Film and Experiential Pedagogy on Multicultural Counseling Self-efficacy and Multicultural Counseling Competence. *Journal of the Scholarship of Teaching and Learning*, 14(5), 63-78, doi: 10.14434/josotlv14i5.12656.
- Krejcie & Morgan (1970). Determining the Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.
- Lam, S., Tracz, S., & Lucey, C. (2013). Age, Gender, and Ethnicity of Counselor Trainees and Corresponding Counseling Self-Efficacy: Research Findings and Implications for Counselor Educators. *International Journal of Advanced Counseling*, 35(3), 172-187, doi: 10.1007/s10447-012-9175-3.
- Maizatul Mardiana Harun, Rusnani Abdul Kadir, & Sidek Mohd Noah (2014). A Brief Review of Multicultural Counseling Self-Efficacy and Multicultural Counseling Competency. *Middle-East Journal of Scientific Research* 19 (Innovation Challenges in Multidisciplinary Research & Practice), 61-68, doi: 10.5829/idosi.mejsr.2014.19.icmrp.10.
- Maldonado, J. (2008). The Influence of Gender Identification and Self-Efficacy on Counseling Students: A Multicultural Approach. *Journal of Multicultural, Gender and Minority Studies*, 2(1), 1-15. Retrieved from www.scientificjournals.org/journals2008/articles/1334.pdf.
- Ngcobo, H. S. B., & Edwards, S. D. (2014). Self-Perceived Multicultural Counseling Competencies in South African Psychologists: A Basis for Practice Guidelines. *Journal of Psychology in Africa*, 18(4), 647-652, doi: 10.1080/14330237.2008.10820247.
- Nelson-Jones, R. (2009). *Introduction to Counseling Skills*. Thousand Oaks, CA: SAGE Publications.

- Sawyer, C., Peters, M. L., & Willis, J. (2013). Self-Efficacy of Beginning Counselors to Counsel Clients in Crisis. *The Journal for Counselor Preparation and Supervision*, 5(2), 28-43, doi: 10.7729/52.0042.
- Sodowsky, G. R., Taffe, R. C., Gutkin, T. B., & Wise, S. L. (1994). Development of the Multicultural Counseling Inventory: A Self-Report Measure of Multicultural Competencies. *Journal of Counseling Psychology*, 41(2), 137-148, doi: 10.1037/0022-0167.41.2.137.
- Owens, D., Bodenhorn, N., & Bryant, R. M. (2010). Self-Efficacy and Multicultural Competence of School Counselors. *Journal of School Counselling*, 8(17), 1-20. ISSN-1554-2998.
- Ponterotto, J. G., Rieger, B. P., Barrett, A., Harris, G., & Sparks, R. (1996). Development and Initial Validation of the Multicultural Counseling Awareness Scale. *Multicultural Assessment in Counseling and Clinical Psychology*, Paper 12, 247- 282. Retrieved from <http://digitalcommons.unl.edu/burosbookmulticultural/12>.
- Vespia, K. M., Fitzpatrick, M. E., Fouad, N. A., Kantamneni Neeta, & Yung-Lung Chen (2010). Multicultural Career Counseling: A National Survey of Competencies and Practices. *The Career Development Quarterly*, 59, 54-71, doi: 10.1002/j.2161- 0045.2010.tb00130.x.

RESILIENCE AS DETERMINANTS OF TEACHING EFFICACY AMONG SPECIAL EDUCATION PRE-SERVICE TEACHERS

Amalina Ulya Abdul Jalil & Nor Aniza Ahmad
Faculty of Educational Studies, Universiti Putra Malaysia
amalinaulya22@gmail.com, nor_aniza@upm.edu.my

ABSTRACT

The purpose of this study is to discover the relationship between resilience with teaching efficacy among special education pre-service teachers. The study also proposes to determine the level of four dimension of resilience in theme acceptance, support of self-awareness, conversion and connectedness and teaching efficacy of personal teaching efficacy, general teaching efficacy and special education competencies. The samples are 194 of special education pre-service teachers in the Malaysia public universities that offer the teacher training of special education course. The descriptive analysis is carried out to fulfil the objectives of study in determining the level. The Pearson correlation is conducted to determine the relationship between resilience with teaching efficacy among special education pre-service teachers. Regressions were used to predict the pre-service teacher teaching efficacy based on the aspects of resilience. The finding showed the moderate levels of resilience and teaching efficacy. The Pearson correlation generally shows that resilience has a positive significant relationship with teaching efficacy. The regression analysis shows that resilience in conversion as essential predictors for teaching efficacy. The implication of this study remarks a clear indication which special education pre-service teachers should perceive resilience, towards and belief regarding efficient professional performance.

Keywords: resilience, teaching efficacy, special education pre-service teacher

Introduction

Teachers that more efficacious be disposed to dedicate more class time for educational accomplishments, offer response towards student learning and provide support to student that has problem in comprehending material, than teacher with lesser efficacy values (Hightower, Delgado, Lloyd, Wittenstein, Sellers & Swanson, 2011). Teachers with a high efficacy have more belief to influence students' learning; even the learning may perhaps more challenging (Tschannen-Moran & Hoy, 2001). The efficacious teachers are open to give more fresh ideas and are more prepared to try other teaching approaches to meet their students' needs well (Strong, Gargani & Hacifazlioglu, 2011). Generally, teachers with high efficacy are more likely to involve in a productive and quality teacher performances (Dibapile, 2012). Contrariwise, the low efficacy teachers think that they only have least influence on student success. These teachers easily surrender when encountered with a challenging condition, are less resourceful, and regularly feel that students unable to learn because of the extenuating conditions (D'Elisa, 2015).

The teachers' self-efficacy beliefs are beliefs of the ability to encourage anticipated outcomes interrelated to teacher and students' performance, actions, and motivation in teaching and learning process (Gibbs & Powell, 2012). Teachers' individual belief of the ability to affect student learning, is reflected as a crucial motivational principles that guide professional teachers' actions and student learning (Klassen, Tze, Betts, & Gordon, 2011). A sufficient significant clarification point out that teachers' level of self-efficacy related with the career fulfilment (Betoret, 2009), teachers' difficulties (Skaalvik & Skaalvik, 2010) also teachers' instructional performances, motivation, commitment as well as teaching performances in the lesson (Skaalvik & Skaalvik, 2007; Somech & Drach-Zahavy, 2000). Self-efficacy of the teacher is also corresponding with students' outcomes for instance students' self-confidences and engagement, motivation, and attainment (Bong, 2008; Eren, 2009). Much researchs seem to proclaim that challenges are higher in special education teachers than in general education teachers (Eichinger, 2000; Lazarus, 2006) and self-efficacy is an attribute of high quality special education teachers. The teachers who are confident, or efficacious have presented: a) the capability to produce and assess alternative sequences of action when early accomplishment is not met; b) improved

performance by raising levels of effort and determination; and c) better capability to deal with a difficult condition by influencing cognitive and responsive processes related to the condition (Martin, 2006). Therefore, a trainee who will be a future teacher with a stronger sense of self-efficacy believes that she or he has the capability to positively influence the learning of the students.

A profession that related to the special education currently become a challenging profession because teachers need to educate the students who had diverse of disabilities (Safani, Hanafi & Nazri, 2014). The first year of special education teachers are faced with multiple challenges and they are twice and half times more tendency to leave their profession than general education teachers (Smith & Ingersoll, 2004). In a study by Fantilli and McDougall (2009) that examined the eighty-six novice teachers from the two years teacher training program of Ontario graduates, pointed out that practices of teaching for special needs students were ranked as the most challenges factor for the new teachers. Concerning this, Hastings and Brown (2002) declared that teachers of special education who had less efficacies remarked that teacher is ineffectively deal with students' behaviours challenges, and also expected to be affected by undesirable responsive reactions. Service delivery issues, environmental climate, teacher preparation, student characteristics and student behavioural complexities may perhaps affect the perceptions and subsequent efficacy of teachers through their first year of service.

Students with special needs are quiet challenges for the teachers where they difficult to handle the situation, had high time-consuming, and get frustrated as proclaimed by Lopes, Monteiro and Sil (2004). A lot of teachers perceived that they are not ready to encounter the needs of students with special needs. Teachers might believe that some of the students might be a problem for them in the classroom and drops their efficiency level when teaching other students. Teachers showed the senses of frustration and feeling guilty due to the period that is taken away from the most of the students to assist the needs of one student with special needs. Safani, Hanafi and Nazri (2014) declared that trainee's teacher started their profession with the sense of uncertainty and fear. There is also a higher probability that the pre-service teacher have a varied sentiment of curiosity, high expectation and anxiety.

21st century education systems have a clear demand for teachers that are adequately competent and motivated to embrace student with special educational needs in teaching (Lewis & Sagree, 2013). As to improve the resilience, knowledge, attitude and confidence of the teachers are necessary for the teachers to absorb, cultivate and practise during initial teacher preparation. It is also necessary for the teacher to provide opportunities for enduring efficiently professional learning through the teacher professions.

Teacher training programs are further necessary to enrol and facilitate the teacher retention; mainly in high demands extents such as mathematics, science, and also special education. Meeting these challenges regularly leans on the training quality that candidate teachers received and their capability to apply and practice it. These consist of indicators of teaching programs, practices, and policies, and more subjective indicators such as teacher's efficacy or perceptions of control. The preparation of Special education teachers has been given attention by the Ministry of Education, Malaysia. Since 1996 Special Education was given the equal concern as other areas in the progression of education in Malaysia. One of the moves in the Malaysia Education Blueprint 2013-2025 specifies that equal access to quality education of worldwide standard must be accessible to all (Ministry of Education, 2013). Hence, to certify that the objectives are not derailed, the Ministry of Education (MOE) has a central role in the qualified expansion of the teachers. Acting towards these standards of MOEs effort to prepare quality teachers is directed by the National Philosophy of Education and Philosophy of Teacher Education. In order to realize efficient teaching and learning in Special Education program, teachers have to be prepared and understand about the program (Asariah, 2009).

Methodology

The design of this study is a quantitative correlational research using questionnaires. The instruments will be used in this study are questionnaires of Special Education Career Resilience Scale (SECRS) by Sotomayor (2012) measuring four dimension which of theme acceptance, support of self-

awareness, conversion and connectedness and Teacher Self-efficacy Scale (TSES) is adapted by Lee, Patterson and Vega (2011) measuring three domains of special of personal teaching efficacy, general teaching efficacy and special education competencies. This study descriptively measure the level of each domains that indicated by the pre-service teachers of special education through their answer represented in the questionnaire form and in order to identify the relationships between domains, correlation (correlation coefficient) used to determine the existence of a relationship between domains, thus analysed the aspects that predict teaching efficacy of Special Education pre-service teachers.

The range total of 391 pre-service teachers under special education programs among three public universities that prepare future educators to meet particular requirement prescribe will be selected through purposive sampling which the selected pre-service teacher are that complete their two year teacher education program and had undergo practicum or school experience.

Research Finding

Level of Teaching Efficacy among Pre-Service Teacher of Special Education

Based on the Table 1, the analysis of the construct of teaching efficacy shows a high level which competencies ($M = 4.256$, $SD = .635$) which presented the pre-service teachers of Special Education in Malaysia public universities have high efficacy of knowledge and skill standards for all entry level special education teachers for students with exceptionalities, followed by personal teaching efficacy ($M = 4.122$, $SD = .650$) which shown feeling of confidence in regard to teaching abilities and general teaching efficacy with moderate low level ($M = 2.867$, $SD = .520$) which indicates the pre-service teachers have moderate low level of belief about the power of teaching to reach difficult children .

Overall, the mean for teaching efficacy is at the moderately high level ($M = 3.8769$, $SD = .500$). This shown that pre-service teachers of Special Education in Malaysia public universities have satisfactory level of perceptions influence choice of activity, task perseverance, level of effort expanded, and eventually, the degree of success achieved.

Table 1: The Overall Mean Score and Interpretation for Teacher Efficacy in Personal Teaching Efficacy, General Teaching Efficacy and Competencies

Construct	Mean	SD	Interpretation
Teaching efficacy			
Personal teaching efficacy	4.122	.650	High
General teaching efficacy	2.867	.520	Moderate low
Competencies	4.256	.635	High
Overall	3.8769	.500	Moderate high

Level of Resilience among Pre-Service Teacher of Special Education

Based on the Table 2, the descriptive analysis of the construct of pre-service teachers of Special Education resilience shows a high level of resilience in conversion ($M = 4.151$, $SD = .7214$) which presented the pre-service teachers of Special Education in Malaysia public universities have respectable resilience value in identify and reach goals by the enhancement of internal motivation and tenacity, followed by high levels of resilience in support of self-awareness ($M = 4.082$, $SD = .6176$) which shown understanding of core values and interests that facilitate resilience in individuals, moderate high level resilience in theme acceptance theme acceptance ($M = 3.992$, $SD = .5620$) which environment that supports resiliency through professional development and resilience in connectedness with moderate high level ($M = 3.548$, $SD = .5309$) which indicates moderate level of individual proactivity to attain goals or when encountering problem.

Overall, the mean for pre-service teachers' resilience is at the moderately high level ($M = 3.9985$, $SD = .562$). This shown that pre-service teachers of Special Education in Malaysia public

universities have pleasing level of capacity of individuals to adapt and thrive despite experiencing adversity.

Table 2: The Overall Mean Score and Interpretation for Resilience in Theme Acceptance, Support of Self-Awareness, Conversion and Connectedness

Construct	Mean	SD	Interpretation
Resilience			
Theme acceptance	3.916	.6520	Moderate high
Support of self-awareness	4.082	.6176	High
Conversion	4.151	.7214	High
Connectedness	3.548	.5309	Moderate high
Overall	3.998	.5620	Moderate high

Relationship between Resilience and Teaching Efficacy

The Pearson correlation analysis explains the statistical relationship of pre-service teacher of Special Education resilience and teaching efficacy. The teaching efficacy in personal teaching efficacy, general teaching efficacy and competencies were examined in detailed of the relationship with component in resilience; which theme acceptance, support of self-awareness, conversion and connectedness.

For personal teaching efficacy, the analysis shown that there is a statistical significant relationship between each of components in resilience with personal teaching efficacy, with moderate positive relationship of resilience in support of self-awareness [$r = .669^{**}$; $p = 0.000$, $p < .05$], resilience in conversion [$r = .669^{**}$; $p = 0.000$, $p < .05$], and weak positive relationship with resilience in theme acceptance [$r = .250^{**}$; $p = 0.000$, $p < .05$] and resilience in connectedness [$r = .377^{**}$; $p = 0.000$, $p < .05$]. This indicates that each component of resilience in theme acceptance, support of self-awareness, conversion and connectedness have a significant relationship with personal teaching efficacy among pre-service teachers of Special Education.

For general teaching efficacy, the analysis shown that there is a statistical significant relationship between two components in resilience with general teaching efficacy, with positive relationship of resilience in theme acceptance [$r = .171^*$; $p = 0.017$, $p < .05$] which the relationship are very weak positive (Evan, 1996) and no relationship with other components of resilience which resilience in support of self-awareness [$r = .084$; $p = 0.245$, $p > .05$], resilience in conversion [$r = .112$; $p = 0.121$, $p > .05$] and resilience in connectedness [$r = .045$; $p = 0.537$, $p > .05$]. This indicates that only resilience in theme acceptance has a significant relationship general teaching efficacy of pre-service teachers of Special Education.

For teaching competencies, the analysis shown that there is a statistical significant relationship between each of components in resilience with competencies, with strong positive relationship of resilience in support of self-awareness [$r = .607^{**}$; $p = 0.000$, $p < .05$], moderate positive relationship for resilience in conversion [$r = .584^{**}$; $p = 0.000$, $p < .05$] and weak positive relationship with resilience in theme acceptance [$r = .363^{**}$; $p = 0.000$, $p < .05$] and resilience in connectedness [$r = .355^{**}$; $p = 0.000$, $p < .05$]. This indicates that each component of resilience; in theme acceptance, support of self-awareness, conversion and connectedness have a significant relationship with teaching efficacy in competencies of pre-service teachers of Special Education.

Overall, it clarifies that the dimension of resilience has a positive relationship with pre-service teachers of Special Education personal teaching efficacy and competencies, while for general teaching efficacy of pre-service teachers of Special Education only the theme acceptance demonstrated significant relationship.

Table 3: Pearson Correlation Analysis for Components of Resilience and Teaching Efficacy

Correlations	Teaching efficacy					
	PTE		GTE		Competencies	
	Sig.	r-value	Sig.	r-value	Sig.	r-value
Resilience						
Theme acceptance	.000	.250	.017	.171	.000	.363
Support of self-awareness	.000	.464	.245	.084	.000	.607
Conversion	.000	.481	.121	.112	.000	.584
Connectedness	.000	.377	.537	.045	.000	.355

Predicting Teacher Efficacy Based on Aspects of Resilience

The four construct of resilience were analysed by regression analysis to determine the variables that most predicting teacher efficacy. Table 4 shows the analysis of result of regression that pre-service teacher of Special Education teaching efficacy with the aspects of resilience; theme acceptance, support self-awareness, conversion and connectedness.

Based on the regression analysis for resilience, regression model that consists of resilience in theme acceptance, support self-awareness, conversion and connectedness show the significance of 35.0 % from teaching efficacy among pre-service teachers of Special Education [F (4,194) = 25.396, p = 0.000, p < .05]. However, only resilience in conversion ($\beta = -.256$, t = 2.002, p < .05) is the significant predictor towards teaching efficacy.

The regression equation for the analysis is:

$$Y^{\wedge} = .256x_1 + 1.781$$

Table 4: Regressions Analysis of Aspects of Resilience

	β	Std Error	Beta	t	Sig.
Resilience (<i>Constant</i>)	1.781	.247		7.223	.000
1. Theme acceptance	.027	.041	.049	.643	.521
2. Support of self-awareness	.152	.078	.264	1.947	.053
3. Conversion	.127	.063	.256	2.022	.045
4. Connectedness	.069	.047	.102	1.475	.142

Discussion

From the findings determine that the personal teaching efficacy among pre-service teacher of Special Education as high level of personal teaching efficacy. This result indicates that the pre-service teachers mostly perceive high personal teaching efficacy (PTE) represents a teacher’s belief that possesses the skills and abilities to facilitate student learning, that is, it is the teacher’s overall sense of own teaching effectiveness. It also clarifies that the pre-service teachers have high instructional experimentation, including willingness to try a variety of materials and approaches, the desire to find better ways of teaching, and implementation of progressive and innovative methods (Abuhmaid, 2011). Contrariwise with the first subscale in which pre-service teachers exhibited higher levels of personal teaching efficacy, the general teaching efficacy of pre-service teacher of Special Education in Malaysia public universities shows a moderately low level of which the belief that teaching can affect pupils positively, even in light of external factors or conditions such as low motivation or poor home environment. It also explains that the teachers are moderately low of “appears to reflect a general belief about the power of teaching to reach difficult children” (Hoy & Spero, 2005).

This finding are in line as mentioned by Gavora (2010) perceived that the personal teaching efficacy item mean scores in all the countries are at high level than general teaching efficacy except of Turkey of very slight mean value different of .12. Pre-service teacher with increased personal teaching efficacy were regarded more confidently on teaching presenting performance, classroom organization, and questioning actions by their supervising teacher on their practicum evaluation (Sivri & Balci, 2015).

Not surprising at the point, in which pre-service teacher felt they had the least power, as stated by Hoy (2000) general teaching efficacy appears to upsurge through university coursework, then decrease during student teaching indicating that the confidence of early teachers may be slightly decline once faced with the realities and complexities of the teaching task.

Gavora (2010) declared that a teacher may have high personal teaching efficacy but may believe that influences external to efficacy affect pupils' learning, or vice versa. Thus, a teacher may be convinced of own ability to teach which refer to personal teaching efficacy but doubtful about pupils' ability to learn successively which mention as general teaching efficacy or may believe that pupils' ability to learn is irrespective of teacher own inability to teach. Nevertheless, Gibson and Dembo (1984) found that teachers who scored high on both dimensions were more likely to persist if a student failed a learning task initially.

Consequently, the finding focus to look in depth for relationship of pre-service teachers of Special Education teaching efficacy in personal teaching efficacy, general teaching efficacy and competencies with each component in resilience. It shows that the higher the resilience level, so the pre-service teachers of Special Education teaching efficacy are enhanced as well. Research has shown that teacher efficacy is related to student achievement and that efficacious teachers have a stronger sense of resiliency (Goddard, Hoy & Hoy, 2000; Hoy & Spero, 2005; Skaalvik & Skaalvik, 2007).

For the personal teaching efficacy, result shown there is a statistical significant relationship with moderate positive relationship of support of self-awareness, conversion whereas weak positive relationship with theme acceptance and connectedness. Still, this indicates that each component of resilience in theme acceptance, support of self-awareness, conversion and connectedness have a significant relationship with personal teaching efficacy among pre-service teachers of Special Education. Its simplify the explanation by Cantrell, Moore and Young (2003) teachers with a personal teaching efficacy have confidence that they have adequate training or experience to develop strategies for overcoming obstacles to student learning. Such teachers will expend great effort to reach goals, will persist longer in the face of adversity, and rebound from temporary setbacks to a greater degree.

For general teaching efficacy, the analysis shown there is a statistical significant relationship between resilience in theme acceptance indicates that only theme acceptance have a significant relationship general teaching efficacy of pre-service teachers of Special Education. These findings appear to refute findings of previous researchers by Lee, Patterson and Vega (2011). that personal teaching efficacy is closely related to the levels of support from school (Urton, Wilbert & Hennemann, 2014). In this study, the general teaching efficacy also appears to linked with the levels of support from school. Accordingly, it was based on social encouragement which may promote to efficacious performances to the point that a persuasive support directs an individual challenge to new strategies or to try effectively to succeed (Tsai, 2011). School systems as well as role of principals, experienced teacher and other colleagues should display supportive strong leadership, open, and well-organised and encouraging feedback given. "Strong caring leadership" is an important source of personal support (Howard & Johnson, 2004). Pre-service teachers should be assisted by ensuring their attainments and involvements to the school are recognised (Cornu & Ewing, 2007). Visible and continuous sensible support in leadership and performance is necessary (Goddard & Foster, 2001; deMatthews, 2015; Hoopey and McLeskey, 2013; Lindqvist and Nilholm, 2014; Nichols and Sheffield, 2014).

For teaching efficacy in competencies, the analysis shown that there is a statistical significant relationship between each of components in resilience, with strong positive relationship of support of self-awareness, moderate positive relationship for conversion and weak positive relationship with theme acceptance and connectedness. This indicates that each component of resilience; in theme acceptance, support of self-awareness, conversion and connectedness have a significant relationship with teaching efficacy in competencies of pre-service teachers of Special Education.

Another key finding was that resilient teachers possess a sense of efficacy, more confident and competent. It is significant for the teachers to have strong and enduring resilient to be effective and better sense of efficacy (Beltman, Mansfield & Price, 2011). “Teachers’ self-efficacy is a little view with significant impact” (Tschannen-Moran & Woolfolk Hoy, 2007), through “a reflective relation by resilience and persistence” (Kitching, Morgan & O’Leary, 2009). Efficacy values “seem to be most simply impacted in the early years of teaching practice and slightly resistant to shift when established” (Tait, 2008).

On an optimistic remark, somewhat of just considered as internal attributes (Day & Gu, 2007), the qualities of resilient teachers can be cultured (Howard & Johnson, 2004). Castro, Kelly and Shih (2010) considered resilience as a process of adaptation instead of just personal attributes. Within the process, persons are viewed as dynamic representatives that utilize strategies to face challenges in their situation. Sufficient articles discussed the references for pre-service teacher education, for fostering several individual attributes and skills, creating a climate of resilience at university and continuing connected with graduates at the beginning phase of teaching.

Conclusion

In summary, it shows a clear establishment of the importance that the teachers should perceive resilience and positive beliefs on special education for the efficient and quality professional performance. The commitment and resilience of teachers is very important to achieve the objectives and the goal of a program. Pre-service teachers as well as new teacher should be optimistic and competently belief about the special education and become positive and practice professionally.

References

- Abuhmaid, A. (2011). ICT training courses for teacher professional development in Jordan, *Turkish Online Journal of Educational Technology - TOJET*, 10 (4): 195-210.
- Asariah Mior Shaharuddin. (2009). The next generation of teachers: The Malaysian perspective. Paper presented at 13th UNESCO-APEID International Conference on Education and World Bank-KERIS High Level Seminar on ICT in Education. Hangzhou, People's Republic of China. 15-17 November.
- Beltman, S., Mansfield, C., & Price. (2011). Thriving not just surviving: A review of research on teacher resilience. *Educational Research Review*, 6, 185-207.
- Betoret, F. D. (2006). Stressors, self-efficacy, coping resources, and burnout among secondary school teachers in Spain. *Educational Psychology*, 26, 519 –539.
- Bong, M. (2008). Effects of parent-child relationships and classroom goal structures on motivation, help-seeking avoidance, and cheating. *Journal of Experimental Education*, 76 (2), 191-217.
- Cantrell, P., Young S, & Moore A. (2003) Factors affecting science teaching efficacy of preservice elementary teachers. *Journal of Science Teacher Education*, 14(3), 177-92
- Castro, A., J., Kelly, J., & Shih, M. (2010). Resilience strategies for new teachers in high-needs areas. *Teaching and Teacher Education*, 26, 622 – 629.
- Cornu, R. L. & Ewing, R. (2007). Reconceptualising professional experiences in pre-service teacher Education reconstructing the past to embrace the future. *Science Direct*, 24, 1799 - 1812
- Day, C., & Gu, Q. (2007). Variations in the conditions for teachers’ professional learning and development: Sustaining commitment and effectiveness over a career. *Oxford Review of Education*, 33 (4), 423-443.
- Dibapile, W. T. S. (2012). *A Review of Literature on Teacher Efficacy And Classroom Management*. *Journal of College Teaching and Learning*, 9 (2), 79-92.
- D’Elisa, T. M. (2015). Student Motivation: Teacher Perceptions, Beliefs and Practices. *PCOM Psychology Dissertations*. Paper 338.
- deMatthews, D. (2015). Making Sense of Social Justice Leadership: A case study of a principal’s experiences to create a more inclusive school. *Leadership and Policy in Schools*, 14(2), 139-166.

- Eichinger, J. (2000). Job stress and satisfaction among special education teachers: Effects of gender and social role orientation. *International Journal of Disability, Development and Education*, 47(4), 397-412.
- Eren, A. (2009). Examining the teacher efficacy and achievement goals as predictors of Turkish student teachers' conceptions about teaching and learning. *Australian Journal of Teacher Education*, 34, 69-87.
- Fantilli, R.D., & McDougall, D. E. (2009) A study of novice teacher: challenges and supports in the first years. *Teaching and Teacher Education*, 25, 814-825.
- Gavora, P. (2010). Pre-service teacher self-efficacy: theoretical and research considerations. *The New Educational Review*, 21 (2), 17-30.
- Gibbs, S., & Powell, B. (2012). Teacher efficacy and pupil behavior: The structure of teachers' individual and collective beliefs and their relationship with numbers of pupils excluded from school. *British Journal of Educational Psychology*, 82(4), 564-584.
- Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, 76, 569-582.
- Goddard, J., & Foster, R. (2001). The Experiences of neophyte teachers: A critical constructivist assessment. *Teaching and Teacher Education*, 17, 349-365.
- Goddard, R. G., Hoy, W. K., & Hoy, W. A. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, 37, 479-508.
- Hastings R. P. & Brown T. (2002). Behavioural knowledge, causal beliefs and self-efficacy as predictors of special educators' emotional reactions to challenging behaviours. *Journal of Intellectual Disability Research* 46, 144-150.
- Hightower, A. M., Delgado, R. C., Lloyd, S. C., Wittenstein, R., Sellers, K. & Swanson, C. B. (2011). *Improving Student Learning By Supporting Quality Teaching: Key Issues, Effective Strategies*. MD: Bethesda.
- Hoopey, D. & McLeskey, J. (2013). A case study of principal leadership in an effective inclusive school. *The Journal of Special Education*, 46(4), 245-256.
- Howard, S., & Johnson, B. (2004). Resilient teachers: Resisting stress and burnout. *Social Psychology of Education*, 7(4), 399-420.
- Hoy, W. A., & Spero, R. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*, 21, 343-356.
- Kitching, K., Morgan, M., & O'Leary, M. (2009). It's the little things: Exploring the importance of commonplace events for early-career teachers' motivation. *Teachers and Teaching: Theory and Practice*, 15(1), 43-58.
- Klassen, R. M. (2007). Using predictions to learn about the self-efficacy of early adolescents with and without learning disabilities. *Contemporary Educational Psychology*, 32(2), 173-187.
- Lazuras, L. (2006). Occupational stress, negative affectivity and physical health in special and general education teachers in Greece. *British Journal of Special Education*, 33(4), 204-209.
- Lee, Y., Patterson, P. P. & Vega L. A., (2011). Perils to self-efficacy perceptions and teacher-preparation quality among special education intern teachers. *Teacher Education Quarterly*, 38 (2), 61-76.
- Lewis, I. & Sagree, S. (2013). *Teachers for all: Inclusive teaching for children with disabilities*. International Disability and Development Consortium Report. Hollingsworth, Cheshire: Enabling Education Network.
- Lindqvist, G. & Nilholm, C. (2014). Promoting inclusion? 'Inclusive' and effective head teachers' descriptions of their work. *European Journal of Special Needs Education*, 29(1), 74-90.
- Lopes, J. A., Monteiro, I., & Sil, V. (2004). Teachers' perceptions about teaching problem students in regular classrooms. *Education and Treatment of Children*, 27(4), 394-419.
- Martin, A. (2006). The relationship between teachers' perceptions of student motivation and engagement and teachers' enjoyment of and confidence in teaching. *Asia-Pacific Journal of Teacher Education*, 34(1), 73-93.
- Ministry of Education (2013). *Malaysia Education Blueprint 2013-2025 (Preschool to Post-Secondary Education)*.

- Nichols, S. C. & Sheffield, A. N. (2014). Is there an elephant in the room? Considerations that administrators tend to forget when facilitating inclusive practices among general and special education teachers. *National Forum of Applied Educational Research Journal*, 27(2), 31-44.
- Safani Bari, Mohd Hanafi Mohd Yasin, Mohd Nazri Hamzah (2014). The Readiness of Special Education Trainees to Teach in Inclusive Program. *International Education Studies*, 7(13), 206-211
- Sivri, H. & Balci, E. (2015). Pre-service Teachers' Classroom Management Self-efficacy Beliefs. *International Online Journal of Educational Sciences*, 7 (4), 37 – 50
- Skaalvik, E.M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout. *Teaching and Teacher Education*, 26, 1059–1069.
- Smith, T., & Ingersoll, R. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal*, 41, 681–684.
- Somech, A. & Drach-Zahavy, A. (2000). Understanding extra-role behavior in schools: The relationships between job satisfaction, sense of efficacy, and teachers' extra-role behavior. *Teaching and Teacher Education*, 16, 649–659.
- Sotomayor (2012). Career Resilience and Continuing Special Education Teachers: The Development And Evaluation Of The Special Education Career Resilience Scale. *Digital Repository at the University of Maryland*, (301), 314-1328.
- Spector, J. E. (1990, April). Efficacy for teaching in preservice teachers. Paper presented at the Annual Meeting of the American Educational Research Association, Boston.
- Strong, M., Gargani, J., & Hacifazlioglu, O. (2011). Do we know a successful teacher when we see one? Experiments in the identification of effective teachers. *Journal of Teacher Education*, 62(4), 367–382.
- Tait, M. (2008). Resilience as a contributor to novice teacher success, commitment, and retention. *Teacher Education Quarterly*, 35(4), 57–75.
- Tsai, Y. (2011). Relationship between Organizational Culture, Leadership Behavior and Job Satisfaction. *BMC Health Serv Res*. 11, 98.
- Tschannen-Moran, M. & Hoy, W. A. (2001). Teacher efficacy: capturing the elusive construct. *Teaching and Teacher Education*, 17, 783 - 805.
- Tschannen-Moran, M. & Hoy, W. A. (2007). The differential antecedent of self-efficacy belief of novice and experienced teachers. *Teaching and Teacher Education*, 23, 944 – 956.
- Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education*, 27 (4) 751-761.
- Urton, K., Wilbert, J. & Hennemann, T. (2014). Attitudes towards inclusion and self-efficacy of principals and teachers. *Learning Disabilities: A Contemporary Journal*, 12(2), 151-168.

THE RELATIONSHIP BETWEEN INDOOR ENVIRONMENTAL QUALITY AND SATISFACTION AMONG POLYTECHNIC STUDENTS

Ainul Jasmeen Ainul Zuhairi & Mohd Hazwan Mohd Puad
Faculty of Educational Studies, Universiti Putra Malaysia
jasmeenzuhairi@gmail.com, hazwan@upm.edu.my

ABSTRACT

To increase the productivity and outcomes of students, indoor environmental quality is important for learning institutions. However, it is essential to know if the students are satisfied with their indoor environmental quality. The purpose of the study is to investigate the relationship between classroom indoor environmental quality and student satisfaction. Three dimensions of indoor environmental quality namely lighting, acoustics, and air quality were the focus of this study. This study also identifies the extent of classroom indoor environmental quality (lighting, acoustics and air quality) among the Polytechnic students. The collection of data was through questionnaires, approximately 500 questionnaires distributed to the students of the Polytechnic through online survey and 404 were answered. IBM SPSS Statistics 24 was used to analyse the data and Pearson Product-Moment Correlation was used to measure the relationship of the variables. The findings shows that all the independent variables (lighting, acoustics and air quality) have positive correlation with student satisfaction.

Keywords: Environmental quality, lighting, acoustics, air quality, student satisfaction.

Introduction

The quality of environment is one important element and as the indicator of the effectiveness of students' achievement in terms of academic and non-academic. The environment aspect focuses on the environment in the classroom. Good indoor environmental quality promotes healthy learning environment for students as well as increase their productivity (Singh, 2013; Fisk, 2002). Indoor environmental quality is one of the criteria of Malaysia Green Building Index (GBI) which is a green rating tool for buildings to promote sustainability in the built environment. Polytechnic is one of the educational institutions for Technical and Vocational Education and Training (TVET) that is currently in an effort to exercise green practices. According to Polygreen Blueprint in 2015 by Polytechnic Malaysia, the blueprint is an implementation plan and strategic direction of green technology practices in polytechnics across the country. It was also stated that it is important in shaping the next generation of workers who are sensitive to environmental issues. In the context of TVET, the implementation plan will consolidate green development in teaching and learning in one of the aspects which is Green Campus. Since this study investigates indoor environmental quality and student satisfaction that will affect their learning outcomes, this study is in line with the nation's education objective.

For Technical and Vocational Education and Training (TVET), with reference to the Malaysia Education Blueprint 2013-2025 (Higher Education), one of the shifts which is Shift 4 is to produce quality TVET graduates (Ministry of Education Malaysia, 2015). However, in producing quality TVET graduates, there are no particular strategies within the shift that emphasize on the importance of educational environmental quality towards producing quality students.

Well comprehension on student learning satisfaction can help in improving and creating better learning institutions (Wu, Hsia, Liao & Tennyson, 2008; Bolliger & Martindale, 2004). However, there was limited research has been done in relation with indoor environmental quality and student satisfaction for technical and vocational Education in Malaysia. Although there were studies that have been conducted for schools or other education institutions, with reference to the researcher's extensive readings, there is unlikely that a study has been done in Polytechnic. Hence, it is justifiable that this study needs to be executed to make the gap closer. The objectives of the study are: (a) to identify the

extent of classroom indoor environmental quality among the students, and (b) to measure the relationship between the classroom indoor environmental quality and student satisfaction.

A conceptual framework in Figure 1.0 represents the researcher's views on how certain variables are connected to each other and the explanation of why the researcher believes that these variables are related with each other (Sekaran & Bougie, 2013). Further elaborated by Sekaran and Bougie, a good conceptual framework identifies and defines the important variables in the manner that are relevant to the problem, describes and explains the interconnections between these variables.

Independent variables and dependent variable are the two parts of variables consisted in Conceptual Framework (refer Figure 1.0). For the independent variables, the researcher used indoor environmental quality as variables that was derived and adapted from Freihoefer (2012). On the other hand, the dependent variable is on student satisfaction.

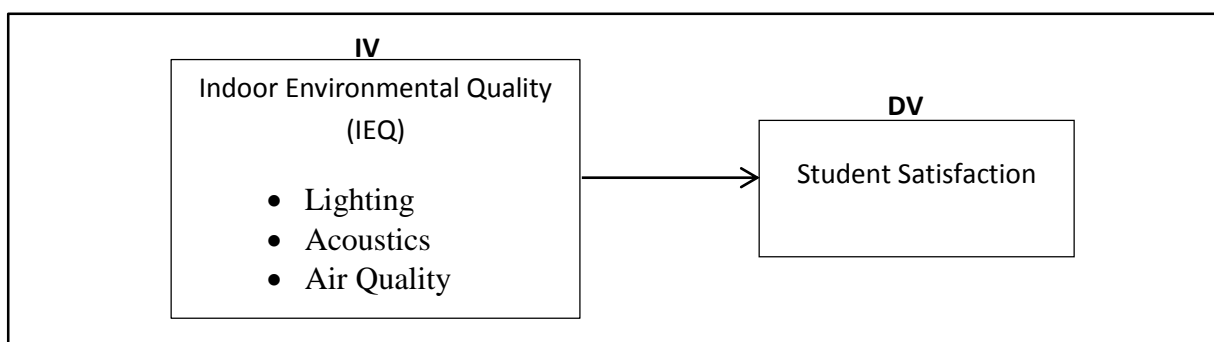


Figure 1.0: Conceptual Framework of Independent and Dependent Variables

Student Satisfaction

Understanding the fundamentals of what determines student learning satisfaction can provide great management insights into developing effective strategies that will allow universities to create new opportunities and values for their students (Wu, Hsia, Liao & Tennyson, 2008). Learning satisfaction, based on previous research, has shown the importance to learning motivation, performance, and attitudes of students toward their university (Bolliger & Martindale, 2004). Hence, better understanding of student satisfaction can help in improving and creating better learning institutions.

Satisfaction as defined by Flammger (1991) is the realization of needs, the pleasure of fulfilment, and the feeling of sufficiency. Martin (1988) indicated that satisfaction is the level of consistency between individuals' expectation and the actual experience. When the real experience is the same to or better than a person's expectation, he or she feels satisfied and on the other hand, when the actual experience is worse than expectation, he or she feels dissatisfied. Tough (1982), pointed out that satisfaction is the perception or attitudes of students towards learning activities. Happy feelings or positive attitude indicate satisfaction, cited by Huang (2014).

On the other hand, according to Borden (1995), student satisfaction is resulting from the connection between the priorities of student, or what is important to students, and the environment of education institution. According to Chang and Chang (2012), learning satisfaction is a guide to appraise students' learning achievement and it is also one of the most important indicators of teaching quality. Schreiner and Juillerat (1994) defined student satisfaction as the extent to which a student's perceived educational experience meets their expectations or exceeds it, measured as gaps between expectation of students and perceived reality. In this study, student satisfaction is the sum of student feelings or perception that results from the satisfaction of the indoor environmental quality of their classroom.

Indoor Environmental Quality

Indoor environmental quality based on Mendell and Heath (2005), is the quality of a building's building's physical environment in relation to the lighting, temperature, air quality and acoustics comfort. Furthermore, according to NIOSH (2013) cited by Shell (2015) indoor environmental quality refers to the capability of a building's physical environment to support the health as well as happiness of its occupants. Based on Singh (2013) healthy learning environments for students with good indoor environmental quality can significantly affect student's ability to perform tasks that requires concentration. It is also stated that the relationship between good indoor environmental quality leads to better performance and wellbeing of students. Thus, it can be concluded students feel satisfied with their indoor environmental quality which supports their health can achieve better outcome.

Samani and Samani (2012) stated that enough and appropriate lighting is needed by people for reading and other visual tasks. To meet the requirement of the users' vision from physical and psychological, the purpose of lighting is to supply appropriate illuminance. In order to have better lighting quality for students in classrooms, the integration of two types of lighting which are the daylighting and artificial lighting is better. Even though the eye can adapt to variations in brightness of lighting, too much brightness will result to visual stress. Thus, by supplying large quantities of light does not necessarily makes a good lighting environment. Other than for performing certain visual tasks, lighting that forms a good lighting environment is essential for satisfying aesthetic and biological needs (Lechner, 2014).

Acoustics according to Shell (2015) is the environment that is "related to sound pressure waves by the sensitivity of human hearing" (p. 15). According to Zannin, Zwirtes and Passero (2012), the noise levels inside and outside of the classroom and sound insulation can characterize the quality of acoustic. Based on the study by Zannin and Zwirtes (2009) schools built in 1977-2005 are compared according to recommended standard designs for school buildings. It is found that noise interference causes many classrooms to be uncomfortable places for learning and focusing. This is supported by Klatte, Bergstroem and Lachmann (2013), learning can be hindered by excessive external noise. Noise is also well known to have an impact on human performance. Chiang and Lai (2008) studied and identified some of the negative effects of working in a noisy room, focuses on young children. It is stated that noise influences learning outcomes as well as health of the occupants.

Indoor air quality according to Awang, Mahyuddin, and Kamaruzzaman (2015) refers to the quality of air inside a building. Indoor air quality refers to the pollutants that were produced and take place inside a building or in the context of this study, as an example the furniture, paints, and etc. inside of classrooms. Based on Wark and Warner (1981), indoor air pollution is caused by the combination of effects from factors of physical, chemical, and biological and inadequate ventilation in the environment. Moreover, the sources of air pollution inside a building according to Awang, Mahyuddin, and Kamaruzzaman (2015) are similar to Wark and Warner (1981). The air pollution are form heating, ventilation and air conditioning systems, building equipment, furnishings, and human activities, cited by Jurado, Bankoff, and Sanchez (2014).

According to Jurado, Bankoff, and Sanchez (2014) they suggested that good indoor air quality is very important because people spend most of their time which is more than 90% of their time being indoors. Learning environment should have a good indoor air quality in ensuring learning process to take place smoothly. To achieve a well teaching and learning process, indoor air quality needs to be optimized according to the needs of teachers and students (Amirul et al., 2013).

Amirul et al. (2013) suggested that high humidity may contribute to health problems among students. Thus, the conditions of air humidity in the classrooms need to be good. Additionally, the learning environment must be planned and designed so that the building is not positioned near water resources or water flow to make certain no formation of water retention which may contribute to high humidity to the learning environment. Other than that, in and out air flow of classrooms should effectively occur besides providing sufficient number of windows.

A study by Durodola and Ajayi (2015) was conducted to evaluate student satisfaction with classroom facilities which includes physical environment such as lighting, temperature and acoustic in private universities. It is stated that there is a close relationship between physical environment and student performance. To be specific, a research done by Tanner (2009) found out that lighting and acoustics of the physical environment does influence student performance.

Even though these studies are not directly focused on the relationship between indoor environmental quality and student satisfaction, the studies done on the relationship between indoor environmental quality and student performance are still relevant to the current study. It is because according to Ko and Chung (2014), there were positive relationship between learning satisfaction of students and student performance. If students have good learning satisfaction, then they will have good academic performance.

According to Hanssen and Solvoll (2015), student perception on temperature, acoustic and lighting of the physical environment positively associated with their overall learning satisfaction with the university. Another study also proven that quality of indoor environment contributes to student learning satisfaction (Vidalakis, Sun & Papa, 2013). Further study by Choi et al. (2014), proves that there is significant evidence that indoor environment such as thermal, acoustic and lighting is associated with positive outcomes of students which includes overall satisfaction with learning and classroom environment. In addition, Lopez del Puerto (2009) conducted a study at a graduate school on student satisfaction of their graduate school program examined that there is a relationship between physical environment and student learning satisfaction. Furthermore, according to Chang (2011), if students do not feel satisfied when they come across problems it will also affect overall satisfaction.

A slightly different study which was conducted by Chokor (2015), thermal comfort and acoustic quality, and similar performance in lighting level, indoor air quality does affect the overall satisfaction on the facilities. The average levels of satisfaction in the campus that have better facilities and achieve an adequate overall environment is higher compared to another campus building that were not designed to meet the requirements of a good indoor environment quality.

There was a similar to the present study done by Lee (2007) for office indoor environmental quality based on criteria that included office layout quality, office furnishings quality, lighting quality, acoustics quality, and cleanliness and maintenance quality. The results of the study indicate that acoustic quality and thermal comfort which includes temperature and air quality showed the lowest satisfaction by the workers. In addition, findings by Shell (2015) with similar study suggested that differences in the physical environment namely temperature and acoustics and lighting and air quality correspond to satisfaction with indoor environmental quality.

Open Systems theory refers to the concept that organizations are strongly influenced by their environment (refer Figure 2.0). The environment consists of other factors that exert various forces to people. In educational organizations, the input can be associated with students that are entering the institutions. They are exposed with the environment of their learning institutions which is their physical environment of their classroom. Later, the output which is the outcome of the students will be affected by the environment they were in. Moreover, the educational organization's survival by means of student achievement is dependent upon its relationship with the environment. This shows that indoor environmental quality which is the physical environment can influence student's outcome.

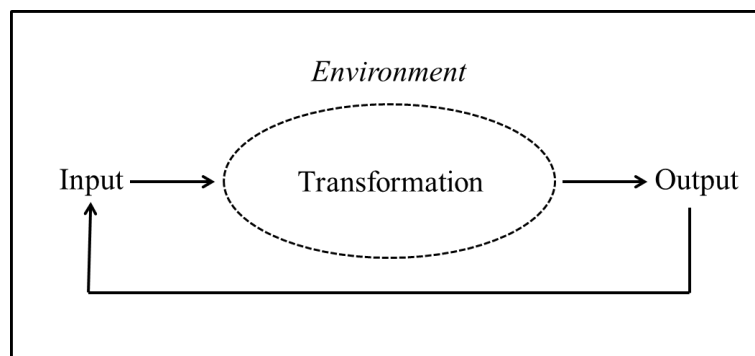


Figure 2.0: Open Systems Theory

Methodology

This study investigated the relationship between indoor environmental quality and student satisfaction at Polytechnic Shah Alam, Selangor, Malaysia. Correlation research design was utilized in this research. The population of this study consists of all students at Polytechnic Shah Alam, Selangor, Malaysia and the estimated population number was 3900 students. The nonprobability sampling was used for this study to collect information from members of the population who are conveniently available to provide it. The minimum sample size is 351. The researcher distributed approximately 500 questionnaires to the students to secure the minimum number of sample size. The questionnaires were distributed through online survey via “WhatsApp” mobile social application.

The questionnaire was constructed based on the research questions that were set previously. Section A comprises of questionnaire about student satisfaction of their classroom indoor environmental quality. Section B consists of questions related to the classroom indoor environment quality at the selected Polytechnic. Section C emphasizes on the demographic information of the respondents. The objective of recognising demographic background is to collect the background data of the students who are studying at the selected Polytechnic.

A pilot test was conducted to confirm the validity and reliability of the questionnaire before the researcher distribute them for the actual feedback (Salkind, 2014). Salkind further stated that the pilot test is intentionally conducted to find out any ambiguity or unnecessary questions in the questionnaire as well as to know the time required from the respondent to answer the questionnaire. A total of 35 questionnaires were distributed to the respondents who are not part of the population in the actual research for the pilot study. The questionnaires were then distributed to the students using convenience technique and then collected for further analysis. The Cronbach’s Alpha values for student satisfaction (.890), temperature (.907) were considered good. The Cronbach’s Alpha values lighting (.775), acoustics (.720), and air quality (.788) were considered acceptable.

Findings

It was estimated that 500 set of questionnaire was distributed using an online survey to the Polytechnic students. About 404 respondents answered the questions. Feedback response rate is 80.8%. Frequency distribution and percentages were obtained and the demographic background includes ages, gender, student’s current semester, general sitting location of students in classrooms, and disabilities that affect student’s perception of their classroom environment. Table 1.0 below shows the demographic information of respondents.

Table 1.0 Demographic of Respondents

Demographics	Frequency	Percentage (%)
Age		
Below 20 years old	0	0.0
20-22 years old	175	43.3
23-24 years old	113	28.0

Above 25 years old	116	28.7
Gender		
Male	73	18.1
Female	331	81.9
Semester		
1	42	10.4
2	53	13.1
3	94	23.3
4	110	27.2
5	76	18.8
6	13	3.2
Others	16	3.8
Sitting Location		
Front	119	29.5
Middle	221	54.7
Back	64	15.8
Disabilities		
Yes	307	76.0
No	97	24.0

n = 404

Then, Table 2.0 shows the descriptive analysis, mean and standard deviation, of independent variables in this study. Independent variables are measured based on students' perception by using valid and reliable questionnaire developed by the researcher. Based on the Table 2.0, all the dimensions for the independent variable namely lighting, acoustics, and air quality have high scores. Lighting has the highest scores which is ($M = 4.38$, $SD = 0.74$) followed by air quality ($M = 4.24$, $SD = 0.81$), and finally acoustics ($M = 4.15$, $SD = 0.82$).

Table 2.0 Descriptive Statistics for Classroom Indoor Environmental Quality

Variable	Mean (M)	Standard Deviation (S.D)
Lighting	4.38	0.74
Acoustics	4.15	0.82
Air Quality	4.24	0.81

Guidelines provided by Cohen (1988) were used to understand the relationship between indoor environmental quality and student satisfaction. It also can be used to determine the strength of the relationships in term of the value of Pearson correlation (r) and the direction of the relationship for the variables that were used for this study. The guidelines are clarified in the Table 3.0 below.

Table 3.0 Guidelines on the Interpretation of the Correlation based on Cohen (1988)

Degree of Correlation	r
Small	$r = .10$ to $.29$
Medium	$r = .30$ to $.49$
Large	$r = .50$ to 1.0

All three dimensions of indoor environmental quality; lighting, acoustics and air quality were computed for Pearson Product-Moment Correlation. As shown in Table 4.0, all variables have positive correlation. The first dimension of indoor environmental quality is lighting. It can be seen that the correlation between lighting and student satisfaction is ($r = .77$, $p = 0.00$) which indicates that there is a positive, large and significant relationship between the quality of lighting and student satisfaction.

Table 4.0 Correlation Analysis between Indoor Environmental Quality and Student Satisfaction

		Air Quality	Lighting	Acoustics	Student Satisfaction
Air Quality	Pearson's Correlation	1			
	Sig.				
	N	404			
Lighting	Pearson's Correlation	.68**	1		
	Sig.	.00			
	N	404	404		
Acoustics	Pearson's Correlation	.49**	.48**	1	
	Sig.	.00	.00		
	N	404	404	404	
Student Satisfaction	Pearson's Correlation	.72**	.77**	.48**	1
	Sig.	.00	.00	.00	
	N	404	404	404	404

** Correlation is significant at the 0.01 level (2-tailed)

The second dimension is acoustics. As presented in Table 4.0, it can be seen that the correlation between lighting and student satisfaction is ($r = .48, p = 0.00$). It indicates that there was a medium, positive correlation between the quality of acoustics and student satisfaction. Lastly, the third indoor environmental quality dimension namely air quality with ($r = .72, p = 0.00$) shows that there is positive, large and significant relationship between air quality and student satisfaction.

Discussion and Conclusion

In this study, the results indicated the extent of classroom indoor environmental quality among the students at Polytechnic Shah Alam, Selangor, Malaysia. The results showed that all the dimensions for indoor environmental quality which includes lighting, acoustics, and air quality had high scores. However, lighting had the highest scores ($M = 4.38, SD = 0.74$) among the other dimensions in the independent variable. Thus, it can be concluded that lighting received high level of agreement from respondents compared to other dimensions in the independent variable.

There was a relationship between classroom indoor environmental quality and student satisfaction among the students at the polytechnic. This result showed that lighting, acoustics and air quality has a positive relationship with student satisfaction. For lighting, majority of the students were slightly agreed with the adequacy of overall electric lighting in their classroom. It is then followed by adequacy of the overall lighting which includes both electric and daylighting. Consequently, the quantity of electrical lighting and the contrast due to electric lighting or daylighting in their classrooms is appropriate. This shows that lighting affects students and it can be concluded that the quantity and quality of overall electrical and daylighting fulfil the students' satisfaction.

Moreover, based on the findings, there was a positive relationship between the quality of lighting and student satisfaction. A similar to the current study conducted by Samani and Samani (2012) indicates that lighting has positive affect on student performance. Since there student performance influence student satisfaction (Ko & Chung, 2014), it can be concluded that lighting can also affect student satisfaction. The quality of lighting is important for students because according to Lechner (2014), lighting is necessary for performing certain visual tasks, it is also essential in satisfying the biological needs of students such as the need for students to focus on activities and many more. Moreover, Samani and Samani (2012) also suggest that people need enough and appropriate lighting for reading and doing other visual tasks.

For the second dimension which is acoustics, it can be concluded that most of the classrooms have an appropriate sound privacy. Appropriate sound privacy means the classrooms are quiet and suitable of the students to study because they have their privacy from noise interference, for instance the students can have conversations in their classrooms without the neighbouring classrooms overhearing and for the students themselves not to overhear their neighbouring classrooms. Students are also able to hear desired sound, such as lecture from the lecturers or during presentations in their classrooms. This is the reason the students feel satisfied with the acoustics in their classrooms.

Furthermore, in the result of this study there was a positive correlation between the quality of acoustics and student satisfaction. According on a similar study conducted by Yang, Becerik-Gerber and Mino (2013) and Lewinski (2015), it was stated by students that acoustics gives significant impact on their learning and performance. Since student performance and student satisfaction have a positive relationship, acoustic can also have impact on student satisfaction (Ko & Chung, 2014). Hanssen and Solvoll (2015) agreed that student perception on acoustic positively related with their overall satisfaction. The quality of acoustics is important for student satisfaction because, according to Zannin and Zwirtes (2009), the noise that interfere students during learning will make their classrooms as uncomfortable places. It will also hinder the students' focuses and thus will make them feel unsatisfied. Supported by Klatte, Bergstroem and Lachmann (2013), it is indicated that learning can be hindered by excessive external noise. Therefore, it is important to ensure classrooms have a good quality of acoustics with appropriate sound privacy.

For the third dimension which is air quality, the respondents agreed that their classrooms have an adequate humidity, which means the air condition in their classrooms is neither too dry nor too moist for their satisfaction. Their classrooms correspondingly have an adequate overall indoor quality which means they are free of unwanted odours or unpleasant smell, staleness of air, chemicals or irritants. It can be concluded that the air quality of the classrooms fulfil their satisfaction.

Additionally, there was positive relationship between air quality and student satisfaction based on the findings of the study. Since temperature and air quality falls under the same factor, there's evidence according to Hanssen and Solvoll (2015) that temperature has a positive relationship with their overall learning satisfaction. Air quality is important with student satisfaction since there are many factors that contribute to students' discomfort related to air movement and the presence of unpleasant smell (Awang et al., 2015).

Recommendation

Since lighting had received high level of agreement among the students, it can be said that students are more satisfied with the quality of lighting in their classrooms. However, while overall quantity of electrical lighting is good, the overall quantity of daylight in the classrooms should be improved. According to Samani and Samani (2012), the integration of daylighting and artificial lighting (electrical lighting) in classrooms is better in order to have better lighting quality for students. Heschong (2002) found that higher ceilings can lower the reduction of the amount of daylight available in the classrooms.

On the other hand, McCreery and Hill (2005) suggested that ceiling configurations are capable in creating an even distribution of light within a room. Moreover, if appropriate daylighting techniques are used to displace electrical lighting the saving for lighting can be dramatic. Visual comfort of the electric or daylighting due to reflections, glare and contrast correspondingly should be considered. According to McCreery and Hill (2005), whiteboards and video monitors that causes glare is also a factor. Good lighting design takes into account the location of these components within the room, and their positions to avoid reflected glare from highly contrasting sources.

The acoustics can be improved as well. If possible, undesired sounds should be limited or controlled, so that students can be more focused in class. According to Zannin, Zwirtes and

Passero (2012), the noise levels inside and outside of the classroom and can be controlled by sound insulation.

The classroom temperatures need to be controlled so that it is consistent throughout the classrooms. This means that the temperature is neither too hot nor too cold throughout the classroom during teaching and learning procedures. If the temperatures of classrooms are consistent, students will be more satisfied. Good ventilation system can control temperature besides humidity. It can distribute adequate amount of air as well as remove pollutants (Jurado, Bankoff & Sanchez, 2014).

References

- Amirul, N. J., Ahmad, C. N. C., Yahya, A., Abdullah, M. F. N. L., Adnan, M., & Noh, N. M. (2013). The physical classroom learning environment, presented at *2nd International Higher Education Teaching and Learning Conference 2013*.
- Awang, N. A., Mahyuddin, N., & Kamaruzzaman, S. N. (2015). Indoor Environmental Quality Assessment and Users Perception in Meru Secondary School (SMK Meru). *Journal of Building Performance*, 6(1), 105-115.
- Bolliger, D. U. & Martindale, T. (2004). Key factors for determining student satisfaction in online courses. *International Journal*, 3, 61–67.
- Borden, V. (1995). Segmenting student markets with a student satisfaction and priorities survey. *Research in Higher Education*, 36(1), 73 - 88.
- Chang, I. Y., & Chang, W. Y. (2012). The effect of student learning motivation on learning satisfaction. *International Journal of Organizational Innovation*, 4(3), 281.
- Chang, K. Y. (2011). *Factors Affecting Student Satisfaction in Different Learning Deliveries* (Doctoral Dissertation). Available form ProQuest Dissertations and Theses database. (UMI Number: 3602440)
- Chiang, C. M., & Lai, C. M. (2008). Acoustical environment evaluation of Joint Classrooms for elementary schools in Taiwan. *Building and Environment*, 43(10), 1619-1632.
- Choi, S., Guerin, D. A., Kim, H. Y., Brigham, J. K., & Bauer, T. (2014). Indoor environmental quality of classrooms and student outcomes: A path analysis approach. *Journal of Learning Spaces*, 2(2), 2013-14.
- Chokor, A. (2015). *Evaluating the Performance of Leadership in Energy and Environmental Design (LEED) Certified Facilities using Data-Driven Predictive Models for Energy and Occupant Satisfaction with Indoor Environmental Quality (IEQ)* (Doctoral dissertation). Available form ProQuest Dissertations and Theses database. (UMI No. 1604803)
- Cohen, J. (1988). Set correlation and contingency tables. *Applied Psychological Measurement*, 12(4), 425-434.
- Durodola, O., & Ajayi, C. (2015). Comparative Analysis of Students' Satisfaction with Classroom Facilities in Nigerian Private Universities. *Journal of Studies in Education*, 5(4), 242-257.
- Fisk, W. J. (2002). How IEQ affects health, productivity. *ASHRAE Journal*, 44(5), 56.
- Flammger, D. M. (1991). *Nontraditional students and postsecondary school satisfaction* (Master's thesis). Retrieved form ERIC Document Reproduction Service. (No. ED 362077).
- Freihoefer, K. (2012). *The Relationship between sustainable indoor environmental quality (IEQ) and employees' satisfaction With Their Office Environments* (Doctoral Dissertation, University Of Minnesota). Retrieved form <http://hdl.handle.net/11299/128718>
- Hanssen, T. E. S., & Solvoll, G. (2015). The importance of university facilities for student satisfaction at a Norwegian University. *Facilities*, 33(13/14), 744-759.
- Heschong, L. (2002). Daylighting and human performance. *ASHRAE Journal*, 44(6), 65.
- Hill, R. (1998). What Sample size is "enough" in Internet Survey Research? *Interpersonal Computing and Technology Journal*, 6, 3-4.
- Huang, S. Y. (2014). Relevance of IT integration into teaching to learning satisfaction and learning effectiveness. *World Journal of Education*, 4(2), 1.
- Jurado, S. R., Bankoff, A. D., & Sanchez, A. (2014). Indoor air quality in Brazilian universities. *International Journal of Environmental Research and Public Health*, 11(7), 7081-7093.
- Klatte, M., Bergstroem, K., & Lachmann, T. (2013). Does noise affect learning? A short review on noise effects on cognitive performance in children. *Frontiers in Psychology*, 4, 1-6.

- Ko, W. H., & Chung, F. M. (2014). Teaching Quality, Learning Satisfaction, and Academic Performance among Hospitality Students in Taiwan. *World Journal of Education*, 4(5), 11.
- Lechner, N. (2014). *Heating, cooling, lighting: Sustainable design methods for architects*. New York: John Wiley & Sons.
- Lee, Y., (2007). *The relationship between indoor environmental quality and worker satisfaction and performance in leadership in energy and environmental design (LEED®) certified buildings*. (Doctoral dissertation). Available from ProQuest Dissertations and Thesis database. (UMI No. 3292959)
- Lewinski, P. (2015). Effects of classrooms' architecture on academic performance in view of telic versus paratelic motivation: a review. *Frontiers in Psychology*, 6 (746), 1-5.
- Lopez del Puerto, C. (2009). *Relationship between the physical characteristics of higher educational facilities and student attitudes about their graduate school programs* (Doctoral dissertation, Saint Louis University). Available from ProQuest Dissertations and Thesis database. (UMI Number: 3383214)
- Martin, C. L. (1988). Enhancing children's satisfaction and participation using a predictive regression model of bowling performance norm. *The Physical Education*, 45(4), 196-209.
- McCreery, J., & Hill, T. (2005). Illuminating the classroom environment. *School Planning and Management*, 44(2), 1-3.
- McGee, T. D. (1988). *Principles and methods of temperature measurement*. John Wiley & Sons.
- Mendell, M. J., & Heath, G. A. (2005). Do indoor pollutants and thermal conditions in schools influence student performance? A critical review of the literature. *Indoor Air*, 15(1), 27-52.
- Ministry of Education Malaysia (2015). *Malaysia Education Blueprint 2013-2025*. Putrajaya: Ministry of Education Malaysia.
- Salkind, N. J. (2014). *Exploring Research. Pearson New International Edition*. London: Pearson Education Limited 2014.
- Samani, S. A., & Samani, S. A. (2012). The Impact of Indoor Lighting on Students' Learning Performance in Learning Environments: A knowledge internalization perspective. *International Journal of Business and Social Science*, 3(24), 127-146.
- Schreiner, L. A., & Juillerat, S. L. (1994). *The student satisfaction inventory*. Iowa City, IA: Noel-Levitz
- Sekaran, U., & Bougie, R. (2013). *Research Methods for Business: A Skill Building Approach*. West Sussex: John Wiley & Sons.
- Shell, S. (2015). *Effect of the physical environment on teacher satisfaction with indoor environmental quality in early learning schools* (Master's Thesis). Retrieved from <http://digitalcommons.unl.edu/archengdiss/34/>
- Singh, P. (2013). Indoor environmental quality & student health and performance: A conceptual review. *International Journal of Physical and Social Sciences*, 3(7), 96.
- Tanner, C. K. (2009). Effects of school design on student outcomes. *Journal of Educational Administration*, 47(3), 381-399.
- Tough, A. (1982) *Some major reasons for learning*. (Eric Document Reproduction Service, No. ED. 033-251)
- Vidalakis, C., Sun, M., & Papa, A. (2013). The quality and value of higher education facilities: a comparative study. *Facilities*, 31(11/12), 489-504.
- Wark, K. & Warner, C. F. (1981). *Air Pollution, Its Origin and Control*. New York: Harper Collins.
- Wu, J. H., Hsia, T. L., Liao, Y. W., & Tennyson, R. (2008). What determinates student learning satisfaction in a blended e-learning system environment? *PACIS 2008 Proceedings*, 149.
- Yang, Z., Becerik-Gerber, B., & Mino, L. (2013). A study on student perceptions of higher education classrooms: Impact of classroom attributes on student satisfaction and performance. *Building and Environment*, 70, 171-188.
- Zannin, P. H. T., Passero, C. R. M., & Zwirtes, D. P. Z. (2012). Assessment of acoustic quality in classrooms based on measurements, perception and noise control, reduction and cancellation solutions in engineering, D. Siano (Ed.). Available from <http://www.intechopen.com/books/noise-control-reduction-and-cancellation-solutions-in->

engineering/assessment-of-acoustic-quality-in-classrooms-based-on-measurements-
perception- and-noise-control

Zannin, P. H. T., and Zwirtes, D. P. Z. (2009). Evaluation of the acoustic performance of classrooms in public schools. *Appl. Acoust.* 70, 625–635.

RELATIONSHIP BETWEEN DIFFICULTIES IN EMOTION REGULATION, SUBJECTIVE WELL BEING AND WORKING ALLIANCE BETWEEN COUNSELLORS AND CLIENT AMONG SUBSTANCE ABUSERU

Grace Chan Chee Yan & Asmah Ismail
Faculty of Educational Studies, Universiti Putra Malaysia
graccyan@gmail.com, asmahis@upm.edu.my

A correlational study was conducted in order to examine the relationship between difficulties in emotion regulation, subjective well-being and working alliance between counsellor and client among substance abusers from ten local residential substance-use treatment centres in Malaysia. A total of 211 participants were recruited through random sampling. The age of participants ranged from 18 to 61 years old (min age 36 years old). Data was collected through the administration of Emotion Regulation Questionnaire, Difficulty in Emotion Regulation Scale, Satisfaction with Life Scale, Loneliness Scale and Counsellor-Patient Relationship Scale. The research intends to explore the associations between aspects of emotion dysregulations with level of satisfaction with life and working alliance between counsellor and client. Data was analysed using Pearson's correlation. Significant findings revealed that: (a) More difficulties in two aspects of emotion dysregulation are associated with lower satisfaction with life, (b) General difficulties in regulating emotions are linked to higher levels of loneliness, and (c) The relationship between subscales of DERS and working alliance between counsellor and client revealed no significant effect. Nonetheless, counsellors can provide effective service to substance abusers by increasing their subjective well-being through training or modeling of adaptive emotion regulation strategies at the treatment centres. .

Keywords: Emotion Regulation, Subjective Well-Being, Loneliness, Working Alliance

Introduction

In Malaysia, the National Anti-drugs Agency of Malaysia (AADK) has been annually keeping track of documented substance abusers in Malaysia as an effort to evaluate the prevalence of substance use. According to the statistics released in 2015, a total of 26,668 persons were identified of abusing drugs, with 20,289 comprised of new enrollment to AADK while 6,379 were relapse cases (AADK, 2015). Among the states recorded with the highest number of substance abusers were Pulau Pinang (16.05%) and Selangor (11.20%) followed by Kedah (11.04%). Opiate (i.e. Heroin and Morphine) and Methamphetamine were the highest substances of abuse with 60.4% and 29.60% abusing these substances, respectively (AADK, 2015).

Additionally, significant gender and age differences in substance use patterns also exist. The National Anti-drugs Agency of Malaysia's statistics showed that men were more than 25 times as likely to suffer from substance abuse as women (96.20% and 3.8%, respectively). Among the substance abusers recorded, young adults at the age of 20-24 showed the highest prevalence rate (18.70%) followed by adults of the age range of 25-29 years old. AADK (2015) showed that prevalence rates in substance abuse varies across different ethnic groups as well with the highest among the Malay (80%), followed by Chinese (7.94%), Indians (7.92%), natives of Sabah (2.90%), and native of Sarawak (0.55%).

Several studies in Malaysia have highlighted the pervasiveness of substance abusers among secondary school students. A study conducted by Edwards (2011) in the region of Kuching documented that among 127 children who were substance abusers, 96% consisted of males with approximately 35.4% of whom were still active abusers. Findings also revealed substance abusers were as young as 10-15 years old (3.1%) with the majority between 16-20 years old (40.9%). The main substances abused include inhalant of rubber cement gum (Edwards, 2011). This has also been corroborated by a study on student's perceptions of substance abuse among 1800 secondary school students in 18 high-risk

secondary schools across the states of Selangor, Federal Territory of Kuala Lumpur, Penang, Negeri Sembilan and Melaka. Findings indicated a majority of students became involved in using marijuana and glue sniffing during the ages of 15 and 17 years with 44.1% of them invited to engage in using marijuana and 38.4% for glue sniffing (Chan, Sidhu, Lim, & Wee, 2016).

A great deal of research on emotion regulation has been explored among substance abuse populations highlighting the difficulties with emotion regulation as a vital factor of substance use risk (Schulte, Müller-Oehring, Sullivan & Pfefferbaum, 2012). There is evidence that individuals who cannot endure intense states of emotions turn to substances as a form of relief. Individuals with substance use disorders (SUD) not only exhibit less effective emotion regulation and self-control (Fox, Hong, Siedlarz & Sinha, 2008), they are also more likely to relapse and experience poorer treatment perseverance.

The objectives of this study include (1) to determine the relationship between emotion regulation difficulties and life satisfaction among substance abusers in Malaysia, (2) to determine the relationship between emotion regulation difficulties and loneliness among substance abusers in Malaysia, and (3) to determine the relationship between emotion regulation difficulties and working alliance between counsellor and client among substance abusers in Malaysia. In term of hypotheses, three hypotheses have been identified: (1) H₁: Higher levels of difficulties in regulating emotions will lead to lower satisfaction with life among substance abusers, (2) H₂: Higher levels of difficulties in regulating emotions will lead to higher loneliness among substance abusers, and (3) H₃: Higher levels of difficulties in regulating emotions will lead to weaker relationship between the counselor and the client with substance abuse problem.

Individuals with substance use disorders (SUD) exhibit less effective emotion regulation by facing more difficulty in understanding and identifying their emotions (Fox, et al., 2008). In the study of 40 treatment-engaged abstinent cocaine patients and 40 non-addicted socially drinking individuals, participants were assessed of their craving, anxiety, emotion rating scales and psychological measures through exposure of guided imagery. Findings revealed that among cocaine patients, there was a significantly higher and more persistent stress and craving, negative emotions and physiological responses as compared with social drinkers. Particularly, negative emotions comprised of heightened anger, fear and sadness (Fox et al., 2008).

Moreover, individuals with SUD and mental disorders exhibit more severe deficits in emotion regulation (Litt, Hien & Levin, 2003), particularly in the emotion regulation strategies they employ (Aldao et al., 2010). In a study by Hopwood et al., (2015), the role of emotion regulation in treatment persistence in a Northeastern Washington DC residential facility was evaluated among 115 patients with substance use disorders. Three questionnaires (i.e. *Difficulties in Emotion Regulation Scale*, *Stages of Change Readiness and Treatment Eagerness Scale* and *The Multidimensional Personality Questionnaire Negative Emotionality Scale*) were used and findings suggested that ability to regulate negative emotions as a significant predictor of treatment persistence in the population. Particularly, the ability to engage in goal-related activities such as attending to and complying with treatment, clarity regarding one's inner emotions and propensity to experience negative emotions provided predications about the probability of treatment persistence.

Hyman and Sinha (2009) also pointed out difficulties in regulating emotion among marijuana and tobacco users through their systematic review of studies collected from PsychINFO and MEDLINE databases. Results revealed that cannabis is typically consumed as a stress-coping strategy and negative life events, trauma and maladaptive coping were all associated to use of cannabis.

Aldao and colleagues (2010) further reaffirmed substances as emotional regulators and pinpointed the deficit of other emotion regulation strategies among substance abusers through a meta-analytic review. With the combination of 241 effect sizes from 114 studies that explored the relationships between dispositional emotion regulation and psychopathology, they concentrated on

dispositional emotion regulation as an effort to evaluate patterns of responding to emotion over time. Their findings suggested that internalizing disorders were more consistently linked with regulatory strategies than externalizing.

According to Khantzian (2003), poor emotion regulation is not seen solely as a consequence of drug use but rather as a precondition that exists even in the absence of substance use. Although a number of Khantzian's studies highlight the usage of drugs as an effort to manage unbearable states of emotions, he recognises that individuals who are susceptible to addictions may be cut off from feelings and utilisation of drugs may alleviate particular states of distress. Indeed, the participants in Fox et al. (2008)'s study who struggle to remain abstinent still exhibit difficulties with emotional regulation.

Therapeutic alliance (TA) has been increasingly acknowledged as a crucial factor of treatment outcome. A peer-reviewed research of 18 studies conducted by Meier, Barrowclough and Donmall (2005) that investigated the relationship between therapeutic alliance and substance use pointed out that early assessment of therapeutic alliance to be a predictor of involvement and retention in treatment. Nonetheless, findings pertaining to the relationship between the therapeutic alliance and treatment outcomes were also frequently contradictory and hence, preventing solid conclusion to be drawn. While some study disclosed that better therapeutic alliance was associated with better improvement in treatment outcomes (Richardson et al., 2012; Ilgen et al., 2006; Tunis, Delucchi, Schwartz, Banys & Sees, 1995), others have also found the relationship between therapeutic alliance and treatment outcome to be not significant.

Substance abusers have been shown to exhibit difficulties in emotion regulation (Fox et al., 2008) that affect not only the recovery from substance abuse problems (Hopwood et al., 2015) but also towards their overall well-being (Haga et al., 2009). Nonetheless, to date, no research has been conducted to explore difficulties in emotion regulation as a predictor of well-being and working alliance with counsellors in addictions populations. Further, the relationship among emotion regulation, well-being and working alliance with counsellors are currently unknown.

Methodology

The current study used a correlational research design to investigate whether difficulties in emotion regulation has an impact on the well-being of substance abusers. The design was also to explain the relationship between emotion regulation difficulties, subjective well-being (as measured by life satisfaction and loneliness) and working alliance between counsellor and client among residential substance abusers in Malaysia.

Sample

A total of 211 participants were recruited through random sampling from 10 residential treatment centres in Klang Valley, Malaysia. The age of participants ranged from 18 to 61 years old (min age 36 years old). There were a higher proportion of participants from the age of 18 to 34 (52.6%) as compared to the age range of 35 to 54 (44.5%) and over 55 years old (2.9%). The sample consisted of mostly men than women (98%) with the most Malay participants (72.9%), followed by Indian (22.8%) and Chinese (4.3%). Close to half (49.2%) of participants were seeking treatments for problems with Heroin, Methamphetamine (39.3%), alcohol (5.2%), Marijuana (3.3%) followed by 1.5% for both MDMA and Morphine respectively. The length of time for which the participants had been using the substance(s) for which he or she was receiving treatment was 11.5 years on average. Finally, the length of working alliance between counsellor and client at the centres was 9 months on average.

Instrument

Five inventories namely the Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003), Difficulty in Emotion Regulation Scale (DERS) (Gratz & Roemer, 2004), Satisfaction with Life Scale (SWL) (Diner et al., 1985), Loneliness Scale (Hughes, Waite, Hawkey & Cacioppo, 2004), and Counsellor-Patient Relationship Scale (McGuire-Snieckus, McCabe, Catty, Hansson & Priebe, 2007).

Results and Findings

Before conducting inferential statistics, the participants were tested for normality. None of them had skewness or kurtosis scores that indicates an extreme deviation from the normal distribution, so the hypotheses were tested with normal parametric tests.

Hypothesis one stated that higher levels of difficulties in regulating emotions would lead to lower satisfaction with life. Pearson product moment correlations revealed no significant relationship between difficulties in regulating emotions and satisfaction with life, $r(200) = -.005, p > .05$. Thus, hypothesis one was rejected.

Table 1. Regression Coefficients and Pearson's *R* of Six Subscales of DERS Predicting Satisfaction with Life

DERS subscale	<i>b</i> *	<i>SE</i>	<i>t</i>	<i>p</i>	<i>r</i>
Non-accept	0.108	0.147	0.738	.461	.08
Goals	-0.377*	0.163	-2.312	.022	-.06
Impulse	0.069	0.176	0.394	.694	.00
Awareness	-0.268*	0.116	-2.318	.021	-.15*
Strategies	0.155	0.177	0.872	.384	.06
Clarity	0.107	0.135	0.792	.429	.02

Note. * indicates $p < .05$

To further investigate this relationship, a regression model was tested with the six subscales of DERS as the predictors and SWL as the outcome variable. The results revealed that two of the subscales significantly predict satisfaction with life. Nonetheless, it is worthy to highlight that those who reported more difficulty engaging in goal-directed behavior had lower satisfaction with life, $b^* = -0.38, t(204) = -2.31, p < .05$. Similarly, participants who reported higher lack of emotional awareness had lower satisfaction with life, $b^* = -0.27, t(204) = -2.32, p < .05$.

Hypothesis two stated that higher levels of difficulties in regulating emotions would lead to higher loneliness. Results from Pearson's correlation between the mean of DERS and Short Loneliness Scale demonstrated that higher levels of DERS was significantly associated with stronger feelings of loneliness, $r(200) = .295, p < .05$. However, a regression model with the six subscales of DERS as the predictors and loneliness as the outcome demonstrated no significant relationship between any of the DERS subscales and loneliness. While including all the subscales in the same model did not show a significant relationship between any of the subscales and loneliness, the Pearson's correlation between five of the six subscales and loneliness was significant. These results suggested that while difficulties in regulating emotions, as a whole, was associated with higher loneliness, this influence was not specific to any one aspect of the DERS. Thus, hypothesis two was accepted.

Table 2. Regression Coefficients and Pearson's *r* for the Subscales of DERS Predicting Loneliness

DERS subscale	<i>b</i> *	<i>SE</i>	<i>t</i>	<i>p</i>	<i>r</i>
Non-accept	0.019	0.080	0.241	.810	.24**
Goals	-0.002	0.089	-0.027	.978	.25**
Impulse	0.099	0.096	1.029	.305	.28**
Awareness	-0.076	0.063	-1.200	.232	-.07
Strategies	0.130	0.097	1.344	.181	.30**
Clarity	0.084	0.074	1.143	.254	.22**

Note. ** indicates $p < .05$.

Hypothesis three stated that higher levels of difficulties in regulating emotions would lead to weaker relationship between the counselor and the client. To test the relationship between difficulties in emotion regulation and working alliance between counsellor and client, a correlation analysis did not reveal a significant relationship between DERS and working alliance between counsellor and client, $r(200) = -.037, p > .05$. Thus, hypothesis three was rejected. Further investigation of the relationship between subscales of DERS and working alliance between counsellor and client revealed no significant effect.

Table 3. Regression Coefficients and Pearson's r for the Subscales of DERS Predicting Working Alliance between Counsellor and Client

DERS subscale	b^*	SE	t	p	r
Non-accept	0.002	0.090	0.023	.982	-.04
Goals	-0.084	0.100	-0.841	.401	-.07
Impulse	0.032	0.108	0.296	.768	-.02
Awareness	0.069	0.071	0.975	.331	.06
Strategies	0.056	0.109	0.509	.611	-.02
Clarity	-0.076	0.083	-0.913	.363	-.06

DISCUSSION

Several factors could contribute to the negative correlation between difficulties in regulating emotions and life satisfaction. Firstly, the treatment system adopted by the participants could play a role in explaining the finding. Among the multiple service components in treatment system, outpatient treatment programme is characterised by the freedom of movement which permits patients to retain a regular commitment to their daily routine while enjoying a greater level of privacy and anonymity. On the other hand, inpatient or residential treatment programme is defined by the voluntary entry of patients to a safe and secure facility with the planned lengths of stay between six to 12 months (NIDA, 2012). Residential treatment programmes have been acknowledged to be highly emotionally supportive with its emphasis on holistic approach of body and mind through treatment. In comparison to outpatient treatment programmes, residential treatment programmes stand out with its benefit of "therapeutic community" - a community with supportive patients who have each other's back through the constant encouragement among each other to stay on task. Due to empathy and shared experience, patients in residential treatment often experience a strong sense of companionship and togetherness that further help them in gaining a better treatment outcome thus more positive life satisfaction (NIDA, 2012).

In term of the relationship between difficulties in emotion regulation and loneliness, Kearns and Creaven's (2017) study appeared to correspond with the findings of the study. Their study affirmed the significant relationships between loneliness and the use of various emotion regulation strategies of functional and dysfunctional. Particularly, dysfunctional emotion regulation styles (characterised by non-coping and dampening) was linked to greater loneliness. In contrast, functional emotional regulation styles (savouring and coping) was associated to lower loneliness and those adopting a diverse range of dysfunctional strategies would experience greater loneliness.

The current study also discovered the absence of a significant relationship between any of the six subscales of DERS as the predictor and loneliness as the outcome, further suggesting that while difficulties in regulating emotions, as a whole, was associated with higher loneliness, such influence was not specific to any dimension of the difficulties in emotion regulation. This finding also aligned with evidence from Kearns and Creaven's (2017) result of documenting four strategies that were not significantly correlated to loneliness, further implying that not all strategies of emotion regulation were linked to loneliness.

In explaining the relationship between difficulties in emotion regulation and working alliance between counsellor and client, emotion regulation may not be a significant enough predictor to the outcome of the working alliance. Instead, the model of attachment style in relation to emotion regulation may offer a better understanding towards outcome of the working alliance. Watson and Kalogerakos (2010) pointed out that about 33% of the variance in the working alliance is due to client attachment style. In other words, it is possible that early attachment experiences carry a more significant weight in contributing to the development of emotion regulation. From an attachment theory perspective, a child is able to comprehend his or her emotions through the caregiver's capability to emotionally attune the child's internal experience. Such "mirroring" is mainly a non-verbal mean of communication between infant and caregiver, which is important for emotional development (Mikulincer et al., 2003). A likewise process may therefore be occurring in the counsellor-client relationship. A mental health worker may process characteristics of the client's posture, gaze and tone of voice, and utilise this information for a better therapeutic outcome (Mikulincer et al., 2003). As such, client may begin to acknowledge changes in his or her own internal state and increase efficiency at handling symptoms of dysregulation.

Implication and Recommendation

Based on the findings, it is noted that residential substance abusers in a Malaysian context may need extra attention in two specific aspects of emotion dysregulation namely difficulties in engaging in goal-directed behaviour and lack of emotion awareness as they were positively correlated with low satisfaction with life. This finding could provide useful insights to future counsellors or case workers who are working with substance abuse clients in attending more to these struggling aspects of their clients. Counsellor can help clients to improve their ability to identify and develop insight into what they are feeling. Counsellors can also collaborate with clients using various techniques to improve their skills of goal-setting and execution.

From the findings, it appeared that a component of their subjective well-being, namely loneliness is especially a pervasive issue among substance abusers. It maybe helpful for future counsellor or caseworkers to take note of such factor when developing programmes, particularly in the area of skill building healthy emotion regulation strategies with substance abuse clients in order to promote ways of expressing emotions that could help them manage their level of loneliness.

For future empirical exploration based on this study, a researcher may want to consider adopting longitudinal methods rather than a cross-sectional design. This would require measuring participant's difficulties in emotion regulation, subjective well-being and baseline working alliance rating upon entering treatment and reassessing every couple of weeks while the participant is in treatment and continuing to assess these factors post-treatment for up to one year. Through such repeated measure, longitudinal design would allow future counsellors to predict precisely whether current emotion regulation deficits predict better subjective well-being and working alliance with clients.

Furthermore, different options for measuring and operationalising subjective well-being should also be considered in the future research. For instance, including measures of positive and negative affect could better predict the wholeness of subjective well-being (Diener et al., 2017). Researchers should consider various options for measuring emotion regulation. Although costly, it will be valuable to include physiological method to assess emotion self-regulation due to their less susceptibility to social desirability. For instance, the mechanism of heart rate variability can be measured in a fairly simple manner while giving implication of self-control capacity.

In conclusion, the purpose of this study was to explore the relationship between emotion regulation, subjective well-being and working alliance between counselor and clients in residential substance-use treatment centres. Future research is needed to both duplicate and extend the current results. The potential for counsellors to provide effective services in increasing the subjective well-being through training or modeling of adaptive emotion regulation strategies is becoming increasingly clear.

References

- Agensi Antidadah Kebangsaan, AADK (2015). Maklumat Dadah 2015. In *Statistik Dadah*. Retrieved from <http://www.adk.gov.my/html/pdf/buku%20maklumat%20dadah/BUKU%20MAKLUMAT%20DADAH%202015.pdf>
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review, 30*(2), 217-237. doi:10.1016/j.cpr.2009.11.004.
- Chan, Y. Y., Sidhu, G. G., Lim, P. P., & Wee, E. W. (2016). Students' perceptions of substance abuse among secondary school students in Malaysia. *Pertanika Journal Of Social Sciences & Humanities, 24*(2), 555-572.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71-75.
- Diener, E., Heintzelman, S. J., Kushlev, K., Tay, L., Wirtz, D., Lutes, L. D., & Oishi, S. (2017). Findings all psychologists should know from the new science on subjective well-being. *Canadian Psychology/Psychologie Canadienne, 58*(2), 87-104. doi:10.1037/cap0000063.
- Edwards, A. (2011). Sniffing out a fatal habit. In *The Star Online*. Retrieved from <http://www.thestar.com.my/news/nation/2011/10/30/sniffing-out-a-fatal-habit/>.
- Fox, H. C., Hong, K. A., Siedlarz, K., & Sinha, R. (2008). Enhanced sensitivity to stress and drug/alcohol craving in abstinent cocaine-dependent individuals compared to social drinkers. *Neuropsychopharmacology, 33*(4), 796-805. doi:10.1038/sj.npp.1301470.
- Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*(5), 348-362.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology & Behavioral Assessment, 26*(1), 41-54.
- Haga, S., Kraft, P., & Corby, E. (2009). Emotion regulation: Antecedents and well-being outcomes of cognitive reappraisal and expressive suppression in cross-cultural samples. *Journal of Happiness Studies, 10*(3), 271-291.
- Hopwood, C. J., Schade, N., Matusiewicz, A., Daughters, S. B., & Lejuez, C. W. (2015). Emotion regulation promotes persistence in a residential substance abuse treatment. *Substance Use & Misuse, 50*(2), 251-256.
- Hughes, M. E., Waite, L. J., Hawkey, L. C., & Cacioppo, J. T. (2004). A short scale for measuring loneliness in large surveys: Results from two population-based studies. *Research on Aging, 26*(6), 655-672. doi:10.1177/0164027504268574
- Hyman, S. M., & Sinha, R. (2009). Stress-related factors in cannabis use and misuse: Implications for prevention and treatment. *Journal of Substance Abuse Treatment, 36*(4), 400-413. doi:10.1016/j.jsat.2008.08.005.
- Kearns, S. M., & Creaven, A. (2017). Individual differences in positive and negative emotion regulation: Which strategies explain variability in loneliness?. *Personality and Mental Health, 11*(1), 64-74. doi:10.1002/pmh.1363.
- Khantzian, E. J. (2003). Understanding addictive vulnerability: An evolving psychodynamic perspective. *Neuro-Psychoanalysis, 5*(1), 5-21. doi:10.1080/15294145.2003.10773403.
- Litt, L. C., Hien, D. A., & Levin, D. (2003). Adult antisocial behavior and affect regulation among primary crack/cocaine-using women. *Psychology Of Women Quarterly, 27*(2), 143-152.
- McGuire-Snieckus, R., McCabe, R., Catty, J., Hansson, L., & Priebe, S. (2007). A new scale to assess the therapeutic relationship in community mental health care: STAR. *Psychological Medicine, 37*(1), 85-95. doi:10.1017/S0033291706009299.
- Meier, P. S., Barrowclough, C., & Donmall, M. C. (2005). The role of the therapeutic alliance in the treatment of substance misuse: A critical review of the literature. *Addiction, 100*(3), 304-316. doi:10.1111/j.1360-0443.2004.00935.x.

- Mikulincer, M., Shaver, P.R., & Pereg, D. (2003). Attachment theory and affect regulation: the dynamics, development and cognitive consequences of attachment-related strategies. *Motivation and Emotion*, 27(1), 77–102.
- National Institute on Drug Abuse, NIDA (2012). Principles of drug addiction treatment: A research-based guide (Third Edition). Retrieved from <https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition>.
- Richardson, D. F., Adamson, S. J., & Deering, D. A. (2012). The role of therapeutic alliance in treatment for people with mild to moderate alcohol dependence. *International Journal of Mental Health and Addiction*, 10(5), 597-606.
- Tunis, S. L., Delucchi, K. L., Schwartz, K., Banys, P., & Sees, K. L. (1995). The relationship of counselor and peer alliance to drug use and HIV risk behaviors in a six-month methadone detoxification program. *Addictive Behaviors*, 20(3), 395-405. doi:10.1016/0306-4603(94)00080-I.
- Watson, J. C., & Kalogerakos, F. (2010) The therapeutic alliance in humanistic psychotherapy. In Muran, C. J., & Barber, J. P. (Eds.). *The therapeutic alliance: An evidence-based guide to practice*. New York: Guilford Press.

ASSESSING INTEREST IN STEM CAREER SURVEY AMONG MALAYSIAN FORM FOUR SCIENCE STREAM STUDENT

Fazilah Razali, Othman Talib, Umi Kalthom Abdul Manaf & Siti Aishah Hassan
Faculty of Educational Studies, Universiti Putra Malaysia
zila_ixora@yahoo.com, zahinothman@gmail.com, umizat90@upm.edu.my,
siti_aishah@upm.edu.my

ABSTRACT

This study is a presentation of the construction, validity and reliability of the instruments chosen to measure STEM related career interest, among Form Four students. This study consists of 4 sub-sections measuring the following dimensions: STEM- related career interest, attitudes towards science, motivation and parental influence. The construction process includes the reevaluation of each construct for every instrument chosen, adaptation of it into Bahasa Melayu, the modification of every statement in the instrument to suit the scope of study, as well as the learning environment of students in Malaysia, and the validation by the panel of experts. The construction of this instrument is based on two theories, which are Eisner's Curriculum Theory (1979), which emphasizes students' needs in the curriculum, and Social Career Cognitive theories(SCCT) (2013), based on the suitability of the current learning environment and future learning needs. The analysis of the reliability of each construct proves that the instrument is able to measure students' STEM-related career interest. The implication of the instrument for future use, is also discussed.

Keywords: STEM career, Secondary school students, Science curriculum, Interest, Survey development

Introduction

In a twenty-first century world, steps to renew the curriculum at school level have already been initiated. One of the changes is in STEM Education (Science, Technology, Engineering & Mathematics) approaches to ensure students of high quality who will be capable to propel the country towards excellence and progress. Many definitions from different countries have become points of reference and have been publicised, to establish the importance of STEM, in the global education system and the labour industry. Bryan, Moore, Johnson, and Roehrig (2016), have defined STEM as "The teaching and learning of content as well as practice of knowledge in the Science and Mathematics curriculum, with the integration of Engineering and Design Engineering through Technology, for future readiness." The goal of STEM is to blend the integration of Science, Technology, Engineering and Mathematics in the teaching and facilitation process (PdPc), beginning at school level, to inculcate interest in the new generation in STEM, in comparison with non-STEM related studies and careers (KPM, 2015).

STEM has garnered attention from global education systems since its introduction in 1990 by the National Science Foundation (NSF). The field of STEM is of high demand from the global industrial sector, and is capable of bringing significant economic changes to the country (Fouad & Santana, 2017; Wiswall, Stiefel, Ellen, & Boccardo, 2014). Therefore, the Ministry of Education of Malaysia has established its goal to produce increased labour skilled in STEM, as specified in the Education Blueprint of Malaysia 2013-2025 (PPPM 2013-2025). The Education Blueprint is the benchmark for the education system. The main focus of the Blueprint is to raise achievement levels in Science and Mathematics with the integration of STEM, among students especially at secondary level, as well as to raise parents' involvement through activities that increase their role in the acculturation of STEM.

Thus, the Ministry of Education has taken steps to implement STEM in the school curriculum, by introducing the Standard Curriculum for Secondary School, in 2017. This curriculum has fine-tuned the implementation of STEM for the science curriculum, by building a curriculum framework through six core elements, one of which is STEM being the core element in construction and implementation (Curriculum Development Centre, 2016a). Thus, this study will measure the relevant instruments, to

ensure valid and reliable constructs, that can influence students' interest in STEM related careers. Hence, the purpose of this study is to document the construction and validation of the instrument chosen, to be adapted to the students' learning environment and the science curriculum in Malaysia.

The Science Curriculum and the Need for STEM

The need for STEM arose when the demand for career fields involving STEM exceeded other fields. 80% of the needs of the work sector in America involves STEM fields and have to be fulfilled in order to guarantee the strengthening and the progress of the economy (U.S. Department of Commerce, 2015). The increase in the demand for the need of labour, skilled in STEM is also observed in Malaysia, with an more than 1 million members of the work force skilled in STEM, needed for 2020 (MOSTI, 2015). The need to fill the vacuum in the industrial sector is a critical issue at global level, when there is a consistent decrease in students' participation in the Science Stream, beginning at secondary school level. (Blankenburg, Höffler, & Parchmann, 2016; Ismail, Samsudin, & Zain, 2014).

The initiative to strengthen the Science curriculum with the integration of STEM, is one of the 100 initiatives in the Education Blueprint 2013-2025, in order to provide career opportunities for the future and as the nation's preparation to face the Fourth Industrial Revolution. From the angle of implementation of the Science curriculum, the Ministry has taken steps, among them, to broaden the students' view of the Science curriculum and the application of science and technology in life and careers. (KPM, 2015). Besides this, there is the absorption of various information related to Science and STEM, in order for the students to see its relation to the working world. The absorption and awareness of STEM is student-centred and the teacher instead, is a facilitator to build the students' inclination and interest towards Science, as a result of the teaching-learning session. (Blankenburg et al., 2016).

Students are given priority in the process of translating the science curriculum and in the fine tuning of STEM, for every learning and facilitation session (PdPc) (Butler, Marsh, Slavinsky, & Baraniuk, 2014). Thus, the need to identify students' interest towards STEM is the priority, so that every effort that is planned and executed is fruitful. According to Eisner (1979), meeting students' needs consists of three elements necessary in every school curriculum, which are Extrinsic, Intrinsic and Null curriculum. An Extrinsic curriculum refers to the written curriculum, and is the main tool for formal teaching and encompasses curriculum documents, text books and teaching materials designed for the effective implementation of learning and facilitation (PdPc).

On the other hand, an Intrinsic Curriculum is a curriculum that facilitates the learning process and knowledge which is connected to the student's prior knowledge which is used to build on new knowledge. The Intrinsic curriculum has to be given attention by the teacher, as every student has different learning experiences, and the student is able to connect his or her learning experience to the current learning in process. The Extrinsic and Intrinsic Curriculum are equally important and usually taught both by parents and teachers to help students obtain high achievement levels in their studies.

However, according to Eisner (1979), a Null curriculum refers to a curriculum which is not taught in school but has equal importance as the Extrinsic and Intrinsic curriculum, in producing students of high quality and to achieve the true purpose of a planned curriculum. A Null curriculum refers to attitudes, knowledge value, expectations, emotions and students' readiness for every curriculum that is taught. The Null curriculum complements the Extrinsic and Intrinsic curriculum as it widens the students' knowledge about the application of Science in life and careers in STEM fields (Nugent et al., 2015). Therefore, the combination of the three curricula provides the package or the success of each student to increase the enrolment of skilled labour, to fulfill global needs in STEM careers, that are expected to increase by the year 2024 (Fayer, Lacey, & Watson, 2017).

In relation to this, the framework of the theory constructed is based on the important constructs in the instruments chosen in this study (Figure 1). Figure 1 combines 2 theories, which are Eisner's Curriculum Theory (1979), which requires students to complete the school curriculum by combining

Eisner's three curricula, Extrinsic, Intrinsic and Null, to ensure that the planned curriculum can be achieved in a meaningful way. On the other hand, the Social Career Cognitive Theory (SCCT) (2013) is formed based on the Bandura's Social Cognitive Theory (1986). This theory has been formed to suit the current learning situation or climate, as well as the needs of future learning outcomes. This theory was propounded by Len and Brown in 2013, and emphasises learning for lifelong use.

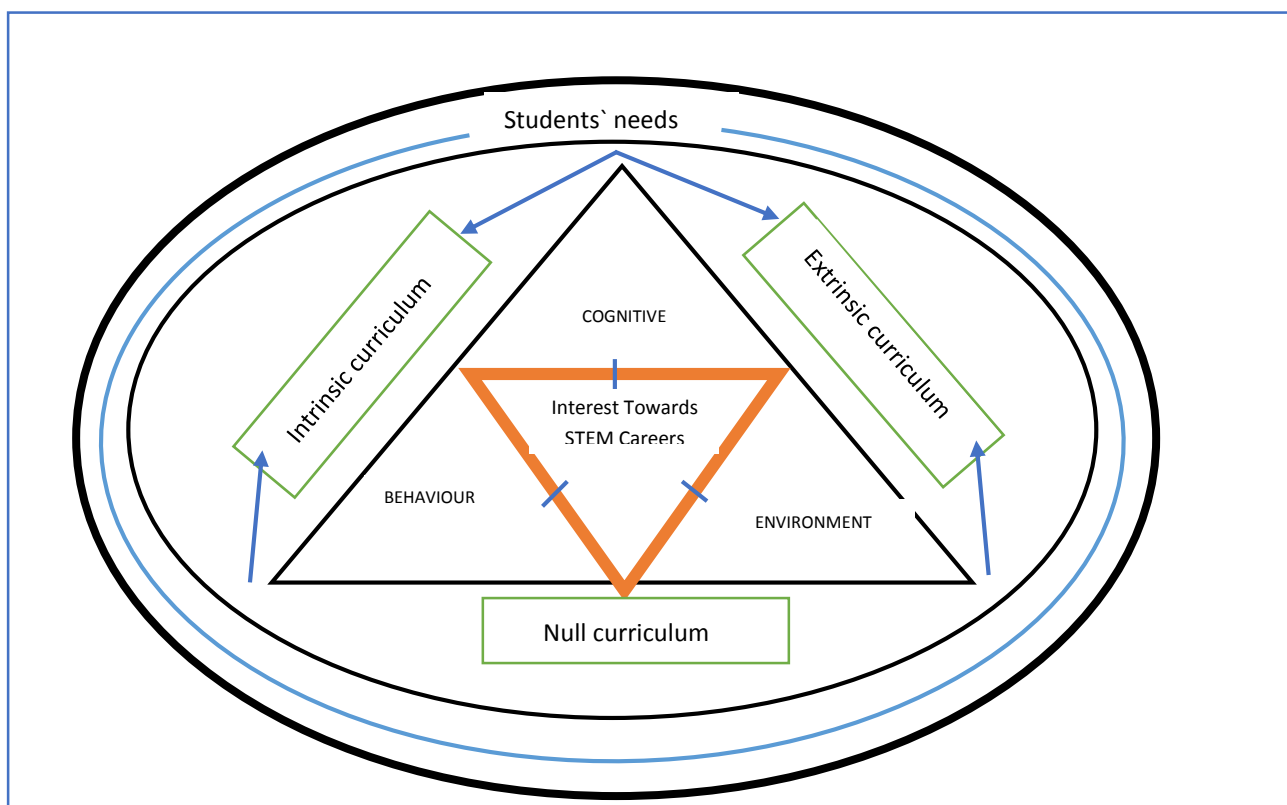


Figure 1: Theoretical Framework Interest towards STEM Careers

STEM and the Student

Past studies state that besides having a stable curriculum and an interactive planned teaching that integrates the elements of STEM, the readiness of students towards cognitive needs (Förtsch, Werner, Dorfner, von Kotzebue, & Neuhaus, 2016), behaviour (Herrera López, Romera Félix, Ortega Ruiz, & Ortiz, 2016) and awareness of the needs of the environment (Shernoff et al., 2015), is necessary to create interest of students towards STEM-based careers. Hence, it is important to examine each factor separately in order to identify the key to activate the absorption of STEM and influence the students' consistency in choosing STEM-based careers.

The cognitive factor that influence the students' readiness to learn Science meaningfully is the student' attitude towards Science. A positive attitude is usually influenced by students' high achievement in Science, and effective learning of Science will help students readiness to be assessed (Lipnevich & Gjicali, 2016). Attitude should be complemented by students' behaviour, which gives an early indication of input from knowledge and output from environmental needs. Hence, motivation was the choice in past studies as a behavioural factor (Bandura, 1991; Herrera López et al., 2016) and gave maximum impact to students' attitude towards Science and the perseverance of their interest in STEM-related careers (Elias, Mustafa, Roslan, & Noah, 2010; Hamjah, Ismail, Rasit, & Rozali, 2011; Wust-Ackermann, Randler, Vollmer, & Itzek-greulich, 2016).

However, low motivation will influence students' attitude towards Science and it is important to raise students' motivation levels in order for them to be ready to face challenges and to be able to

compete. According to Ubale & Abdullah (2015), parents' involvement could help to raise motivation levels and help students' in making the right decisions as parents have better prediction skills regarding the students' learning, and can also act as maximum support agents to students, regardless of the field they have chosen. Identifying attitude, motivation and parental influence in building students' interest towards Science and the consistency of students' in choosing STEM-based careers in future, is important to guarantee the Ministry of Education's intention to produce productive human capital who will act as the driving force in strengthening the country's economy (Bahagian Pembangunan Kurikulum, 2016b). Hence, this study measures the reliability of the questionnaire related to attitude, motivation and parental influence towards career interest of students' in the science stream.

Instruments Used in the Construction of STEM-Related Career Interest Instrument

This study uses instruments to measure attitudes and careers, *Student Attitudes toward Science, Technology, Engineering, and Math (S-STEM)* and interest in STEM careers. S-STEM has 2 constructs consisting of attitudes towards STEM and STEM career interest. Motivation levels towards Science and interest in STEM careers are measured with *Science Motivation Questionnaire II (SMQ-II)*. Prior achievement is measured from marks/ achievement grades of students in the PT3, whereas parental authority is measured using *Parental Authority Questionnaire (PAQ)*, from the students' perspective.

- **Student Attitudes toward Science, Technology, Engineering, and Math (S-STEM) and interest in STEM careers.**

This questionnaire is divided into two parts. The first part measures students' attitude towards STEM and the second measures STEM career interest of students. Part 1 covers the measurement of students' self-confidence towards Science, Technology, Engineering and Mathematics (STEM) The questionnaire for this part contains 12 items which consist of 4 constructs, which are attitudes towards Science, Mathematics, Technology and Engineering. The measurement uses an interval scale (scale 1-10, Strongly Disagree – Strongly Agree) Part 2 are related to the measurement of students' career interest in STEM fields. This questionnaire uses an interval scale (scale 1 – 10, Strongly Disagree – Strongly Agree), to measure the level of career interest in the field they wish to enter.

- **Science Motivation Questionnaire II (SMQ-II)**

This questionnaire measures students' confidence to study science and understand the career scope. This questionnaire consists of 18 items and 5 constructs, which four items for each construct (self-efficacy, self-determination, achievement grades and career) The questionnaire uses an interval scale (scale 1- 10, Strongly Disagree – Strongly Agree), to measure students' motivation which influences consistency in choosing STEM careers.

- **Parental Authority Questionnaire (PAQ)**

PAQ is designed to measure parental influence on motivation to study science and students' career interest. The questionnaire is from the students' perspective and has been adapted according to the objective of the study PAQ consists of 12 items and an interval scale (scale 1 – 10, Strongly Disagree – Strongly Agree)

Methodology

In this section, technical and systematic processors are used to develop and validate students' STEM Career questionnaires. Research questionnaire was developed from three questionnaires namely Student Attitudes toward Science, Technology, Engineering, and Math (S-STEM) to measure the influence of attitude constructs, Science Motivation Questionnaire II (SMQ-II) to measure the influence of student motivation constructs, Parental Authority Questionnaire (PAQ) to measure the constructs of parent's influence and STEM's career interests by using the Your Future questionnaire. The questionnaire was adapted into Malay and

modifications were made for each questionnaire for adaptation to the scope of the study to identify the influence of attitudes, motivations and parental influence on student STEM careers. The sample selection for this study was carried out using Multi-Stage Cluster sampling method and random selection (Bartlett, Kotrlik, & Chardwick, 2001). The sample of the study was the Form Four Science Stream students of the Secondary School in Selangor, Malaysia.

Research Finding

Instruments of the study are tools to measure, observe and document quantitative data (Creswell, 2012). For this purpose, the study instrument used must also be suitable for the needs of the study. The instruments in this study are divided into four parts whereby each part refers to the instrument chosen for adaptation and modification.

The four parts, which are Part B (*Science Motivation Questionnaire II (SMQ II)*), is related to students' motivation to choose the science stream in line with career interest in STEM. Part C (*Student Attitude towards STEM Survey (S-STEM)*) is related to students' attitude towards science in line with career interest in STEM and Part D (*Parental Authority Questionnaire (PAQ)*) is the construct to measure parental influence on students in the science stream to choose careers in the STEM fields. The final part, Part F (S-STEM from the construct, *Your Future*) is related to students' interest in STEM fields.

This study has adapted instruments that were constructed by previous researchers, and modified certain statements to accommodate the study being conducted. According to Awang 2012 & Hoque et al., 2016, if the researcher adapts the existing instruments and modifies statements into new items, the researcher has to carry out the Exploratory Factor Analysis (EFA) procedure as a different field of study could possibly render some items being unsuitable for the current study in question. Besides, the Internal Reliability of the instrument, which is measured by the Cronbach's Alpha value, could also differ from previous studies (Awang, 2012; Hoque et al., 2016).

Thus, this study is necessary to test the instrument in order to ensure that the questionnaire is understood by the respondents and that there are no ambiguities in language or measurement. Items which are not understood and are not suitable, have to be discarded, to ensure validity and reliability of the items in the instruments used in the study (Sekaran, 2013).

Motivational Construct Analysis

The Motivational Construct is measured from the Science Motivation Questionnaire II (SMQ II), using 18 items labelled as B1 to B18. Each statement in the item is measured using an Interval Scale from 1 to 10. The mean score value and the standard deviation for each item measuring the construct is shown in Table 1.

Table 1. Min and Standard Deviation Motivation Items

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
B1	6.35	2.037	100
B2	7.34	1.897	100
B3	7.43	2.147	100
B4	6.73	1.836	100
B5	7.49	1.761	100
B6	6.77	1.734	100
B7	8.65	1.833	100
B8	7.50	2.368	100
B9	6.54	2.032	100

B10	6.36	2.181	100
B11	7.91	1.646	100
B12	5.07	2.396	100
B13	7.44	1.777	100
B14	7.52	1.823	100
B15	7.23	1.896	100
B16	7.72	1.764	100
B17	6.46	2.091	100
B18	7.27	1.969	100

The Exploratory Factor Analysis (EFA) Procedure, using the Principal Component Analysis (PCA) with Varimax Rotation, was conducted on the 18 items used to measure the motivation construct. The findings in Table 2 show a significant value for the Bartlett Test (P-Value < 0.05). At the same time, the value for the Measure of Sampling Adequacy by Kaiser-Meyer-Olkin (KMO), is 0.864, which exceeds the minimum value of 0.6 (Awang, 2010; 2012; Hoque et al., 2016). These two values, (significance in the Bartlett Test and the value KMO > 0.6) proves that the data is suitable for the subsequent procedure in the Exploratory Factor Analysis (EFA).

Table 2: Value of KMO and Bartlett test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.864
Bartlett's Test of Sphericity	Approx. Chi-Square	1145.357
	df	153
	Sig.	0.000

Table 3 shows the total variance value estimated by the items used to measure the Motivation Construct. Table 3 shows that the Motivation Construct was measured using 4 components. Component 1 measured the construct at 24.530%, whereas Component 2 measured the construct at 20.350%. Component 3 measured the construct at 14.696% and the final Component measured the construct at 8.835%. The total estimated variance for the Motivation Construct was 68.411%. This value is acceptable as it exceeds the minimum requirement of 60% (Awang, 2012; Hoque et al., 2016).

Table 3. Total Variance Value Estimated

Total Variance Explained						
Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.924	44.020	44.020	4.415	24.530	24.530
2	1.911	10.619	54.639	3.663	20.350	44.880
3	1.361	7.561	62.199	2.645	14.696	59.576
4	1.118	6.212	68.411	1.590	8.835	68.411

Extraction Method: Principal Component Analysis.

Table 4 shows the distribution of items for the two components that measure the Motivation construct. Items B1, B2, B3, B4 and B9 measured Component 1, whereas item B8, B11, B12, B13, B15 dan B16 measure Component 2. Subsequently, items B5, B6, B14 dan B18 measure Component 3, whereas Component 4 is represented by B9, B16 and B17. All the items in Components 1, 2, 3 and 4 have Factor Loading values which exceed the minimum value of 0.6 (Hoque et al., 2016).

Table 4. Items to Measure the Motivation Constructs

Rotated Component Matrix^a				
	Component			
	1	2	3	4
B1	.799			
B2	.732			
B3	.759			
B4	.790			
B5			.849	
B6			.699	
B7		.750		
B8	.631			
B9				.717
B10		.649		
B11		.714		
B12		.722		
B13			.740	
B14		.682		
B15		.610		
B16				.831
B17				.755
B18			.893	
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. ^a				
a. Rotation converged in 18 iterations.				

The instrument for measuring reliability, which is consistent and often used is Cronbach's Alpha. Therefore, the evaluation of Cronbach's Alpha is used in this study, to measure consistency of instruments for each construct. The value for Cronbach's Alpha for an instrument should exceed 0.7, in order to be acceptable in subsequent studies. A Cronbach's Alpha value of 0.7 and above shows that the instrument has high reliability standards (Hair JR, Black, Babin, & Anderson, 2010). Table 5 shows that the Cronbach's Alpha value for the *Science Motivation Questionnaire II* (SMQ II) instrument, has high reliability as the Cronbach's Alpha value was 0.913.

Table 5. Instrument Reliability Value (SMQ II)

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.913	.919	18

Attitude Construct Analysis

Attitude Construct is measured by *Student Attitude towards STEM Survey* (S-STEM) instrument. Item labelled as a C1 to C12 (Table 6). Each statement in the item is measure using an Interval scale from 1 to 10. The mean score value and the standard deviation for each item measuring the construct is shown in Table 6.

Table 6. Min and Standard Deviation Attitude Items

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
C1	8.02	1.964	100
C2	7.56	2.007	100
C3	7.23	2.059	100
C4	6.82	1.731	100
C5	8.20	1.729	100
C6	7.79	1.748	100
C7	7.26	1.796	100
C8	6.22	1.710	100
C9	7.53	2.368	100
C10	6.89	2.374	100
C11	5.04	2.378	100
C12	5.79	2.332	100

The Exploratory Factor Analysis Procedure (EFA) using Principal Component Analysis (PCA) with Varimax Rotation has been carried out on 12 items that measure Construct Attitude. The findings in Table 7 show that the Bartlett Test value is significant (P-Value <0.05). Meanwhile, Measure of Sampling Adequacy by Kaiser-Meyer-Olkin (KMO) is 0.718 which is above the minimum value of 0.6. Both of these achievements (significant Bartlett Test, and KMO value > 0.6) reflect the item is feasible for the next procedure in the Exploration Factor Analysis (EFA) (Awang, 2012; Hoque et al., 2016).

Table 7. Value of KMO and Barlett Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.718
Bartlett's Test of Sphericity	Approx. Chi-Square	491.283
	df	55
	Sig.	0.000

The total variance of the estimated variance (Total Variance Explained) is important to know the percentage of items constructed can measure a study construct. Table 8 shows the total value of the variance estimated by the items used to measure Construct Attitude. Table 8 shows the attitude constructs measured using only four components. The total variance estimates (Total Variance Explained) for Construct Attitude are 72.630%. This value is good and acceptable because it exceeds the minimum requirement of 60% (Awang, 2012; Hoque et al., 2016).

**Table 8. Total Variance Estimates
 Total Variance Explained**

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.449	40.446	40.446	2.683	24.390	24.390
2	1.308	11.890	52.336	2.441	22.191	46.581
3	1.220	11.091	63.427	1.711	15.556	62.137
4	1.012	9.202	72.630	1.154	10.493	72.630

Extraction Method: Principal Component Analysis.

Table 9 shows items selected to measure Construct Attitude. It is noted that all items have Factor Loading exceeds the minimum limit of 0.6 and are acceptable for further analysis.

Table 9. Item to Measure Attitude Construct

Rotated Component Matrix^a				
	Component			
	1	2	3	4
C1		.930		
C2		.919		
C3	.601			
C4				.853
C5	.746			
C6	.618			
C7	.908			
C8				.733
C9			.889	
C10				.827
C11			.789	
C12		.903		
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. ^a				
a. Rotation converged in 5 iterations.				

Table 10 shows the Alpha Cronbach value for attitude constructs. Alpha Cronbach values 0.7 and above indicate that the instrument has high reliability standards (Hair JR et al., 2010). Therefore, the items for the Student Attitude towards the STEM Survey (S-STEM) instrument in this study recorded the Alpha Cronbach value of 0.752 and exceeded 0.7 and showed that the instrument has a high reliability standard.

**Table 10. Reliability of S-STEM Instruments
 Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.752	.783	12

Construct Parental Influence Analysis

Construct Parental Influence was measured using 12 items from the Parental Authority Questionnaire (PAQ) instrument abbreviated as D1 to D12 (Table 11). Each item statement is measured using the Interval Scale of 1 to 10. The mean score and the standard deviation obtained for each item measuring the constructs are shown in Table 11.

Table 11. Min and Standard Deviation of Parental Influence

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
D1	8.84	1.785	100
D2	7.40	2.314	100
D3	8.04	2.010	100
D4	8.74	1.643	100

D5	5.23	2.662	100
D6	7.18	2.236	100
D7	8.06	2.164	100
D8	8.55	1.828	100
D9	7.27	2.313	100
D10	7.51	2.172	100
D11	8.43	1.533	100
D12	8.24	1.700	100

The Exploratory Factor Analysis (EFA) Procedure using the Component Principle Analysis (PCA) with Varimax Rotation has been conducted on 14 items that measure the Influence of Parental Influence. The findings in Table 12 show that the Bartlett Test value is significant (P-Value <0.05). Whereas, Measure of Sampling Adequacy by Kaiser-Meyer-Olkin (KMO) is 0.896 which is above the minimum value of 0.6. Both of these achievements (Significant Bartlett Test, and KMO value > 0.6) reflect data is feasible for further procedures in the Analysis of Exploration Factor (EFA) (Awang, 2012; Hoque et al., 2016).

Table 12. Value of KMO and Barlett Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.896
Bartlett's Test of Sphericity	Approx. Chi-Square	693.919
	df	91
	Sig.	0.000

Table 13 shows the total value of the variance estimated by item items used to measure the Influence of Parents Influence. The reading from Table 13 found that the Influence of Parent Influence was measured using three components. Estimated variance for component 1 is 45.702%, while component 2 is occupied by 9.101% and component 3 estimated variance is 8.828%. The total budget variance for the Parent Influence construct was 63.631%. This value is good and acceptable because it exceeds the minimum requirement of 60% (Awang, 2012; Hoque et al., 2016).

Table 13. Value of Variance Estimated

Total Variance Explained						
Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.566	62.897	63.631	8.398	63.631	63.631

Extraction Method: Principal Component Analysis.

Researchers also want to know which items to choose can measure the Influence of Parents. Table 14 shows the items that measure the influence of Parental Influence. All items D1 to D14 have factor weighting factor (Factor Loading) exceeds the minimum limit 0.6 (Awang, 2012; Hoque et al., 2016). However, D2 items for components 2 and D5 for component 3 need to be removed because only one item represents each component and cannot make further analysis (Hair JR et al., 2010). Therefore, the number of items retained is 12 items and from 1 component.

Table14. Item to Measure Parental Influence Construct

Rotated Component Matrix^a	
	Component
	1
D1	.745
D2	.838

D3	.779
D4	.789
D5	.917
D6	.709
D7	.620
D8	.707
D9	.733
D10	.610
D11	.667
D12	.772
D13	.809
D14	.769
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

The measure of internal reliability of an instrument is estimated through Alpha Cronbach value. Alpha Cronbach values 0.7 and above indicate that the instrument has high reliability standards (Hair JR et al., 2010). Table 15 shows the Alpha Cronbach value for the construct. Items that measure the construct have Alpha Cronbach values exceeding 0.7 and can be applied in this study.

Table 15. Reliability Parent Instrument Authority Questionnaire (PAQ)
Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.918	.922	14

STEM Career Construct Analysis

STEM career constructs are measured using the 12 items selected from Your Future construct in the S-STEM instrument abbreviated as F1 to F12 (Table 16). Each item statement is measured using the Interval Scale between 1 to 10. The mean score and the standard deviation available for each item that measures the constructs are shown in Table 16.

Table 16: Min and Standard deviation of Career Items

Descriptive Statistics			
	Mean	Std. Deviation	Analysis N
F1	4.56	2.610	100
F2	6.67	2.663	100
F3	5.07	2.520	100
F4	5.47	2.414	100
F5	6.07	2.618	100
F6	5.80	2.247	100
F7	5.50	2.468	100
F8	5.35	2.587	100
F9	5.33	2.719	100
F10	5.61	2.331	100
F11	5.93	2.430	100
F12	5.94	2.436	100

The Exploratory Factor Analysis (EFA) Procedure using the Component Principal Analysis (PCA) method with Varimax Rotation was carried out on 12 items that measure the career constructs. The findings in Table 17 show that the Bartlett Test value is significant (P-Value <0.05). At the same time, the measure of Measure of Sampling Adequacy by Kaiser-Meyer-Olkin (KMO) is 0.708 which is above the minimum value of 0.6. Both of these achievements (significant Bartlett Test, and KMO value > 0.6) show that the items are feasible for the next procedure in the Exploration Factor Analysis (EFA) (Awang, 2012; Hoque et al., 2016).

Table 17. Value of KMO and Barlett Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.712
Bartlett's Test of Sphericity	Approx. Chi-Square	219.503
	df	45
	Sig.	.000

Table 18 shows the total value of variance estimated by the items used to measure Career constructs. Reading from Table 18, we find that career constructs are measured using only three components. The Total Variance Explained for the Career constructs of the three components, Component 1 contributed 28.139%, Component 2 contributed 17.901% and Component 3 contributed 14.214%. The total number of variants for Career constructs is 60.254%. This value is good and acceptable because it exceeds the minimum requirement of 60% (Awang, 2012; Hoque et al., 2016).

Table 18. Value of Variance Estimated

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.028	30.275	30.275	3.028	30.275	30.275	2.814	28.139	28.139
2	1.643	16.432	46.708	1.643	16.432	46.708	1.790	17.901	46.040
3	1.355	13.546	59.254	1.355	13.546	59.254	1.421	14.214	60.254

Extraction Method: Principal Component Analysis.

Table 19 shows the items that measure the STEM career constructs. It is found that all items F1 to F12 have factor weighting factor (Factor Loading) exceeds the minimum limit of 0.6 and is acceptable (Awang, 2012; Hoque et al., 2016).

Table 19. Item Measure STEM Career Construct

Rotated Component Matrix^a			
	Component		
	1	2	3
F1	.640		
F2	.687		
F3			.684
F4	.712		
F5	.790		
F6		.723	
F7	.716		

F8		.807	
F9			.717
F10		.788	
F11		.604	
F12			.833
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. ^a			
a. Rotation converged in 4 iterations.			

Internal reliability value of items has been constructed to measure a career construct. The measure of internal reliability of an instrument is estimated through Alpha Cronbach value. Alpha Cronbach values 0.7 and above indicate that the instrument has high reliability standards (Hair JR et al., 2010). Table 20 shows the Alpha Cronbach value for career constructs. All items that measure constructs for Your Future instrument in S-STEM instrument have Alpha Cronbach value exceeding 0.7 and can be applied in this study (Awang, 2012; Hoque et al., 2016).

Table 20. Reliability Value Instrument Your Future constructs in the Instrument S-STEM

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.719	.723	12

Discussion

Each construct can successfully explain STEM career interest population and instruments for measuring STEM-related career interest, also shows consistent measurement for each item and ensures reliability of each construct in measuring the influence of the construct on Stem- related career interest. The results of the study also prove the importance of STEM-related career interest in the learning of Science [i.e. Stem-related career interest is the main focus in the science curriculum (Badri et al., 2016)], and the resulting science curriculum targeted [i.e. the target for the education initiative is to positive effect in students' interest in science and STEM-based careers (KPM, 2015)]. Therefore, this study focusses on the key influences on STEM based carrer interest, which are attitude, motivation and parental influence.

Conclusion

In this study, the presentation will focus on combining 3 instruments by using a few constructs for each instrument, to be adapted to students' learning and the Science curriculum in Malaysia. This instrument is useful to measure attitude, motivation and parental influence in deciding students' inclination to be interested in Science and STEM based careers. The instruments involved are easy to comprehend in relation to the students' learning environment. The instrumen is not only limited for use for students in the Science stream but may be used for other streams of study such as Agricultural Science, Computer Science, Home Economics, Sports Science, Design and Technical studies, as all these streams are related to STEM fields, as outlined in the KSSM (Curriculum Development Centre, 2016a).

References

Awang, Z. (2012). *Research methodology and data analysis*. Penerbit Universiti Teknologi MARA Press.

- Badri, M., Alnuaimi, A., Mohaidat, J., Al Rashedi, A., Yang, G., & Al Mazroui, K. (2016). My science class and expected career choices—a structural equation model of determinants involving Abu Dhabi high school students. *International Journal of STEM Education*, 3(1), 12. <http://doi.org/10.1186/s40594-016-0045-0>
- Bahagian Pembangunan Kurikulum. (2016a). *Panduan Pelaksanaan Sains, Teknologi, Kejuruteraan dan Matematik (STEM) dalam Pengajaran dan Pembelajaran* (Mac). Bahagian Pembangunan Kurikulum.
- Bahagian Pembangunan Kurikulum. (2016b). *Panduan Pelaksanaan Sains, Teknologi, Kejuruteraan dan Matematik dalam Pengajaran dan Pembelajaran*. Kuala Lumpur.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50(2), 248–287. [http://doi.org/10.1016/0749-5978\(91\)90022-L](http://doi.org/10.1016/0749-5978(91)90022-L)
- Bartlett, J. E., Kotlik, J. W., & Chardwick, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, 19(1), 43–49.
- Blankenburg, J. S., Höffler, T. N., & Parchmann, I. (2016). Fostering Today What is Needed Tomorrow: Investigating Students' Interest in Science. *Science Education*, 100(2), 364–391. <http://doi.org/10.1002/sce.21204>
- Bryan, L. A., Moore, T. J., Johnson, C. C., & Roehrig, G. H. (2015). Integrated STEM education. In C. C. Johnson, E. E. Peters-Burton, & T. J. Moore (Eds.), *STEM roadmap: A framework for integration* (pp. 23–37). London: Taylor & Francis.
- Butler, A. C., Marsh, E. J., Slavinsky, J. P., & Baraniuk, R. G. (2014). Integrating Cognitive Science and Technology Improves Learning in a STEM Classroom. *Educational Psychology Review*, 26(2), 331–340. <http://doi.org/10.1007/s10648-014-9256-4>
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. *Educational Research* (Vol. 4). <http://doi.org/10.1017/CBO9781107415324.004>
- Eisner, E. W. (1979). The Three Curricula That All Schools Teach. In E. W. Eisner (Ed.), *The Educational Imagination* (Third, pp. 87–107). New York: Macmillian Publishing.
- Elias, H., Mustafa, S. M. S., Roslan, S., & Noah, S. M. (2010). Examining potential relationships between flow and motivational forces in Malaysian secondary school students. *Procedia - Social and Behavioral Sciences*, 9, 2042–2046. <http://doi.org/10.1016/j.sbspro.2010.12.443>
- Fayer, S., Lacey, A., & Watson, A. (2017). *STEM Occupations : Past , Present , And Future*. U.S. Bureau Of Labor Statistics.
- Förtsch, C., Werner, S., Dorfner, T., von Kotzebue, L., & Neuhaus, B. J. (2016). Effects of Cognitive Activation in Biology Lessons on Students' Situational Interest and Achievement. *Research in Science Education*, 26(5), 1–20. <http://doi.org/10.1007/s11165-016-9517-y>
- Fouad, N. A., & Santana, M. C. (2017). SCCT and Underrepresented Populations in STEM Fields : Moving the Needle. *Journal of Career Assessment*, 25(1), 24–39. <http://doi.org/10.1177/1069072716658324>.
- Hair JR, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson Prentice Hall.
- Hamjah, S. H., Ismail, Z., Rasit, R. M., & Rozali, E. A. (2011). Methods of increasing learning motivation among students. *Procedia - Social and Behavioral Sciences*, 18, 138–147. <http://doi.org/10.1016/j.sbspro.2011.05.021>
- Herrera López, M., Romera Félix, E. M., Ortega Ruiz, R., & Ortiz, O. G. (2016). Influence of social motivation, self-perception of social efficacy and normative adjustment in the peer setting. *Psicothema*, 28(1), 32–39. <http://doi.org/10.7334/psicothema2015.135>
- Hoque, A. S. M. M., & Awang, Z. (2016). The Exploratory Factor Analysis (EFA) of Entrepreneurial Marketing Scale - Development and Validation. *Tourism Conference 20-22 APRIL 2016* (p. 22).
- Ismail, M., Samsudin, M., & Zain, A. (2014). A Multilevel Study on Trends in Malaysian Secondary School Students? Science Attitude: Evidence from TIMSS 2011. *International Journal of Asian*, 4(5), 572–584.
- KPM. (2015). *Annual Report 2015 MALAYSIA EDUCATION BLUEPRINT 2013-2025*. Malaysia.

- KPM. (2013). *Pelan Pembangunan Pendidikan Malaysia 2013 - 2025*. Kementerian Pelajaran Malaysia (Vol. 27).
- Lipnevich, A. A., & Gjicali, K. (2016). Understanding Attitudes In Education. In *Non-cognitive Skills and Factors in Educational Attainment* (pp. 111–127). Sense Publishers.
- Ministry of Science, Technology and Innovation (2015). *Sains dan Inovasi Pemacu Transformasi*.
- Nugent, G., Barker, B., Welch, G., Grandgenett, N., Wu, C., & Nelson, C. (2015). A model of factors contributing to STEM learning and career orientation. *International Journal of Science Education*, 37(7), 1–22. <http://doi.org/10.1080/09500693.2015.1017863>
- Sekaran, U. (2013). *Research Methods for Business A Skill Building Approach*. (J. C. Marshall, Ed.), *Research methods for business* (Fourth, Vol. 65). John Wiley & Sons, Inc. <http://doi.org/10.1017/CBO9781107415324.004>
- Shernoff, D. J., Kelly, S., Tonks, S. M., Anderson, B., Cavanagh, R. F., Sinha, S., & Abdi, B. (2015). Student engagement as a function of environmental complexity in high school classrooms. *Learning and Instruction*, 43, 52–60. <http://doi.org/10.1016/j.learninstruc.2015.12.003>
- Ubale, A. Z., & Abdullah, A. H. (2015). A Relationship between Parental Involvement and Intrinsic Motivation on Learning Islamic Education. *Art and Social Sciences Journal*, 5(7), 325–337. <http://doi.org/10.6007/IJARBSS/v5-i7/1744>
- U.S. Department of Commerce. (2015). *The Competitiveness and Innovative Capacity of the United States*. Department of Commerce (Vol. 1).
- Wiswall, M., Stiefel, L., Schwartz, A. E., & Boccardo, J. (2014). Does attending a STEM high school improve student performance? Evidence from New York City. *Economics of Education Review*, 40, 93–105. <http://doi.org/10.1016/j.econedurev.2014.01.005>
- Wust-Ackermann, P., Randler, C., Vollmer, C., & Itzek-greulich, H. (2016). Learning Achievement and Motivation in an Out-of- School Setting — Visiting Amphibians and Reptiles in a Zoo Is More Effective than a Lesson at School. *Research in Science Education*, (January). <http://doi.org/10.1007/s11165-016-9513-2>

THE EFFECT OF HOME-BASED INTERVENTION PROGRAM ON BLOOD PROFILES AMONG UNDERGRADUATE FEMALE STUDENTS IN IRAQ

^{1,2}Kim Geok Soh, ³Jian Abdullah Noori, ⁴Kim Lam Soh, ⁵Salimah Japar & ⁶Aminuddin Yusof

^{1,6} Faculty of Educational Studies, Universiti Putra Malaysia

²Sports Academy, Universiti Putra Malaysia

³Al-Mustansiriya University, Iraq

^{4,5} Faculty of Medicine and Health Science, Universiti Putra Malaysia

kims@upm.edu.my, jian_noori@yahoo.com, sklam@upm.edu.my, j_salimah@upm.edu.my,
amin@upm.edu.my

ABSTRACT

The aim of this study is to ascertain whether a home-based physical activity and dietary awareness intervention program could improve blood profiles of sedentary undergraduate female students in Iraq. A 12-weeks home-based randomised controlled trial was conducted on 44 undergraduate female students from Soran university, Iraqi. Both experimental (n=22) and control (n=22) groups completed practical tests at baseline, post-test1, and post-test2, but only the experimental group participants received the 12-weeks intervention program. The field tests were used to measure all blood profiles variables. Results showed that the experimental group demonstrated improvement in diastolic systolic blood pressure after undergone 6 weeks post-test intervention program. The reported f value was ($F_{(2, 84)}=-6.636$, $p=.047$, $\eta^2=0.091$). Significant blood profiles results were reported for diastolic blood pressure and blood glucose. However, the significant results were only reported after the subjects had undergone the 12-weeks intervention program. The reported f values were ($F_{(2, 84)}=-7.000$, $p=.007$, $\eta^2=0.163$) and ($F_{(2, 84)}=-16.182$, $p=.003$, $\eta^2=0.188$), respectively. As the conclusion, a home-based physical activity and dietary intervention program can positively influence sedentary undergraduate female students' blood profiles and the benefits can be achieved as early as after 6-weeks.

Keywords: Home-based intervention, blood profiles, undergraduate students, female university students, Iraq

Introduction

The unsuitable conditions which Iraq is currently facing have directly influenced the lifestyle and daily behavior of the peoples especially the women who are not able to enjoy their freedom, economical independence and social activity. They are usually disappointed because they are shunned from the active lifestyle and being discriminated against by the community and men in particular (Madi, 2007). This concern is confirmed by the World Health Organization (WHO)'s reports indicating that the percentages of physically inactive and overweight females in Iraq are 51.3% and 65.1%, respectively (Al-Tamimi, Armstrong, Cowan, & Riley, 2011). Lifestyle and behavioral factors, such as daily physical activity play an important role in prevention of chronic diseases, including cardiovascular disease, diabetes, and obesity (Cooper & Hancock, 2011; Rowlands, Eston, & Ingledeu, 1999; Strong et al., 2005). Hence, being physically active plays an essential role in increasing health and well-being.

A large number of researchers investigated the benefits of physical activity on many parts of the body like the heart, skeletal muscles, bones, blood (for example cholesterol levels), immune system and the nervous system (Cooper & Hancock, 2011; Soroush et al., 2013; Strong, et al., 2005). In order to achieve all these benefits, specific guidelines are recommended to improve physiological variables starting from the minimum amount of physical activity and increasing dietary knowledge (Agriculture & Services, 2010; Committee, 2008). The importance of good diet and physical activity offered through a good intervention program to reduce the rates of disease and death from chronic diseases has been clearly stressed (McGinnis & Foege, 1993). Poor diet and physical inactivity cause 310,000 to 580,000 deaths per year and are major contributors to disabilities that result from diabetes, osteoporosis, obesity,

and stroke (Pribis, Burtnack, McKenzie, & Thayer, 2010). Study by Humairi (2015) revealed that the majority of Iraqi rural women have a weak level of nutrition awareness, which indicated that 55% of them were not educated enough towards dietary behaviour and attitude. In addition, blood pressure, blood glucose and obesity rates among females aged 15 and above in Iraq were reported to be higher as compared to their counterparts in the Eastern Mediterranean Region that was 12.5 vs. 11.6 in blood pressure and 28.7 vs. 29.1 in blood glucose. Report by WHO confirmed that there are close relationships between undesirable blood profiles values with inactive lifestyle and bad dietary behaviour among the Iraqi female (GHO, 2013). The unsafe security situation in Iraq with the low level of the dietary awareness had made it necessary to design an intervention program that can be appropriate with the Iraqi daily life where it can be carried out safely at home.

Good intervention program recommended usually consisted of combination physical activity and diet. Training program with moderate intensity alone cannot be effective unless it combines with diet to treat overweight and obese individuals. However, there is still a need for further investigation to determine the effects of such interventions on the blood profiles of the individuals who are living a sedentary life, especially intervention with combination of physical activity and dietary awareness tailored to be done at home as a result of unsecure and unsafe outside environment for young female in Iraq. Therefore, the researchers designed a home-based intervention with combination of physical activity and dietary awareness program to find out its effectiveness to improve blood profiles among undergraduate female students in Soran University, Iraq.

Methodology

Population and Sampling

A 12-weeks randomised controlled trial collecting data at three time points (baseline pre test; post-test1; post-test2). The study was approved by Research Ethics Committee of University Putra Malaysia, Malaysia and the scientific committee in the college of Education in Soran University located in Kurdistan Regional, Iraq. The target population of the present study was the non-sport freshman female university students in Iraq. Soran university was randomly selected from 14 universities in the Northern Region of Iraq by simple random sampling, and Education faculty was selected out of the five Colleges of Soran University for the academic year 2014-2015. The total population freshmen were 160 and written consents were obtained from all participants prior to the study. Healthy undergraduate female students aged 18- 22 years old and free from any disease, not associated with any medication or treatment, not pregnant, and willing and able to adhere to the physical activity program and nutrition knowledge sections were volunteered to participate in this study. In order to ensure that the respondents were not really active, they were asked to answer the physical activity questionnaire of the TTM model (O'Connor, 1994). Only 44 of the population were reported not really active and then they were assigned randomly into two groups which were experiment group (n=22) and control group (n=22).

Intervention

The intervention program for the undergraduate female students in this study included combination of physical activities and dietary awareness for 12-weeks. The students were required to practise some of the specific physical activities adapted from well-known physical activity guidelines (Committee, 2008). Specifically, the 2008 Physical Activity Guidelines recommend 150 minutes of moderate and/or 75 minutes of vigorous physical activity each week to reduce risk of obesity, cardiovascular diseases (CVD) and type II diabetes (Hamilton, Healy, Dunstan, Zderic, & Owen, 2008). The students were asked to practice five days a week. The exercises intensity and distance were increased progressively from week 1 to week 12 (Committee, 2008). While, for dietary awareness, the students attended a small sections of dietary awareness two times a week to increase the knowledge of the importance of good diet during their free time through the 12-weeks duration of the experiment as suggested. The content of the food awareness program are arrange according to the suggestion by Agriculture & Services (2010).

Blood Profiles Measures

A reliable and valid field tests were used to measure each blood profiles variable with equipment suitable for each test. The blood profiles included in this study were blood pressure (BP), blood cholesterol (BCH), and blood glucose (BG). BP was measured by an automatic upper arm BP monitor (Model AJ 701 from Japan), while BCH was measured by Accutrend GCT meter (Roche Diagnostics from Germany) and BG was measured by ACCU-CHEK performa (Blood Glucose meter from USA). Prior to the tests, all instruments were carefully calibrated to ensure the reliability.

Statistical Analysis

Sample t-test was used to compare the mean scores of the conducted test between the two groups in pre-test. In order to show the differences between the individuals in each group (experimental, control) at the pre-test, the mean and standard deviation was counted for the physiological variables to insure that both group were start in the same level. In addition, repeated measures ANOVA were used to show the interaction between group and test. If the results were significant, Bonferroni post hoc test will be applied to compare the mean scores.

Research Finding

Table 1 showed the blood profiles score for the experimental and control groups for baseline pre-test, post test1, and post test2. Based on the results, all the experimental group subjects were reported to improve their blood profiles after they undergone 6-weeks intervention program (baseline pre test and post test1), and continue to improve after 6 to 12-weeks intervention program (post test1 and post test2). Meanwhile, for the control group, their scores were reported to be not consistent.

Table 1. Blood Profiles Scores for Experimental and Control Group

Blood Profiles	Experimental group		Control group	
	Mean	Std. Deviation	Mean	Std. Deviation
Diastolic BP. Pre	76.32	6.972	75.91	6.171
Diastolic BP. Post1	74.23	9.512	78.73	7.166
Diastolic BP. Post2	73.18	9.359	80.18	6.666
Systolic BP. Pre	110.68	11.639	110.82	9.08
Systolic BP. Post1	108.45	8.809	115.09	12.409
Systolic BP. Post2	108.32	12.264	113.09	8.199
Blood Cholesterol Pre	159.91	27.395	159.86	25.991
Blood Cholesterol Post1	145.55	18.163	146.91	19.081
Blood Cholesterol Post2	140.82	17.759	149.73	21.872
Blood Glucose Pre	109.05	20.006	113.41	18.22
Blood Glucose Post1	103.73	27.459	112.14	18.729
Blood Glucose Post2	96.95	13.855	113.14	20.046

Note: BP= blood pressure

The results of repeated measures ANOVA on blood profiles found a significant difference in systolic blood pressure after undergone 6-weeks post-test intervention program. The reported f value was ($F_{(2, 84)}=6.636$, $p=.047$, $\eta^2=0.091$). However, after the 12-weeks post-test2, the result for the systolic blood pressure was found to be not significant. Other significant blood profiles results were reported for diastolic blood pressure and blood glucose. The significant results only reported after the subjects' undergone 12-weeks intervention program. The reported f values were ($F_{(2, 84)}=7.000$, $p=.007$, $\eta^2=0.163$) and ($F_{(2, 84)}=16.182$, $p=.003$, $\eta^2=0.188$), respectively. No significant different were found for both post-test and post-test2 results for other blood profiles.

Therefore, it can be concluded that the home-based intervention was effective on the improvement of the blood profiles among sedentary undergraduate female students after 6-weeks for systolic blood pressure. This result is a good indicator to prove that the benefit of combination of physical activities and dietary awareness intervention program can be achieved as earlier as after 6-weeks. In addition, if the subjects continue their program for 12-weeks, more benefit will be gained especially in improving the diastolic blood pressure and blood glucose among the subjects (Table 2). This showed the combination of physical activities and dietary awareness intervention program is effective in improving blood profiles among sedentary undergraduate female students in Soran University, Iraq.

Table 1: Blood Profiles scores for experimental and control group

Blood Profiles	Experimental group		Control group	
	Mean	Std. Deviation	Mean	Std. Deviation
Diastolic BP. Pre	76.32	6.972	75.91	6.171
Diastolic BP. Post1	74.23	9.512	78.73	7.166
Diastolic BP. Post2	73.18	9.359	80.18	6.666
Systolic BP. Pre	110.68	11.639	110.82	9.08
Systolic BP. Post1	108.45	8.809	115.09	12.409
Systolic BP. Post2	108.32	12.264	113.09	8.199
Blood Cholesterol Pre	159.91	27.395	159.86	25.991
Blood Cholesterol Post1	145.55	18.163	146.91	19.081
Blood Cholesterol Post2	140.82	17.759	149.73	21.872
Blood Glucose Pre	109.05	20.006	113.41	18.22
Blood Glucose Post1	103.73	27.459	112.14	18.729
Blood Glucose Post2	96.95	13.855	113.14	20.046

Note: BP= blood pressure

Discussion

Home-based interventions can improve blood profiles for sedentary adult population from age 18-years and above (Goodpaster et al., 2010; Järvelä et al., 2012), and is especially effective when it includes combination of physical activity and dietary awareness program (Artinian et al., 2010; Loprinzi, Smit, & Mahoney, 2014; Söderlund, Fischer, & Johansson, 2009). Similar finding was also found in this study where the 12-weeks home-based physical activity and dietary awareness combination intervention program proven to improve blood pressure, blood cholesterol, and blood glucose among the sedentary female undergraduate in Iraq. Since the surrounding condition in Iraq is less secure, designing an intervention program that can be easily carried out at home is a challenged. Besides providing the subjects with some useful information pertaining healthy diet, the simple exercises design in this intervention was also easy to be carried out at home with least supervision. This had made the sedentary students who participate in this study feel excited to practice and apply the exercises and dietary awareness knowledge at home. So when they start to exercise regularly, their blood profiles were reported to improve better as compared to the control group (as shown in Table 1). The subjects' diastolic BP, systolic BP, blood cholesterol and blood glucose level were reported to improve better as compared to the control groups, which shown inconsistent results. The effectiveness of the combination intervention program can be seen as earliest as after 6-weeks, where the systolic blood pressure was reported to reduce significantly. This is in line with the statement given by Wiklund et al. (2014), where short-term of 6-weeks regular exercise was found to improve blood profiles even in the absence of weight loss in sedentary women.

On the other hand, when the intervention program is continue up to 12-weeks, more benefit were reported in term of blood profiles. Based on this study results, diastolic blood pressure and blood glucose were reported to be significantly improved. The plausible explanation as the students

significantly improved their blood profile was that they were previously sedentary (Wiklund, et al., 2014). Hence, when they start to be active and care about their diet, their blood profile can be better and improved faster. Normally, physical activity with dietary intervention program can improve blood profile after practicing for at least 10 weeks (Danielsen, Svendsen, Mæhlum, & Sundgot-Borgen, 2013). However, results from this study showed that intervention program that was tailored made to suit the Iraqi sedentary female undergraduate took lesser time to show a significant improvement. The similar finding were also reported by other studies, where significant improvement were reported when the intervention program was simple and design based on the participants' daily life requirements (Järvelä, et al., 2012; McMurray et al., 2002). In conclusion, the health benefits achieved when combining physical activity with dietary awareness intervention program in preventing many chronic diseases are well established (Azevedo, Luiz, Rocco, & Conde, 2012; George et al., 2011). The home-based intervention program design in this study was found to be effective in improving the blood profiles variables among the sedentary undergraduate female in Soran University, Iraq. Hence, targeting positive change in sedentary behaviour should be a key component of future home-based intervention programs. Effective home-based physical activity and dietary awareness intervention program can positively improved sedentary undergraduate female students' blood profiles as early as after 6-weeks.

References

- Agriculture, U. S. D. o., & Services, U. S. D. o. H. a. H. (2010). *Dietary Guidelines for Americans, 2010*. Washington, DC: U.S. Government Printing Office Retrieved from www.dietaryguidelines.gov
- Al-Tamimi, Y. A., Armstrong, T., Cowan, M., & Riley, L. (2011). Noncommunicable Diseases Country Profiles 2011. France: World Health Organization.
- Artinian, N. T., Fletcher, G. F., Mozaffarian, D., Kris-Etherton, P., Van Horn, L., Lichtenstein, A. H., et al. (2010). Interventions to promote physical activity and dietary lifestyle changes for cardiovascular risk factor reduction in adults a scientific statement from the american heart association. *Circulation Journal*, 122(4), 406-441.
- Azevedo, K., Luiz, R., Rocco, P., & Conde, M. (2012). Vital capacity and inspiratory capacity as additional parameters to evaluate bronchodilator response in asthmatic patients: A cross sectional study. *BMC Pulmonary Medicine Journal*, 12(1), 49.
- Bandini, L. G., Anderson, S. E., Curtin, C., Cermak, S., Evans, E. W., Scampini, R., et al. (2010). Food selectivity in children with autism spectrum disorders and typically developing children. *The Journal of Pediatrics*, 157(2), 259-264.
- Committee, P. A. G. A. (2008). Physical activity guidelines for Americans. *Washington, DC: US Department of Health and Human Services* 15-34.
- Cooper, K., & Hancock, C. (2011). Review: The Benefits of Physical Activity for Health and Well-being. UK: C3 Collaborating for Health.
- Danielsen, K. K., Svendsen, M., Mæhlum, S., & Sundgot-Borgen, J. (2013). Changes in body composition, cardiovascular disease risk factors, and eating behavior after an intensive lifestyle intervention with high volume of physical activity in severely obese subjects: A prospective clinical controlled trial. *Journal of Obesity*, 2013, 12. doi: 10.1155/2013/325464
- George, S. M., Irwin, M. L., Smith, A. W., Neuhaus, M. L., Reedy, J., McTiernan, A., et al. (2011). Postdiagnosis diet quality, the combination of diet quality and recreational physical activity, and prognosis after early-stage breast cancer. *Cancer Causes & Control Journal*, 22(4), 589-598.
- GHO, G. H. O. (2013). Iraq: Country Profiles. world health organization.
- Goodpaster, B. H., DeLany, J. P., Otto, A. D., Kuller, L., Vockley, J., South-Paul, J. E., et al. (2010). Effects of diet and physical activity interventions on weight loss and cardiometabolic risk factors in severely obese adults a randomized trial. *Jama Journal*, 304(16), 1795-1802.
- Hamilton, M. T., Healy, G. N., Dunstan, D. W., Zderic, T. W., & Owen, N. (2008). Too little exercise and too much sitting: Inactivity physiology and the need for new recommendations on sedentary behavior. *Current Cardiovascular Risk Reports Journal*, 2(4), 292-298.
- Humairi, A. (2015). Nutrition awareness of rural women and it's relationship with some personal and social – economical factors. *Journal of The University of Babylon*, 23(1), 15.

- Järvelä, L. S., Kempainen, J., Niinikoski, H., Hannukainen, J. C., Lähteenmäki, P. M., Kapanen, J., et al. (2012). Effects of a home-based exercise program on metabolic risk factors and fitness in long-term survivors of childhood acute lymphoblastic leukemia. *Pediatric Blood & Cancer Journal*, 59(1), 155-160.
- Loprinzi, P. D., Smit, E., & Mahoney, S. (2014). Physical activity and dietary behavior in US adults and their combined influence on health. *Perceptual and Motor Skills Journal*, 89(22), 190-198.
- Madi, A. (2007). *Is there a woman's role in Iraq after the change?* (1st ed. Vol. 4). Iraq, Baghdad: Civilized dialogue Foundation.
- McGinnis, J. M., & Foege, W. H. (1993). Actual causes of death in the United States. *JAMA: The Journal of the American Medical Association*, 270(18), 2207-2212.
- Mcmurray, R. G., Harrell, J. S., Bangdiwala, S. I., Bradley, C. B., Deng, S., & Levine, A. (2002). A school-based intervention can reduce body fat and blood pressure in young adolescents. *Journal of Adolescent Health*, 31(2), 125-132.
- O'Connor, M. J. (1994). Exercise promotion in physical education: Application of the transtheoretical model. *Journal of Teaching in Physical Education*, 14, 2-2.
- Pribis, P., Burtneck, C. A., McKenzie, S. O., & Thayer, J. (2010). Trends in body fat, body mass index and physical fitness among male and female college students. *Nutrients Journal*, 2(10), 1075-1085.
- Rowlands, A. V., Eston, R. G., & Ingledew, D. K. (1999). Relationship between activity levels, aerobic fitness, and body fat in 8-to 10-yr-old children. *Journal of Applied Physiology*, 86(4), 1428-1435.
- Söderlund, A., Fischer, A., & Johansson, T. (2009). Physical activity, diet and behaviour modification in the treatment of overweight and obese adults: A systematic review. *Perspectives in Public Health Journal*, 129(3), 132-142.
- Soroush, A., Der Ananian, C., Ainsworth, B. E., Belyea, M., Poortvliet, E., Swan, P. D., et al. (2013). Effects of a 6-month walking study on blood pressure and cardiorespiratory fitness in US and Swedish adults: ASUKI step study. *Asian Journal of Sports Medicine*, 4(2), 114.
- Strong, Malina, Blimkie, Daniels, Dishman, Gutin, et al. (2005). Evidence based physical activity for school-age youth. *The Journal of Pediatrics*, 146(6), 732-737.
- Wiklund, P., Alen, M., Munukka, E., Cheng, S. M., Yu, B., Pekkala, S., et al. (2014). Metabolic response to 6-week aerobic exercise training and dieting in previously sedentary overweight and obese pre-menopausal women: A randomized trial. *Journal of Sport and Health Science*, 3(3), 217-224.

TEACHERS' ROLE IN PREPARING AN ULUL ALBAB GENERATION

Nor Adzimah Subirin, Fathiyah Mohd Fakhruddin, Nor Hayati Alwi, Umi Kalthom Abdul Manaf & Siti Suria Salim

Faculty of Educational Studies, Universiti Putra Malaysia

noradzimahd@gmail.com, fathiyah@upm.edu.my, umizat90@upm.edu.my,
ssuria@upm.edu.my

ABSTRACT

Since Ulul Albab program has been introduced in several government schools few years ago, it has become a craze among the society and the demand is increasing because of its uniqueness and the goals it promotes. After analysing the concept of Ulul Albab and its characteristics, however, a huge task on the shoulders of the teachers is needed to carry out the programme. Ulul Albab as defined by many scholars is a term given to gifted individuals who possess wisdom, intelligence and knowledge based on belief and devotion to Allah (SWT) and this is not an ordinary term. The Ulul Albab program is established by taking Ulul Albab in the Al-Quran as the basis for the curriculum, therefore, it requires factors that may contribute to the achievement of an Ulul Albab generation to be analysed and examined continuously. Teachers as the key implementer of the program seem to have a big role and responsibility towards achieving the goals and objectives. Various studies have shown that there is a significant relationship between teachers' effectiveness and students' achievement. Specifically, this special program requires special trained teachers to run the program effectively. It is not too much to say then, if we identify teachers as the mediator of Ulul Albab generation. By saying this, teachers' professional development programme for Ulul Albab pre-service and in-service teachers have become vital to be developed in order to enhance the quality of the Ulul Albab teachers in order to effectively run the programme. These quality teachers will then become an effective role-model for the Ulul Albab students.

Keywords: Ulul Albab concept, Ulul Albab generation, teachers' roles, Ulul Albab teachers' professional development

Introduction

Indeed, in the creation of heavens and earth and the alternation of the night and the day are signs for Ulul Albab. Who remember Allah while standing or sitting or [lying] on their sides and give thought to the creation of the heavens and the earth, [saying], "Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; then protect us from the punishment of the Fire. [Quran, 3:190-191]. Very precised and firm verses which are referring to the people who not only have brain, but are gifted in knowing how to put it to correct use. The term Ulul Albab is mentioned 16 times in various places in the Al-Quran. In Malaysia context, the term Ulul Albab is *popularized* to the general public since 1996 when it has been transformed into a school program. At first, the concept of Ulul Albab which has been assimilated into the Imtiaz learning curriculum, bring about an inviolable effort to deliver a group of intelligent people who can memorize 30 components (juzuk) of the Al-Qur'an, understand its meaning, possess a wide spectrum of general knowledge, have the ability to cogitate and observe the creations of Allah SWT through the eyes, heart and incisive mind and to take cognizance from it (cited from Rohaizan et al., 2014).

Wan Ahmad Zakry (2007) claimed that the secondary school level institute of learning carries the challenge to deliver human capital that can grandiose the al-Qur'an and the al-Sunnah as the pillars of life. Especially nowadays the young generation who are too affected with world globalization, will not see al-Quran as an important book of guidance except to their parents whose concerns are to what is happening in the Muslim society today. According to Mohd. Kamal Hassan (2010), a sincere and deep study of the Holy Book is urgently needed today than ever before, especially by the Muslim elites and policy-makers in Muslim countries, Malaysia included. Thus, Ulul Albab program which was projected by Dato' Seri Idris bin Jusoh on 31 Mei 1996, is an educational program that aims to give birth to this Albab professional experts, and entrepreneurs technocrats well versed in the field of religion-based al-Quran and Sunnah as Ulul Albab generation. Currently there are four MARA Junior

Science College (MRSM) schools fetching in the Ulul Albab program into their school system, namely, MRSM Gemencheh, MRSM Kota Putra, MRSM Kepala Batas and MRSM Sungai Besar, and there are five more coming in the plan (Shahrulazli, 2017). The concept of virtuosity (a.k.a the Ulul Albab Concept) which has been vociferated and hailed, has been acknowledged by students and teachers of its existence and has been transformed into the lessons, learning and all the activities that have been planned and implemented (Rohaizan, Zulkifli, Abdulhakim & Syed, 2014). In fact, Ulul Albab program as a special educational program which is based on the integration between the existing programs (Science streaming) and the religious school program including Tahfiz Al-Quran (M.Sharil & Sidek, 2013) which was implemented in 2009 has produced 1,164 huffaz so far according to recent news in eWarta MARA (2017). The MRSM Ulul Albab education program is designed to produce professional experts, entrepreneurs and technocrats that are well versed in the field of religion-based Al-Quran and Sunnah to be known as Ulul Albab generation (Aminuddeen, 2012). In other words, a balanced individuals who have intellect and wisdom based on Quran and Sunnah is the aim of this program which is clearly stated in the objectives of the program as the following:

- Maternity generation al-Quran the believers, devoted, knowledgeable, noble, skilled, responsible and master the skills and academic and soft skill can devote to religion, nation and country.
- Maternity students who are backgrounder with Science and Tahfiz al-Quran who mastered the skills "soft skills" to be eligible for the study of professional and technical fields everywhere famous universities throughout the world.
- Maternity students who can memorize al-Quran 30 juzuk in 3-year period of study in MJSC system and foster scientific culture of al-Quran with ICT as a value added approach.

(cited from M.Sharil & Sidek, 2013)

In addition, Arniyuzie (2015) reported that, there are three other secondary schools under KPM also fetching the Ulul Albab Tahfiz Model. *Bernama* report said the implementation of the Ulul Albab Tahfiz Model (TMUA) under the supervision of the Ministry of Education is expected to produce 10,920 students who are able to memorize all 30 chapters of the Quran by 2021 (theSundayly, 2014).

Concept of Ulul Albab

A concept is an abstract idea representing the fundamental characteristics of what it represents. It is a criterial attribute of object or an event. Ulul Albab's concept is a concept of ideal people according to Al-Quran. It is a notion of thought developed from the main characteristics of 16 ayahs in the Al-Quran as vital reference model in every action (Wan Mariana & Mohd. Shafiee, 2012). Meaning, the term of Ulul Albab that has been mentioned 16 times in the Al-Quran designates the specific criteria that attributes to Ulul Albab people. In order to understand the concept of Ulul Albab, it needs to examine the respective ayah accordingly. Among the ayah consisting the term of Ulul Albab in Al-Quran are such as Surah Al-Baqarah (2:179), Surah Al-Baqarah (2:197) Do good deeds, take a provision and have Taqwa Understand, and piety and righteous (Taqwa); Surah Al-Baqarah (2:269) Granted Hikmah (wisdom) from Allah and act upon it; Surah Ali Imran (3:7) Firmly grounded in knowledge; Surah Ali Imran (3:190-191) Contemplate, reflect and deeply thinking in the creation of the heaven and the earth, and in the alternation of night and day; Surah al-Maaidah (5:100) Always choose to be good and acknowledge the differences between good and evil ; Surah Yusof (12:111) Advert/ pay heed to the history of previous people; Surah Ar-Ra'd (13:19) Perceive and belief the truth of Quran,; Surah Ibrahim (14:52) Perceived Quran as a book of reminder and knowledge to acknowledge the greatness of Allah ; Surah Saad (38:29) Get a lesson from Allah's Signs and Verses and understand it well, (38:43) Granted mercy and mnemonic if be patient; Surah Az-Zumar (39:9) Perform Qilamulail as daily routine to get blessing from Allah, Surah Az-Zumar (39:18) Good listener and able to choose the best (Allah has guided), Surah Az-Zumar 39:32) Good observer and pay heed to the creation of the world; Surah al-Ghafir (40:54) Granted Hidayah (guidance/cue) and reminder/sign; Surah al-Talaq (65:10) A true believer and fear of Allah's torment.

The concept of Ulul Albab, therefore, open to several definitions that has led to various interpretation. However, many mufassirun (commentators of Al-Quran), scholars and thinkers agree that Ulul Albab is people with intelligence or people who understand, referring to a group of people who have sound intellect and mature understanding which enable them to think perfectly. The intellect that is pure and uncontaminated, as in the minds of the Ulul Albab according to Mohd. Kamal Hassan (2010), is ever in need of consciousness of taqwa to Allah (SWT) the deep consciousness of the presence and sovereignty of Allah (SWT) such that the believer is always mindful lest any of his/her actions, thoughts or behaviour might incur His displeasure or wart. He added, Ulul Albab as the “possessors of sound intellect referring to the production and growth of more Islamic intellectuals, scholars, scientists, professionals, political leaders and educated classes who combine or unify scientific and worldly knowledge with religious values, thinking and contemplation (fikir and tafakkur) with spiritual remembrance (dhikr) of Allah (SWT), worldly means with other worldly ends, reason with Divine revelation, professionalism with taqwa (that deep ethical consciousness of the pleasure and displeasure of Allah [SWT]), and are not afflicted with the diseases of the spiritual heart which al-Ghazali called al-muhlsh (destructive elements). They are the intellectuals who are given wisdom and knowledge and wisely use the ability they have to sustain the life for the will of Allah. Al-Qaradawi (1996) also stated that Ulul Albab refers to those who deserve to be given wisdom (“ikmah) by Allah (SWT) because they know where to put things in their proper places and to give everything their rights (as cited from Mohd. Kamal Hassan, 2010). Accordingly, Quraisy Shihab (2002) and Khudori Soleh (2009) also admitted that Ulul Albab is a specific term in the Quran that mentions about a group of intellectual people. An intellectual is not only know how to generate idea but know how to make sense the idea for the benefits of all. Within Islamic society, Sabri (2009) had argued that, an intellectual person is not only able to develop analytic and normative ideas, even more, acknowledging the Islamic teaching by practicing the true Muslim life. As he said, Quran has described special characteristics of Ulul Albab generation which is beyond that specified definition.

As the concept of Ulul Albab, whereby, has been explained by various scholars from different fields, therefore, it is somehow interesting on how Zulkifli (2016) describes Ulul Albab based on the combination of four concepts of Ulul Albab that has been mentioned in surah Ali Imran verse 190-191 as the following;

إِنَّ فِي خَلْقِ السَّمَوَاتِ وَالْأَرْضِ وَأَخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لَآيَاتٍ لِّأُولِي الْأَلْبَابِ (١٩٠) الَّذِينَ يَذْكُرُونَ اللَّهَ قِيَمًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ وَيَتَفَكَّرُونَ فِي خَلْقِ السَّمَوَاتِ وَالْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَذَا بَطْلًا سُبْحَانَكَ فَقِنَا عَذَابَ النَّارِ

1. Zikrullah: remembrance of Allah
 - الَّذِينَ يَذْكُرُونَ اللَّهَ قِيَمًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ
 - Who remember Allah while standing or sitting or [lying] on their sides
2. Tafakkur: contemplate-scientific thought
 - وَيَتَفَكَّرُونَ فِي خَلْقِ السَّمَوَاتِ وَالْأَرْضِ
 - and give thought to the creation of the heavens and the earth
3. Itiraf: recognize the Almighty and the Greatness of Allah
 - رَبَّنَا مَا خَلَقْتَ هَذَا بَطْلًا
 - Our Lord, You did not create this aimlessly
4. Ma'rifatullah: praise Him as the only Creator of the universe-piety/fear of Allah
 - سُبْحَانَكَ فَقِنَا عَذَابَ النَّارِ
 - exalted are You [above such a thing]; then protect us from the punishment of the Fire.

The criteria given in the Al-Quran clearly showing that Ulul Albab generation is constructed on the combination of attribution of scientific rational thoughts and spiritually beliefs and fear Allah which then, lead them to observe their moral conduct for the sake of getting blessings from Allah. This is clearly a sign of intellectual; a devotee of ideas, knowledge and values. Therefore, they are a generation that are in high regard for to our present society (Sabri, 2009), and this is the reason of introducing Ulul Abab program into the Malaysia system of education. Ulul Albab program is developed to accomplish the mission of producing Ulul Albab generation.

The Role of Teachers

To accomplish the mission of producing Ulul Albab generation, teachers are the most crucial factors that contribute to the accomplishment. One of the key elements that help in the building of students' characters and holistic development are their teachers. As according to Al-Ghazali, teachers are indispensable to society (as cited from Nabil, 2000). He proposes a professional code of ethics for teachers, who, he says, should practice what they preach, and be an example to their pupils and to people in general (ibid). Many factors contribute to a student's academic performance, including individual characteristics, and various researches suggest that, among school-related factors, teachers matter most. In Islamic perspective, teachers have been given important mandate in educating their community. Their role is not limited on teaching and coaching young generation in their studies and skills, but beyond that, they should act as role-model and cultivate Islamic moral values into their students (Abdul Ghafur & Ghulam, 1980). Meaning, although certified-qualification is a crucial element for a teacher to be recognized as professional, however, dedication toward responsibility, moral outstanding and good character are reliable to bring the greatest impact on students' holistic development. Fathiyah and Asmawati (2011), are emphasizing on the role of teachers as to develop excellent generation. Teachers' role is not limited to conveying knowledge and information but also to develop students holistically based on the belief and devotion to Allah s.w.t. According to Abdul Haleem (1990), teachers at early age of Islam, starting from the time of Prophet Muhammad s.a.w, the Sahabah and the Tabiin, understood well their roles and responsibilities as a teacher and were able to deliver the knowledge accordingly merely for the sake of the responsibility that they uphold. Their dedication is magnificent. As a result, they are able to produce excellent, holistic and balanced students in all aspects and in all fields.

However, as time goes by, teachers' performance and quality has dropped. One of the factors according to him is teachers are lazy to think and only copying others which eventually lead to creativity stagnant, inactive and declining, whereby, the truth is becoming hard to be seen. Besides that, learning through memorizing without understanding is a big mistake. Second factor, he mentioned that teachers fail in upgrading themselves to technical and scientific knowledge even though it has been practiced by the great Muslim scholars and thinkers at the Golden age of Islam (p.167-168). Muslim teachers at that time not only are experts in one field of knowledge but many. For example, Ibn Sina and Al-Razi, they were both teachers and doctors. They were the experts in philosophy, mathematics and music. As a result, their competence are reflected in their personality which later attracted students of all disciplines to seek knowledge from them. It had shown that they were effective teachers who were able to transform students to be good as them.

Teachers of Ulul Albab Program

Any program will not be able to run alone without any support and effective strategy. According to Arniyuzie (2015), an effective strategy determines the success of Ulul Albab program implementation. Besides, this success attains through the support and collaboration among administrator, teachers, students, parents and stakeholders (Abdullah Md Zain, 2007; Nor Hasnida & Effendi, 2010; Rohaizan et al., 2014; Arniyuzie, 2015). Eventually, Muhammad Abdillah et al. (2014) and Rohaizan et al. (2014) agreed that the main factors contributed to the success are the teachers and the students who deeply understand application of Ulul Albab concept to the teaching and learning process. Rohaizan et.al (2014) in their research on Imtiaz Schools found that:

“the students' and teachers' understanding and appreciation towards the school's mission and vision was clear... The process of assessing students, co-curriculum activities and involvement with the community has become the catalyst to the success and achievement of the targeted objectives”.

Even though the above claim has shown that teachers and students clearly understood the vision and mission of Ulul Albab program, however, research done by Muhammad Abdullah et al (2014) and Umi et al. (2014) in separate MRSM Ulul Albab suggested that the quality of the teachers need to be

improved. Hence, by understanding the concept of Ulul Albab without proper guideline on how to make it happen will lead to uneven achievement.

Teachers are more important than just the title they possess. Their existence beyond merely as a teacher who shares knowledge, but if they successfully show significant role to their students, a huge impact will be seen through their students' achievement. According to Nor Hayati (2015) teachers are among the key implementers whom the success of any curriculum/program depends on. Many have heard about prestigious schools in Malaysia such as Sekolah Tun Fatimah (STF), Malay College Kuala Kangsar (MCKK), Kolej Islam Sultan Alam Shah (KISAS), and Kolej Islam Sultan Alam Shah (KISAS), do not only have competent students but their teachers are among the best teachers in Malaysia. This phenomenon shows that in having qualified teachers seems to be one priority that should be a concern as early as in designing the curriculum. Their excellence and personage especially in academic fields will be reflected upon their students' academic achievement. Teachers' of Ulul Albab program on other hand, also will surely need to acquire certain qualities. Nor Hayati (2015) claimed that to produce a group of individuals with strong foundation of al-Quran, the teachers of these individuals should be possessing extensive and diverse knowledge as well as able to think and observe Allah's creation through sharp mind and heart and eventually learn from it. She further added, "Those teachers must be able and willing to develop students holistically based on the belief and devotion to Allah s.w.t.". Their manners should be in accordance to Islamic moral values. In other word, teachers of Ulul Albab should also possess the quality of Ulul Albab because their personality will be reflected upon their students. According to Nor Hayati (2002, 2005), those qualities will enable them to be a good role model of a well-balanced and harmonious person based on belief and devotion to Allah s.w.t. Apart from that, they must also be the experts of their subject matter and pedagogical content knowledge in their field of study.

Developing holistic and balanced students who are able to be harmonious based on belief and devotion to Allah s.w.t, students need to be guided, facilitated, and supervised according to Islamic guidance. According to Yusutria (2017), factors which contribute to the holistic and balanced development of human being will be the educational system which is based on Islam and Allah s.w.t, and focuses on the study of the al-Quran and personality development. These can only be done if the teachers are trained according to the al-Quran perception. In other words, the system needs holistic and well-balanced teachers who are Islamic in all aspects. This will make them deliver the knowledge that makes students recognize and acknowledge the proper place of Allah s.w.t as compared to His other creations (Ismail, 1998; Nor Hayati, 2002). In order to develop teachers of those qualities, teachers' professional development programs for Ulul Albab pre-service and in-service teachers become vital. These programs should be designed based on the Islamic world view (Kamal, 2010, Nor Hayati, 2015).

Professional Development Program for Teachers of Ulul Albab

The term "professional development" means a comprehensive, sustained, and intensive approach to improving teachers and principals' effectiveness in raising student achievement (NCLB, 2001; cited from Sixel, 2013). This term mainly refers to teachers' professional development, whereby, teachers' education is needed to be refined and revised to attain the best result. Teacher education is ineffective if the teachers in that program fail to transform or change themselves to bring great influence on their students. Al-Afendi and Ahmed (1980) had stated that, a curriculum and the text books that had been designed based on Islamic curriculum, will not be able to determine the way knowledge delivered is Islamic either in practice or spirit if the teachers of that curriculum do not follow the teaching of Islam and fail to understand the correct method of teaching according to the objective of the curriculum itself. According to Guskey (2002), "professional development programs are systematic efforts to bring about change in classroom practices of teachers, in their attitudes and beliefs, and in the learning outcomes of students". He argued, "Educators at all levels must be continuous learners throughout the entire span of their professional careers" (p. 19). It is the aim of teacher education, which is to provide relevant education for teachers. It clearly can be understood that, professional development is aimed to generate qualified teachers, as there is evidence showing

that quality professional learning is directly linked to student learning (Reeves, 2010; Guskey, 2003; Fullan, 1993 and 2003; Hirsch and Killion, 2007; Danielson, 2009; Zepeda, 2008; Yoon et al., 2008; M.U.Farooq, 2016).

Prophet Muhammad s.a.w. is the best example of an excellence teacher. He also went through the process of learning and accomplished his professional development as prophet and teacher through wahyu (revelation) delivered by Jibrail a.s. from Allah, the Almighty. He went into specific process to become a prophet. Yet, it made him into perfect teacher and an exemplar for all humankind. Then, his companions were the best followers and also the best teachers after him, which later make them the best people after Prophet s.a.w. They also went through specific professional development and Prophet s.a.w, as their lecturer and facilitator. Next, Muslim Ummah of the Golden Age of Islam has created the most outstanding civilization in the world. The achievement was also based on specific professional development that they have had at that time. History has stated that they have the best university in the world which produce excellent thinkers, scholars, doctors, engineers, philosophers, and so forth, which brought huge changes in western civilization indeed. Therefore, the Ulu Albab generation needs teachers who have attended specific professional development, too, that should be closely attached to the meaning of Ulul Albab in order to enable them to become the best teacher for the Uul Albab generation. An Ulul Albab teacher needs to be a role model to his/her students. Muslim generation live with the example shown by past generation. By the example in terms of intellectual and manner portrayed by teachers plus the intelligence and wisdom student could have, will make the efforts to develop Ulul Albab generation easier and worthwhile. Again, to make the teachers able to be the right role model, special trainings need to be provided for them.

Conclusion

People of understanding and intelligence, Ulul Albab, always work diligently to achieve goals within the individual roles as servants and vicegerents of Allah. They continue to merge faith and knowledge to fulfill the trust and the roles (Suhaimi & Yusuf, 2013). These qualities require countless effort. Eventually, to produce students with these qualities, teachers have to play their role effectively. Teachers of Ulul Albab program somehow may not able to perform effectively if they are not prepared with proper guidelines. Therefore, teachers need to be trained according to the standard of Ulul Albab program. The significance is, it is to make sure that they are qualified and capable of educating, sustaining and developing Ulul Albab students. Thus, qualified teachers who possess well-balanced personality and holistic skills are expected to educate students who are projected to be Ulul Albab. Ulul Albab students need teachers to show them the way to be smart intellectually and mannerly. As the role of teacher is vital and significant, preparing an Ulul Albab professional development program for the teacher is most vital, so that they have specific and special guideline to educate students of Ulul Albab program.

References

- Al-Quran al-Karim.
- Abdullah, Md. Zin. (2006, September). Ulul Albab: Pendekatan Islam Hadhari ke arah melahirkan modal insan terbilang. Kertas Kerja Seminar Ulul Albab Anjuran Bersama Kerajaan Negeri Terengganu dan Terengganu Development Institute. Kuala Terengganu.
- A Khudori Soleh (2009). Ulul Albab: Konsep Al-Quran Dalam Intelektualisme. Universitas Islam Negeri Maulana Malik Ibrahim Malang, retrieved on 7th July 2017 from <http://www.scribd.com/doc/5885241/konsep-ulul-albab>
- Aminuddeen Mohammad. (2012). Program Ulul Albab. Retrieved on 6th June 2017 from <http://www.unitpimrsm.net/index.php/berita-fokus/296-program-ulul-albab>
- Arniyuzie binti Mohd Arshad (2015). Ulasan Sistematis: Program Ulul Albab Dalam Sistem Pendidikan di Malaysia. *Jurnal Kurikulum dan Pengajaran Asia Pasifik*, 3 (4), 13-21.
- Asmawati Suhid, Mohd Rezduan Mat Jurit, Fathiyah Mohd. Fakhruddin, Abd. Muhsin Ahmad & Mohd. Aderi Che Noh. (2014). Personaliti pendidik yang ideal: apa kata pelajar di institut pengajian tinggi? *Journal of Al-Quran and Tarbiyyah*. 1(1): 1-8, 15- 23.

- Azizah Herawati (2015). Kontekstualisasi Konsep Ulul Albab Di Era Sekarang. *Jurnal Ilmu Aqidah dan Studi Keagamaan* 3(1), 123-139
- Danielson, C. (2009). *Talking about Teaching! Leading Professional Conversations*. Thousand Oaks, CA: Corwin Press
- Danial Zainal Abidin. (2007). *Quran Saintifik: Meneroka Kecemerlangan Quran Dripada Teropong Sains*. Kuala Lumpur: PTS Millenni
- Elmi Baharuddin. (2013). The Spiritual Quotient and Religious Practices of the Elderly at Charity Homes. Doctoral Thesis, Faculty Islamic Studies. Bangi: Universiti Kebangsaan Malaysia
- Fathiyah Mohd Fakhruddin & Asmawati Suhid. (2011). Peranan Guru Pendidikan Islam Dalam Membentuk Generasi Unggul. In *World Congress for Islamic History and Civilization: Islam and Education*, disunting oleh Faisal@ Ahmad Faisal Abdul Hamid, 63-79. Kuala Lumpur: Department of Islamic History and Civilization, Academy of Islamic Studies, University of Malaya.
- Fullan, M., & Hargreaves, A. (2002). *Teacher development and educational change*. New York: Routledge.
- Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching: Theory and Practice*. 8(3/4), 381-391.
- Hirsh, S. & Killion, J. (2007). *The learning educator: A new era for professional learning*. Oxford, OH: National Staff Development Council.
- Idris, J. (2008). Programme Ulul Albab: Ulul Albab - Misi Menjana Kepimpinan Muslim Global. Laman Web Idris Bin Jusoh. Retrieved on February 28th 2013 from http://www.silveromedia.com.my/idrisjusoh/?page_id=501.
- Mohammad Abdillah Samsuiman, Asma Benjamin & Zamri Arifin. (2014). Hubungan antara kecenderungan minat pelajar dalam Bahasa Arab dengan kualiti diri guru Bahasa Arab MRSM Ulul Albab, Kota Putra. *Jurnal Kemanusiaan*, 22, 1-8
- Mohd Shahril Amad Razimi, & Sidek Baba. (2013, Januari). Integrating Ulul Albab Education and Science Education in Development Insan Ta'dibi Generation: A Case Study of Mara Junior Science College (MJSC). International Education Conference Proceeding, WEI, Antalya. Retrieved from <http://www.westeastinstitute.com/wpcontent/uploads/2013/02/Z-ANT13-236-Mohd-Shahril-Bin-Ahmad-Razimi.pdf>
- Muhammad U. Farooq (2016). Developing Teachers' Expertise to Teach English Language: An Evaluative Study of Professional Development Programme at Taif University English Language Centre. *Theory and Practice in Language Studies* 6(2), 274-282.
- Nor Hasnida Che Md Ghazali & Effendi Zakaria. (2010). Presentation in International Islamic Seminar, KUIS. Retrieved from <http://www.academia.edu/1470541/>
- Nor Hayati Hj. Alwi (2002) Pembentukan Model Pembangunan Insan Kamil Dalam Pengajaran Sains. Tesis Dr. Fal. Universiti Kebangsaan Malaysia
- Nor Hayati Alwi. 2005. Ke Arah Pembentukan Model Pembangunan Insan Sains Seimbang dalam Pendidikan Sains. *Jurnal Teknologi*. Jun (42): 77 – 93
- Nor Hayati Alwi (2015). Theory Building for Ulul Albab Teachers' Professional Development Program Using Grounded Theory Method. Paper presented at The 3rd International Conference on Education and Practice 2015, At The Everly, Putrajaya, Malaysia.
- Quraish Shihab (1995). *Membukukan Al-Quran. Peran Wahyu Dalam Kehidupan Masyarakat*. Bandung, Mizan.
- Reeves, D. (2010). *Transforming professional development into student results*. Alexandria, Virginia: ASCD
- Rohaizan Baru, Zulkifli A. Manaf, Abdul Hakim Abdullah, & Syed Mohamad Azmi Syed Ab. Rahman. (2014). Showcasing Educational System Using The Philosophy Of Ulul Albab. *Swiss Journal Of Research in Business and Sosial Science*, 1(1), 1-10
- Shahrulazli Jaafar (2017). Program Ulul Albab MRSM – Model Baharu Pembinaan Generasi Akan Datang retrieved on 7th July 2017 from <https://ewartama.mara.gov.my/2017/.../program-ulul-albab-mrsm-mo>

- Sabri Mohd Sharif, 2009. *Generasi Ulul Albab Segunung Harapan Seteguh Gagasan*. Shah Alam: Karisma Publications Sdn.Bhd
- Sayyid Qutb (1986). *Fi Zhilali Al-Qur'an*. Darul Mannarah, Jeddah.
- Sri Aliyah (2013). Ulul Albab Dalam Tafsir Fi Zhilali Al-Quran. *Jurnal Ilmu Agama*, 4(1), 115-150.
- _____ (September, 2014). Tahfiz schools fast becoming a popular choice, says lecturer. Retrieved on 6th July 2017 from <http://www.thesundaily.my/news/1167840>
- Umi Kalthom Abdul Manaf, Nurul Fitriah Alias, Ady Hameme Nor Azman, Fadzilah Abdul Rahman, & Hafizah Zulkifli. (2014). Expectations of Majlis Amanah Rakyat (MARA) Stakeholders On The Ulul Albab Curriculum At A MARA Junior Science College (MRSM). *Advances in Language and Literary Studies*, 5(1), 12-20.
- Wan Ahmad Zakry bin Wan Kamaruddin 2007. Imtiaz School produces a generation of Ulul Albab. Paper presented in Hadhari Gazette. 8: 6-7, Kuala Terengganu: Communication Unit of the Terengganu State Government
- Yahaya Jusoh & Azhar Muhammad. 2007. *Pendidikan Falsafah Sains Al-Quran*. KL: Penerbit Universiti Teknologi Malaysia.
- Yoon, S. K., Duncan, T., Lee, S., & Shapley, K. (2008). The Effects Of Teachers' Professional Development On Student Achievement: Findings from a systematic review of evidence. Paper presented at the Annual Meeting of the American Educational Research Association, New York.
- Yusutria (2017). Profesionalisme Guru Dalam Meningkatkan Kualitas Sumber Daya Manusia. *Curricula Journal Teaching and Learning*, 2(1), 38-46.
- Zepeda, S.J. (2008). *Professional development: What works?* Larchmont, NY: Eye On Education, Inc.
- Zulkifli Mohamad al-Bakri, 2006. *Ulul Albab: Konsep dan Pengertian Menurut Syarak*. Terengganu: Islamic Religious Council and Malay Customs, Terengganu.

UNDERSTANDING THE CONCEPT OF CAREER DEVELOPMENT AMONG YOUNG CANCER SURVIVORS IN MALAYSIA

Siti Nur Syuhada Musa & Siti Raba'ah Hamzah
Faculty of Educational Studies, Universiti Putra Malaysia
sn.syuhadamusa27@gmail.com, sitirabaahhamzah@gmail.com

ABSTRACT

The purpose of this paper is to study on the understanding of the concept of career development among young working cancer survivors who were diagnosed with cancer during their childhood. This study was based on an extensive review of past researches on individual factors and career development among cancer survivors using the System Theory Framework. To conduct the literature reviews, the researcher utilized keywords such as career development, working life and young cancer survivors. From the literatures reviewed, the single factor that contributed to career development among young cancer survivors was the individual factor. Hence, addressing career development (the individual factor), might be important to improve employment outcomes for young cancer survivors. The importance and originality of this study were, it explored career development among young cancer survivors. This paper adopted elements from the System Theory Framework (STF) to derive the individual factor that influenced of career development. It is hoped this research findings will contribute to literatures on the significant factor contributing to career development among young cancer survivors in Malaysia.

Keywords: Career development, working life, young cancer survivors

Introduction

Individual career development is a lifetime process that encompasses the growth and change process of childhood, the formal career education at school, and the maturational processes that continue throughout a person's working adulthood and into retirement (Baer, Flexer, Luft and Simmons, 2012). A more contemporary view suggests the individual should take responsibility for planning his/her career which may involve horizontal and vertical movements within and between organizations in order to achieve advancement (Werner & DeSimone, 2006; Parker & Inkson, 1999). In the workplace, an individual's career development can be developed by the effort of the organization's program and management function. From this perspective, the management often designs and administers various kinds of career programme that enable employees who work in different job groups to match their interests and capabilities with current and future organizational opportunities and changes. These efforts can motivate employees to maintain and support organizational strategies and goals in an era of global competitions (Ismail et al., 2011; Baruch, 2004; Martin, Romero, Valle & Dolan 2001; Greenhaus et al., 2000). It also enables the organization to achieve a balance between individual career needs and the organization's workforce requirements (Lips-Wiersma & Hall, 2007). The ability of employees to adapt to these organizational changes can enhance the progression of their career ladders in organizations. They may also create a pleasurable environment and give positive reactions towards their work resulting from their appraisal of their jobs in organizations (Adekola, 2011; Ismail et al., 2011; McShane & Glinow, 2005; Linz, 2003; Appelbaum & Shapiro, 2002; Martin et al., 2001; Greenhaus, et al., 2000). They will experience high satisfaction with their jobs which may lead to positive outcomes such as better future in career, providing opportunities for favourable income, an improvement in social status in terms of access to better housing and health care. However, in contrast, there are individuals who have no opportunities in their career development. They are disconnected from the labour market, or not engaged in productive activities due to negative physical and psychological health related outcomes (Lucas, Clark, Georgellis, & Diener, 2004). Having disabilities related to health outcomes may exert little influence on the career development and plans of some individuals, whereas others may find the same disabilities affect their career aspirations, self-esteem and life experiences in general. As Szymanski & Hanley-Maxwell (1990) explained, 'a disability, in and of itself, does not determine career

development but is more accurately perceived as a risk factor potentially influencing career development'.

It could be assumed cancer patients around the world survived cancer more than ever before due to the success of the medical system such as early diagnoses and more effective treatments. The ability to cure childhood cancer was one of the great success stories of modern medicine particularly in the high-income countries which also saw an increase in the employment rates among young cancer survivors (Mehnert, de Boer and Feuerstein, 2013; Bosetti et al., 2013; Joutard et al., 2012; Verdecchia et al., 2009; Verdecchia et al., 2007 & Kanavos, 2006).

In Malaysia, for many common types of cancer, especially those detected at an early stage, the long-term survival rate is now above 80% (The Malaysian Pediatric Association, 2012). As a result, the population of young cancer survivors is steadily increasing. This has led to a growing number of studies on cancer survivors and the consideration of survivorship as a major factor in the continuum of care (McCabe, 2007; Rowland et al., 2006; Ayanian & Jacobsen, 2006; Grunfeld, 2006). The overarching treatment of cancer not only to ensure cure, but also to allow the cancer survivors to have normal growth and development in order to realize their full potential as productive and healthy adults so they can focus more on developing their future career. However, the initial experience during cancer treatment had changed the outlook of the patients altogether, it's impact was so negatively powerful that it altered not only the physical appearance of the individual but the inner self as well. They were faced with a unique set of challenges after the diagnosis including the thought of the ability to maintain their work and educational goals during the highly transitional time (Langeveld et al., 2003).

To date, there has been a paucity of research related to the career development of young cancer survivors. Initially researches on cancer survivors focused on curing cancer and on planning, delivering, and monitoring the effects of cancer treatment. More recently, cancer survivorship research has begun to focus on the cancer survivor as a person, including the multiple facets of survivors' quality of life (Dietz & Mulrooney, 2011; Rowland, 2008; Langeveld, Stam, Grootenhuis, & Last, 2007). Topics such as cancer survivors' cancer-related fatigue, positive affect, life satisfaction, and spirituality were explored. Yet cancer survivorship research has been slow to recognize the role of work and career issues in cancer survivors' quality of life, and interventions directed at re-employment and return-to-work after treatment lagged behind other quality of life interventions (Hoving, Broekhuizen, & Frings-Dresen, 2009).

With the limited research focusing on a very small component of the career development, significant knowledge gaps related to the concept of career development of cancer survivors existed. These knowledge gaps must be addressed in order to gain a better understanding of the factors influencing the impact of career development process of young cancer survivors and to develop interventions that might improve the career development and quality of work of young cancer survivors in Malaysia. Therefore, this study focused on young cancer survivors who were diagnosed with cancer in their early childhood years (below 14 years) and who completely survived from cancer until now. This study was to find out their career development. It is also to facilitate more discussions and researches related to the career development of these young cancer survivors with the goal of increasing employment and overall participation in the broader society. The present scope of study was designed to investigate the development of cancer survivors' care processes in Malaysia through an overview of career development and factors that underpinned their career development.

Methodology

This paper was based on an extensive review of past studies and on the development of a model of career development, cancer survivors covering available international literatures and online data. The process of retrieving the literatures began in March, 2017 to Mei, 2017. The selection of articles was based on keywords as suggested by Strauser, Jones, Tansey, Chan (2015) and relevant literatures using keyword search that led to a successful systematic review. In the process, keyword such as career development, working life and young cancer survivors were used. Several electronic databases such as

Google Scholar, Emerald Insight, Science Direct and SAGE were used to search for supporting materials and resources relevant to the study. The review of past studies and the development of a model of career development are shown below.

Career Development

Human resource development (HRD) scholars and practitioners had frequently identified career development (CD) as one of the key components, or critical areas, underlying the field of research (Swanson & Holton, 2001; Weinberger, 1998 & McLagan, 1989). Career development definitions vary in focus from the individuals to the organization. Some saw the concept as having a decidedly individual bent, “an ongoing process by which individuals progress through a series of stages, each of which is characterized by a relatively unique set of issues, themes, and tasks” (DeSimone, Werner, & Harris, 2002, p. 458). Van der Sluis and Poell (2003) suggested the influence of outside source, describing it as “a process of professional growth brought about by work-related learning” (p. 162), where the process apparently could be individually or organizationally driven. Gilley, Egglund, and Gilley (2002) suggested a collaborative effort, stating, “career development is a process requiring individuals and organizations to create a partnership that enhances employees’ ‘knowledge, skills, competencies, and attitudes required for their current and future job assignments” (p. 94). They went on to emphasize the dual nature of the process noting that it was “a quintessential development activity” because enhanced individual performance contributed to the success of the organization. Boudreaux (2001) described career development in terms of fit between organizational and individual goals, noting that “career development focuses on the alignment of individual subjective career aspects and the more objective career aspects of the organization in order to achieve the best fit between individual and organizational needs as well as personal characteristics and career roles” (p. 806). Although scholars had defined career development (CD) in a variety of ways, Simonsen’s (1997, pp. 6-7) definition was used as the basis for this study which is, “Career development is an ongoing process of planning and directed action towards personal work and life goals. Development means growth, continuous acquisition and application of one’s skills. Career development is the outcome of the individual’s career planning and the organization’s provision of support and opportunities, ideally a collaborative process...”

Young Cancer Survivors and Career Development.

A short background on the origins of the term and a review of the existing career development among young cancer survivors debate are necessary to grasp where this study fitted into the context of other academic literatures, and more importantly to point out the gap in the ongoing debate. In terms of definition, there are at least three distinct phases associated with cancer survival. They are; (1) acute survival - where diagnosis and therapeutic intervention dominate and the time from diagnosis to the end of initial treatment; (2) extended survival - when cancer is in remission, the role of doctors and nurses diminishes and psychological distress begins which is the transition from treatment to extended survival, fear of cancer recurrence and physical limitations become manifest; and (3) permanent survival, roughly equated with ‘cure’ also known as long-term survival (Mullan, 1985). Mullan writes, “No matter how long we live, cancer patients are survivors – at once wary and relieved, bashful and proud”.(3, p.272).

Young adult cancer survivors are one group of individuals with chronic health conditions who were negatively impacted in the area of career development and employment (Strauser, 2014). Young cancer survivors aged 15-39 years were historically understudied research population (Kent et al., 2012). Young cancer survivors might not have the opportunity to develop their skills, or to have necessary experiences, to develop effective career and work behaviours and might have difficulty finding employment due to the results of their cancer and associated treatment (Strauser et al., 2010).

Career development is a lifelong developmental process that is influenced by an individual’s learning experiences and characteristics of different environments. Factors such as an individual’s abilities, gender, education, interests, and culture may influence relationships and performance in a working environment. When these factors are applied to the career realm, the implication is one of a complex and dynamic relationship between young cancer survivors and career development

(Szymanski, Hershenson, Enright & Ettinger, 1996). In addition many individuals with disabilities are unable to meet their most basic human needs independently, often creating a state of dependence with no real promise for achieving higher states of vocational or career functioning (Strauser, 2014). The cancer survivors often face difficulties and challenges to work or return to work after receiving treatment (Bouhnik et al., 2015). As survival rates of the young diagnosed with cancer have increased, it is therefore critical to understand how the cancer experience affects functioning, especially in terms of career development. Young cancer survivors have to suspend normative development while managing active treatment. Specifically, when coping with cancer they can stall the progress in decision-making and planning for future careers (Noll et al., 2007; Bleyer 2007; Stern et al., 1993 & Stern et al., 1991). Past researches proved young adults who survived childhood cancer, experienced problems in obtaining and maintaining employment (Kirchhoff et al., 2010; Stern et al., 2010; Pang et al., 2008; de Boer, Verbeek, & van Dijk, 2006; Stern, Norman, & Zevon, 1991).

Previous researches indicated young cancer survivors experienced higher levels of unemployment and often experienced career development problems such as limited work skills, unclear or unrealistic career expectations, and poor social skills, all of which contributed to difficulties in obtaining and maintaining employment and often led to decreased quality of life (Strauser, Wagner, Wong, & O'Sullivan, 2013; ; Kirchhoff et al., 2010; Stern et al., 2010; de Boer, Taskila, Ojajarvi, van Dijk, & Verbeek, 2009; Pang et al., 2008; de Boer, Verbeek, & van Dijk, 2006; Stern, Norman, & Zevon, 1991). However, a study by Stern et al., (1991) found young cancer patients showed a greater tendency to prematurely foreclosed on a career choice than did healthy youths. This showed young cancer survivors who were looking forward to fulfilling some of their dreams, career ambitions or plans, viewed these as lost ambitions or opportunities.

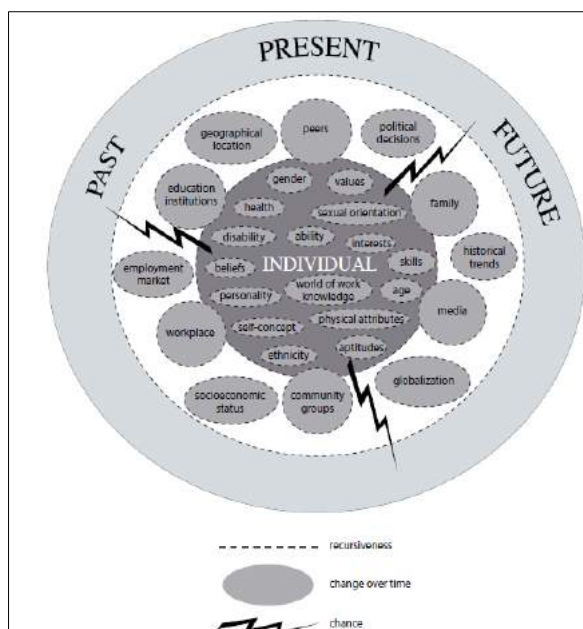
When compared to their non-cancer counterparts, young cancer survivors demonstrated higher prevalence of functional limitations and participation restrictions that interfered with their employment, educational attainment, and other social outcomes (Gurney et al., 2009; Ness et al., 2008; Crom et al., 2007; Ness et al., 2006 & Ness et al., 2005). Specifically, survivors of childhood cancer were found to be five times more likely to be unemployed compared to their non-cancer counterparts (de Boer, 2006). They also had nearly 15 times the risk for not participating in school or work when compared with their healthy siblings (Ness et al., 2005). A study on parents with young adult survivors of childhood cancer found employment concerns and a lack of career development and employment resources for their young adult children were a major concern and were associated with increased levels of parental stress (Freeman et al., 2010).

Factors Influencing Career Development using The System Theory Framework

In this study, the factors of career development influences were based on the Systems Theory Framework of career development (McMahon & Patton, 1995; Patton & McMahon, 1997, 1999, 2006). The STF of career development is an integrative framework comprising of 16 intra individual influences. They are; gender, age, self-concept, health, ability, disability, physical attributes, beliefs, personality, interests, values, aptitudes, skills, world of work knowledge, sexual orientation and ethnicity. Six social influences are peers, family, media, community groups, workplace, and education institutions, and the six environmental-societal system influences are political decisions, historical trends, globalization, socio-economic status, employment market, and geographical location. The Process includes interaction within and between influences known as chance, change over time, and recursiveness. These elements of the STF are depicted in Figure 1. The STF depicts both the content and dynamic process of career development. Illustrative examples of content influences provided in the STF relate to individuals, their social system, their environmental-societal system, and the context of time.

This framework is built on the constructs of information, career problem solving, and decision making. Individuals who lack information or have low levels of readiness experience employment difficulties related to job acquisition and maintenance and may display affective and behavioral states that contribute to negative employment outcomes (Strauser, Zanskas & Lustig 2011). Research by Hall

& LaCroix, (2015) found the STF elements of learning such as creating a learning environment, the content of learning, and reflection on learning were applied in a clinical supervision experience that was shown to be beneficial to participants. Other researchers had identified the utility of the STF in guiding research activities. For example, Byrne (2007) used the STF to classify the factors influencing the decision to study speech pathology.



Source: McMahon & Patton, 1995;
Figure 1: The System Theory Framework of Career Development

Conclusion and Recommendations

To further explore the reported impacts of cancer survivors on career development, the following issues require further considerations. Firstly, the people's perceptions on individuals who are influenced by the presence of cancer survivors. This means stereotyping occurs within the workplace which can impact on career development, especially through equitable training and promotion opportunities. Secondly, further explorations should find out whether confidence and self-esteem issues are associated with the history of cancer which may or may not have an impact on career development. Next, the responsibility for career development among young cancer survivors should be addressed. Should the responsibility lie on the individual, the employer, or a joint partnership and whether the management supports career development and does it apply equitably? The importance of practical support at the work place and health care providers had been reported in some studies on cancer and work. According to a finished study on social support at the work place and occupational health services, practical support was most needed from the supervisors in the form of taking the illness into consideration when planning and managing the work tasks of cancer survivors. From the occupational health personnel, support was especially needed by evaluating the working conditions in the light of the cancer survivors' ability to cope at work (Taskila et al., 2006).

The scope of this study was designed to investigate the need of the development of cancer survivorship care processes to be enacted within Malaysia by creating an overview of career development and factors that underpinned young cancer survivors' career development. Studies suggested long-term follow up programmes and interventions to improve employment outcomes should be implemented in Malaysia and not only focusing on their cancer treatment follow up such as physical health, neurocognitive problems, and screening for mental health issues, but should also address career development among young cancer survivors. Malaysia has several care supports such as National

Cancer Council / Majlis Kanser Nasional (MAKNA), National Cancer Society of Malaysia's (NCSM), CARES Parent Support Group and Sarawak Children's Cancer Society Sarawak (SCCS). This care supports play a vital role in emotional support where the cancer survivors can share their personal experiences with the groups and gain a sympathetic and emphatic network to get them through the traumatic experiences of cancer. However, there are no long-term follow up programmes for career development. These are within the realm of social science to come up with initiatives. Considerations of cost, feasibility, making the best use of current resources, empowering young people and parents, developing shared models of care, and building upon existing evidence on survivorship care pathways are all important especially in their career development. Hence, the program of career development long-term follow up should be taken into account to maximize employment potentials among young cancer survivors in Malaysia.

References

- Adekola, B. (2011). Career Planning and Career Management as Correlates for Career Development and Job Satisfaction. A Case Study of Nigerian Bank Employees. *Australian Journal of Business and Management Research*, 2. <http://www.datadanesh.com/freearticle/1002.pdf>.
- Appelbaum, S. H., Ayre, H., & Shapiro, B. T. (2002). Career management in information technology: a case study. *Career development international*, 7(3), 142-158. <https://doi.org/10.1108/13620430210426123>
- Armstrong, M. (1996). *A handbook of personnel management practice*. Kogan Page.
- Ayanian, J. Z., & Jacobsen, P. B. (2006). Enhancing research on cancer survivors. *Journal of Clinical Oncology*, 24(32), 5149-5153. <http://ascopubs.org/doi/full/10.1200/jco.2006.06.7207>
- Baruch Y (2004) Transforming careers: From linear to multidirectional career paths-organizational and individual perspectives. *Career Development International* 9(1), 58-73. <https://doi.org/10.1108/13620430410518147>
- Bosetti, C., Bertuccio, P., Malvezzi, M., Levi, F., Chatenoud, L., Negri, E., & La Vecchia, C. (2013). Cancer mortality in Europe, 2005–2009, and an overview of trends since 1980. *Annals of oncology*, 24(10). <https://doi.org/10.1093/annonc/mdt301>
- Bouhnik, A. D., Bendiane, M. K., Cortaredona, S., Teyssier, L. S., Rey, D., Berenger, C., & VICAN Group. (2015). The labour market, psychosocial outcomes and health conditions in cancer survivors: protocol for a nationwide longitudinal survey 2 and 5 years after cancer diagnosis (the VICAN survey). *BMJ open*, 5(3). <http://dx.doi.org/10.1136/bmjopen-2014-005971>
- Boudreaux, M. A. (2001). Career development: What is its role in human resource development. In *Proceedings of the Academy of Human Resource Development* (pp. 805-812). Baton Rouge, LA: Academy of Human Resource Development.
- Crom, D. B., Lensing, S. Y., Rai, S. N., Snider, M. A., Cash, D. K., & Hudson, M. M. (2007). Marriage, employment, and health insurance in adult survivors of childhood cancer. *Journal of Cancer Survivorship*, 1(3), 237-245. <http://dx.doi.org/10.1007/s11764-007-0026-x>
- Demark-Wahnefried, W., Aziz, N. M., Rowland, J. H., & Pinto, B. M. (2005). Riding the crest of the teachable moment: promoting long-term health after the diagnosis of cancer. *Journal of Clinical Oncology*, 23(24), 5814-5830. <https://doi.org/10.1200/JCO.2005.01.230>
- Dietz, A. C., & Mulrooney, D. A. (2011). Life beyond the disease: relationships, parenting, and quality of life among survivors of childhood cancer. *Haematologica*. 96(5), 643-645. **Doi:**10.3324/haematol.2011.042606
- de Boer, A. G., Verbeek, J. H., & van Dijk, F. J. (2006). Adult survivors of childhood cancer and unemployment. *Cancer*, 107(1), 1-11. <https://doi.org/10.1002/cncr.21974>
- De Boer, A. G., Taskila, T., Ojajärvi, A., Van Dijk, F. J., & Verbeek, J. H. (2009). Cancer survivors and unemployment: a meta-analysis and meta-regression. *Jama*, 301(7), 753-762. <https://doi.org/10.1001/jama.2009.187>
- DeSimone, R. L., Werner, J. M., & Harris, D. M. (2002). *Human resource development* (3rd ed.)

Orlando, FL: Harcourt College. 9812438548, 9789812438546

- Ferreira, J. A., Santos, E. J., Fonseca, A. C., & Haase, R. F. (2007). Early predictors of career development: A 10-year follow-up study. *Journal of Vocational Behavior*, 70(1), 61-77. <https://doi.org/10.1016/j.jvb.2006.04.006>
- Freeman, K., O'Dell, C., & Meola, C. (2004). Childhood brain tumors: parental concerns and stressors by phase of illness. *Journal of Pediatric Oncology Nursing*, 21(2), 87-97. <https://doi.org/10.1177/1043454203262691>
- Flexer, R. W., Baer, R. M., Luft, P. J., & Simmons, T. J. (2012). *Transition planning for secondary students with disabilities 4th edition*. ISBN-9780132822671
- Gilley, J. W., Egglund, S. A., & Gilley, A. M. (2002). *Principles of human resource development*. Cambridge: Perseus Books. 0738206040 978-073820604
- Greenhaus, J. G., Callanan, G. A., Godshalk, V. M. (2000) *Career management*. The Drydent Press, New York. 0030224187, 9780030224188
- Grunfeld, E. (2006). Looking beyond survival: how are we looking at survivorship?. *Journal of Clinical Oncology*, 24(32), 5166-5169. <https://doi.org/10.1200/JCO.2006.06.5953>
- Gurney, J. G., Krull, K. R., Kadan-Lottick, N., Nicholson, H. S., Nathan, P. C., Zebrack, B., & Ness, K. K. (2009). Social outcomes in the childhood cancer survivor study cohort. *Journal of clinical oncology*, 27(14), 2390-2395. <https://doi.org/10.1200/JCO.2008.21.1458>.
- Hirschi, A. (2009). Career adaptability development in adolescence: Multiple predictors and effect on sense of power and life satisfaction. *Journal of Vocational Behavior*, 74(2), 145-155. <https://doi.org/10.1016/j.jvb.2009.01.002>
- Ismail, A., Daud, N. G., & Madrah, H. (2011). Relationship between career program characteristics and job satisfaction in a city based local authority. *Annals of the Alexandru Ioan Cuza University*, 58, 270-279.
- Ismail, A., Madrah, H., Aminudin, N., & Ismail, Y. (2013). Mediating role of career development in the relationship between career program and personal outcomes. *Makara Hubs-Asia*, 8(3). <https://doi.org/10.7454/mssh.v17i1.xxxx>
- Joutard, X., Paraponaris, A., Teyssier, L. S., & Ventelou, B. (2012). Continuous-time Markov model for transitions between employment and non-employment: the impact of a cancer diagnosis. *Annals of Economics and Statistics*, 107(108) 239-265.
- Kanavos, P. (2006). The rising burden of cancer in the developing world. *Annals of oncology*, 17(suppl_8), viii15-viii23. <https://doi.org/10.1093/annonc/mdl983>
- Kirchhoff, A. C., Leisenring, W., Krull, K. R., Ness, K. K., Friedman, D. L., Armstrong, G. T., ... & Robison, L. L. (2010). Unemployment among adult survivors of childhood cancer: a report from the childhood cancer survivors study. *Medical care*, 48(11), 1015. <https://doi.org/10.1097/MLR.0b013e3181eaf880>.
- Langeveld, N. E., Stam, H., Grootenhuis, M. A., & Last, B. F. (2007). Quality of life in young adult survivors of childhood cancer. *Surviving childhood cancer: quality of life, course of life, and coping, 2000*, 159. <https://doi.org/10.1007/s00520-002-0388-6>
- Langeveld, N. E., Ubbink, M. C., Last, B. F., Grootenhuis, M. A., Voute, P. A., & De Haan, R. J. (2003). Educational achievement, employment and living situation in long-term young adult survivors of childhood cancer in the Netherlands. *Psycho-Oncology*, 12(3), 213-225. <https://doi.org/10.1002/pon.628>
- Linz, S. J. (2003). Job satisfaction among Russian workers. *International journal of manpower*, 24(6), 626-652. <https://doi.org/10.1108/01437720310496139>
- Lips-Wiersma, M., & Hall, D. T. (2007). Organizational career development is not dead: A case study on managing the new career during organizational change. *Journal of Organizational Behavior*, 28(6), <https://doi.org/771-792>. 10.1002/job.446
- Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological science*, 15(1), 8-13. <https://doi.org/10.1111/j.0963-7214.2004.01501002.x>
- Malaysian National Cancer Registry Report 2007-2011

- Martin AF, Romero FP, Valle CR, Dolan SL (2001), Corporate business Strategy, career management and recruitment: Do Spanish firms adhere to contingency model? *Career Development International*, 6(3), 149-155.
<https://doi.org/10.1108/13620430110389739>
- Mehnert, A., de Boer, A., & Feuerstein, M. (2013). Employment challenges for cancer survivors. *Cancer*, 119(S11), 2151-2159. <https://doi.org/10.1002/cncr.28067>
- Merchant Jr, R. C. (2010). The role of career development in improving organizational effectiveness and employee development. *Florida Department of Law Enforcement*.
- Mertens, A. C. (2008). The impact of limitations in physical, executive, and emotional function on health-related quality of life among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Archives of physical medicine and rehabilitation*, 89(1), 128-136. <https://doi.org/10.1016/j.apmr.2007.08.123>.
- McCabe, M. S. (2007). Looking beyond survival survivorship care is critical to the future of oncology. *Oncology*, 21(3), 398.
https://www.ncbi.nlm.nih.gov/pubmed/?term=McCabe%20MS%5BAuthor%5D&cauthor=true&cauthor_uid=17447440
- McLagan, P. A. (1989). The models: A volume in models for HRD practice. Alexandria, VA: American Society for Training and Development.
- McShane, S.L., & Von Glinow, M.A. (2005). Organizational behavior (3rd ed.). New York: McGraw Hill.
- Moran, J. R., Short, P. F., & Hollenbeak, C. S. (2011). Long-term employment effects of surviving cancer. *Journal of health economics*, 30(3), 505-514.
<https://doi.org/doi:10.1016/j.jhealeco.2011.02.001>.
- Mullan, F. (1985). Seasons of survival: reflections of a physician with cancer. *New England Journal of Medicine*, 313:270-273. <https://doi.org/10.1056/NEJM198507253130421>
- Nankervis, A., Compton, B. & Baird, M. (2005), Strategic Human Resource Management: Strategies and processes, 5th ed, Thomson Learning, Melbourne.
- Ness, K. K., Mertens, A. C., Hudson, M. M., Wall, M. M., Leisenring, W. M., Oeffinger, K. C., ... & Gurney, J. G. (2005). Limitations on physical performance and daily activities among long-term survivors of childhood cancer. *Annals of Internal Medicine*, 143(9), 639-647.
<https://doi.org/10.7326/0003-4819-143-9-200511010-00007>
- Ness K. K., Gurney J. G., Zeltzer L., Leisenring W., Mulrooney D., & Nathan P. (2008). The impact of limitations in physical, executive, and emotional function on health-related quality of life among adult survivors of childhood cancer: A report from the childhood cancer survivors study. *Archives of Physical Medicine and Rehabilitation*, 89, 128–136.
<https://doi.org/10.1016/j.apmr.2007.08.123>.
- Ness, K. K., Wall, M. M., Oakes, J. M., Robison, L. L., & Gurney, J. G. (2006). Physical performance limitations and participation restrictions among cancer survivors: a population-based study. *Annals of epidemiology*, 16(3), 197-205.
<https://doi.org/10.1016/j.annepidem.2005.01.009>
- Noll, R. B., & Kupst, M. J. (2007). Commentary: The psychological impact of pediatric cancer hardiness, the exception or the rule?. *Journal of Pediatric Psychology*, 32(9), 1089-1098. <https://doi.org/10.1093/jpepsy/jsm049>
- Pang, J. W., Friedman, D. L., Whitton, J. A., Stovall, M., Mertens, A. C., Robison, L. L., & Weiss, N. S. (2008). Employment status among adult survivors in the Childhood Cancer Survivor Study. *Pediatric blood & cancer*, 50(1), 104-110.

- <https://doi.org/10.1002/pbc.21226>
- Parker, P., & Inkson, K. (1999). New forms of career: The challenge to human resource management. *Asia Pacific Journal of Human Resources*, 37(1), 76-85.
doi:10.1177/103841119903700107
- Peterson, G. W., Sampson Jr, J. P., & Reardon, R. C. (1991). *Career development and services: A cognitive approach*. Pacific Grove, CA: Brooks/Cole.
- Raque-Bogdan, T. L. (2013). The work life and career development of young working women who are breast cancer survivors: a qualitative study. *Journal in Counseling Psychology*, 62(4), 655-69. Doi:10.1037/cou0000068.
- Rowland, J. H., Hewitt, M., & Ganz, P. A. (2006). Cancer survivorship: a new challenge in delivering quality cancer care. *Journal of Clinical Oncology*, 24(32), 5101-5104. DOI: 10.1200/JCO.2006.09.2700
- Sampson, J. P., Reardon, R. C., Peterson, G. W., & Lenz, J. G. (2004). *Career counseling and services: A cognitive information processing approach*. Belmont, CA: Thomson/Brooks/Cole.
- Saunders, D. E., Peterson, G. W., Sampson, J. P., & Reardon, R. C. (2000). Relation of depression and dysfunctional career thinking to career indecision. *Journal of Vocational Behavior*, 56(2), 288-298. <https://doi.org/10.1006/jvbe.1999.1715>
- Stern, M., Krivoy, E., Foster, R. H., Bitsko, M., Toren, A., & Ben-Arush, M. (2010). Psychosocial functioning and career decision-making in Israeli adolescent and young adult cancer survivors. *Pediatric blood & cancer*, 55(4), 708-713. doi: 10.1002/pbc.22642.
- Stern, M., Norman, S. L., & Zevon, M. A. (1991). Career development of adolescent cancer patients: A comparative analysis. *Journal of counseling psychology*, 38(4), 431. DOI:10.1037/0022-0167.38.4.431
- Strauser, D., Feuerstein, M., Chan, F., Arango, J., da Silva Cardoso, E., & Chiu, C. Y. (2010). Vocational services associated with competitive employment in 18–25 year old cancer survivors. *Journal of Cancer Survivorship*, 4(2), 179-186. doi: 10.1007/s11764-010-0119-9.
- Strauser, D., Zanskas, S., & Lustig, D. (2011). Career readiness and individuals with disabilities. *Rehabilitation Research, Policy, and Education*, 25(3-4), 173-179.
- Strauser, D. R., Jones, A., Chiu, C. Y., Tansey, T., & Chan, F. (2015). Career development of young adult cancer survivors: A conceptual framework. *Journal of Vocational Rehabilitation*, 42(2), 167-176. DOI: 10.3233/JVR-150733
- Strauser, D., Klosky, J. L., Brinkman, T. M., Wong, A. W., Chan, F., Lanctot, J., ... & Ness, K. K. (2015). Career readiness in adult survivors of childhood cancer: a report from the St.Jude Lifetime Cohort Study. *Journal of Cancer Survivorship*, 9(1), 20-29. doi: 10.1007/s11764-014-0380-4.
- Soliman, A. S., Mullan, P. B., O'Brien, K. S., Thaivalappil, S., & Chamberlain, R. M. (2011). Career Development Needs Assessment in Cancer Prevention and Control: Focus on Research in Minority and International Settings. *Journal of Cancer Education : The Official Journal of the American Association for Cancer Education*, 26(3), 409–419. <http://doi.org/10.1007/s13187-011-0243-x>
- Swanson, R. A., & Holton, E. F. III (2001). *Foundations of human resource development*. San Francisco: BerrettKoehler.
- Szymanski, E., & Hanley-Maxwell, C. (1996). Career development of people with developmental disabilities: An ecological model. *Journal of Rehabilitation*, 62(1), 48-55.
- Taskila, T., Lindbohm, M. L., Martikainen, R., Lehto, U. S., Hakanen, J., & Hietanen, P. (2006). Cancer survivors' received and needed social support from their work place and the occupational health services. *Supportive Care in Cancer*, 14(5), 427-435. DOI: 10.1007/s00520-005-0005-6
- Upton, M., Egan, T. M., & Lynham, S. A. (2003). Career development: Definitions, theories, and dependent variables. *Proceedings of the Academy of Human Resource Development*,

USA, 728-735.

Van der Sluis, L., & Poell, R. (2003). The impact on career development of learning opportunities and learning behavior at work. *Human Resource Development Quarterly*, 14 (2), 159-179. doi:10.1002/hrdq.1058

Verdecchia, A., Guzzinati, S., Francisci, S., De Angelis, R., Bray, F., Allemani, C., & EUROCARE Working Group. (2009). Survival trends in European cancer patients diagnosed from 1988 to 1999. *European Journal of Cancer*, 45(6), 1042-1066. doi: 10.1016/j.ejca.2008.11.029.

Verdecchia, A., Francisci, S., Brenner, H., Gatta, G., Micheli, A., Mangone, L., & EUROCARE-4 Working Group. (2007). Recent cancer survival in Europe: a 2000–02 period analysis of EUROCARE-4 data. *The lancet oncology*, 8(9), 784-796. DOI:10.1016/S1470-2045(07)70246-2

Weinberger, L. A. (1998). Commonly held theories of human resource development. *Human Resource Development International*, 1(1), 74-94. <http://dx.doi.org/10.1080/13678869800000009>

Wilkins, U., & Nermerich, D. (2011). " Love it, change it, or leave it"—Understanding Highly-skilled Flexible Workers' Job Satisfaction from a Psychological Contract Perspective. *Management Revue*, 65-83. DOI 10.1688/1861-9908_mrev_2011_01_Wilkins

CONCEPTUALISING LEARNINGS IN THE COACHING PROCESS: AN EFFECTIVE APPROACH LEADERSHIP DEVELOPMENT

Nasreen Khanum Nawab Zadah Khan, Mohd Mursyid Arshad, Ismi Arif Ismail & Zoharah Omar

Faculty of Educational Studies, Universiti Putra Malaysia

nasreennawab@gmail.com, m_mursyid@upm.edu.my, ismi@upm.edu.my,
zoharah@upm.edu.my

ABSTRACT

Various types of learning approaches play different role and influence towards the leadership development process. This knowledge will allow a coach to understand the learning needs of a coachee which enable them to tailor their approach to maximise the benefits and impact of a coaching process to a coachee. This conceptual paper will discuss on what kind of learning happens within the coaching process and understanding how this learning process helps to improve leadership skills as part of the leadership development programme. Therefore, all metatheories of learnings for human resource development including humanistic, social learning, constructivism as well as behaviourism and cognitivism will never stand alone but is usually adapted and blended to fit a particular needs and situation (Swanson & Holton III, 2009). The different learning approaches outlined in this paper are analysed based on the experiences of coachee and coach. Learnings are studied in the context what kind of learning happens within the coaching process and how it contributes in the change in leadership attributes in executive leaders.

Keywords: Leadership development, coaching, learning process, human resource development

Introduction

Leadership development is an ongoing process to expand a person's capacity to be effective in their leadership roles and their work process (McCauley & Velsor, 2004). The demanding and continuous change of today's business environment drives demand and pressure for more effective leadership development in every institution especially in private organisation. Organizations starting to discover that these complex challenges demands different set of skills from a leader in order to adapt and responds to the evolving dynamics of the environment (Terrell & Rosenbusch, 2013).

Past researches shown that organizational performance is very much dependant on the leadership and knowledge of its leader and people (McDermott, Kidney, & Flood, 2011; Bougae, 2005; Waldman et al., 2004). Investing in leadership development is the most productive way (Killian, 2010; Cacioppe, 1998) in supporting individual development and increasing organisational effectiveness (Barner & Higgins, 2007; Bougae, 2005) in achieving organisation's targets and improve its resilient and performance in a long run (Jonsen, 2012; Zenger & Stinnett, 2010; Killian, 2010; Barner & Higgins, 2007; Richards, 2006). This is reflected in the increasing amount of investment value committed by companies and organisation for leadership development programme (McDermott, Kidney, & Flood, 2011; Barner & Higgins, 2007; Bougae, 2005; Martinue & Hannum; 2003).

Some common approaches to leadership development include education, training, job rotation, special project assignments, 360 assessment and feedback, mentoring and many others (Terrel & Rosenbusch, 2013; Cacioppe, 1998). However, the traditional approach alone is no longer adequate to develop the skill sets required to face the challenging environment and require a more strategic approach in order to deliver change within the organisation (Jonsen, 2012). Responding to these needs, coaching emerged in the human resource development practise as a powerful development tool in improving leadership skills of executive leaders.

Literature Review

Learning theories: Learning Happens within Coaching Process

Learning has always been the core founding principle of human resources development (Swanson & Holton III, 2009). Learning is very much a stimulus and effect activity. Learning is a result of coachee's interaction to actions performed by the coach (Speltz, 2013). As such, it is important to look at coaching process from both lense; coach and coachee to understand the important elements throughout the process (Speltz, 2013) and ensure consistency in term of the coaches' actions as a stimulus and its effect on coachee's learning (Celoria & Hemphill, 2014).

This study is hoped to crystallise understanding on the learning process within coaching by analysing the approach that a coach used, learnings activities that taken place from the experience and lense of a coachee and the outcome and impact from the coaching process. This approach will be able to highlight key learning activities that triggers the change and facilitate coachee to enhance their skills and potentials (Speltz, 2013).

Learnings Triggers Change in Leadership Attributes of an Executive Leader

As a newly emerging tool, the practise of coaching is evolving faster than the theoretical knowledge supporting it. There are limited coaching-specific theories and researches that link between practice and theoretical knowledge of coaching. One particular area that has been neglected and being under researched is on the dynamics of learnings within coaching process. Learning is one of the core fundamental attributes to Human Resource Development practice (Swanson & Holton III, 2009). Learning in an organizational context is a critical ongoing function to encourage employees and management to acquire hard and soft skills and knowledge to drive an organisation towards success and better performance.

Discussion on coaching in past literatures has always focus on its process and outcome. Researchers and practitioners acknowledged that through executive coaching, coachee deepen their learning and improve their overall performance (Rekalde, Landeta, & Albizu, 2015), however the systematic and scientific review on the fundamental of learnings process within coaching is often neglected. There is a clear knowledge gap in operationalising the learning principals within coaching process that contributes to the desired change and outcome.

This conceptual paper is intended to understand the context on what are the different approaches of learning that took place within the coaching process and how it contributes in the change in leadership attributes in executive leaders. This research will be guided by the following research questions: 1. How executive coaching is carried out in the selected organisations? 2. How coaching process develop leaders at executives level? 3. How do coachee learn in a coaching process? Followed by few sub-questions to strengthen the inquiry process; what are the critical elements within the coaching process that contributes to leadership development? ; What is the best area of leadership is best supported by coaching? What are some coaching techniques/strategies used in developing leaders? What are the challenges faced by both coach and coachee in the coaching process? How the learnings does took place within coaching?

The research questions were formulated to encourage executive to describe their coaching experience and how the executive coaching program has facilitate in enhancing their leadership and supported by series of open-ended questions to probe deeper. The research questions were meant to understand the setting of executive coaching programme in the selected organisations to link it with the outcome of the coaching process and how different setting might have different impact on executive. This research will also explore issues and challenges faced by both coach and coachee during the coaching process.

Discussions

This study will make significant contribution to theoretical and practical knowledge in the field of coaching. As a new emerging leadership development tool, the practise of coaching is evolving faster than the theoretical knowledge supporting this practise. This study will contribute in two ways, theoretical and practical. Therefore, this study provide significant contribution to the body of knowledge as there are limited published research and coaching-specific theories to support the practise of coaching (Celoria & Hemphill, 2014; Wildflower & Brennan, 2013; Bougae, 2005). The current practise of coaching are mainly guided by theories adopted from other fields including human resource development, psychology, leadership development and others (Wildflower & Brennan, 2013).

At the same time, this study will contribute to the existing body of knowledge which build understanding on how the learning that took place within the coaching process and how it develop leaders. Learning is a result of coachee's interaction to actions performed by coach. Thus, it is important to understand how coachee learn from the coaching process to ensure that coach responds to their learning needs and able to deliver the value that is expected from the process (Anderson & Anderson, 2011). It is timely to conduct this study, responding to the increasing demands of coaching as an important leadership development tool in the corporate world. This will facilitate the knowledge building and solidify understanding of coaching practice. Relating practise of coaching and learning theories is a crucial step in enhancing coaching value to coachee.

On the other hand, this study will add value and strengthen the practise of coaching as an effective development tool in leadership development in organisations by providing clarification to the missing link on how coachee learn within the coaching process. This piece of information will be beneficial to coaching practitioners, where they will be able to response better to the learning needs of coachee and deliver expected outcome from the coaching process. Alteration of positive perspectives, attitude, behaviours and values which contributed to improved self-efficacy, self-awareness and other positive changes within the coachee are outcomes from realization of learning (Gagne, 1976). Integrating practise and theory will be able to enhance deeper understanding of coaching framework and maximise the effectiveness of the process (Wildflower & Brennan, 2013). There are enough findings from previous researches that coaching facilitate positive changes within leaders that lead them to become a better leader in many ways (Karlsen, 2016).

Conclusion

This study aims to provide clarification on the missing link on how coachee learn, the learning dynamics and how it develop leaders (Barner & Higgins, 2007). It is important for a coach to understand how coachee learn in the coaching process to facilitate the learning process better. Apart from that, the activity of coaching brings together behaviours, techniques and methods that will have different impact to the results or outcome of coaching.

The expected findings will bridge the gap of practise and theory within the coaching process and explore in depth on actions within the coaching process that triggers the learning. It is crucial for coaches to understand knowledge on how learnings took place within the coaching process so that they could increase the effectiveness of coaching process by being responsive to the learning needs of coachee and also highlight a range of ways that could hinder the effectiveness of coaching process.

References

- Albizu, I. R. (2015). "Determining factors in the effectiveness of executive coaching as a management development tool". *Management Decision*, 1677 - 1697.
- Anderson, D., & Anderson, M. (2011). "Coaching That Counts". New York: Routledge.
- Anderson, D., & Anderson, M. (2016). "Coaching That Counts". Taylor & Francis Group.
- Argirou, A. M. (2016). "Coaching: From challenge to opportunity". *Journal of Management Development*, 448-463.
- Barner, R., & Higgins, J. (2007). "Understanding the implicit models that guide the coaching process". *Journal of Management Development*, 148-158

- Bougae, C. (2005). "A descriptive study of the impact of executive coaching from the perspective of the executive leader". Capella University.
- Cacioppe, R. (1998). "Leaders developing leaders: an effective way to enhance leadership development programs". *Leadership & Organization Development Journal*, 194-198.
- Celoria, D., & Hemphill, D. (2014). "Coaching from the coaches' perspective: a process-oriented focus". *International Journal of Mentoring and Coaching in Education*, 72-85.
- Jones, D. (2005). "Executive Coaching and its Role in Effective Leadership Development". *International Journal of Leadership in Public Services*, 1(1), 45-48.
- Jones, G. (2006). "Coaching high achievers: Human Resource Management International Digest", 14 (7), 3-4.
- Jonsen, S. B. (2012). "Coaching executive teams to reach better decisions". *Journal of Management Development*, 711 - 723.
- Karlsen, M. E. (2016). "A study of coaching leadership style practice in projects". *Management Research Review*, 1122 - 1142.
- Killian, S. (2010). "Designing Leadership Development Initiatives: Clarifying The Why, Who, What, How and When. *Development and Learning in Organizations: An International Journal*, 15-18.
- MacCauley, C.D. and Van Velsor, E. (eds.) *Handbook of Leadership Development* (2nd Ed.). San Francisco: Jossey-Bass, 2004.
- Martineau, J.W. & Hannum, K.M. (2003). *Evaluating the Impact of Leadership Development: A Professional Guide*. Greensboro, NC: Center for Creative Leadership.
- McDermott, A., Kidney, R., & Flood, P. (2011). "Understanding leader development: learning from leaders". *Leadership & Organization Development*, 358-378.
- Rekalde, I., Landeta, J., & Albizu, E. (2015). Determining factors in the effectiveness of executive coaching as a management development tool. *Management Decision*, 53(8), 1677-1697.
- Richards, C. R. (2006). *Action Learning, Leadership and Organizational development in Public Services*. New York: Routledge.
- Rigg, C., & Richards, S. (2006). *Action Learning, Leadership and Organizational Development in Public Service*. Park Square, Milton Park. Abingdon, Oxon: Routledge Taylor & Francis Group.
- Speltz, M. E. (2013). *Defining critical factors in executive coaching relationships from the perspective of the executive coaching*. Minneapolis: University of Minnesota.
- Swanson, R. A., & Holton III, E. F. (2009). *Foundations of Human Resource Development*. Berrett-Koehler
- Terrell, R. S., & Rosenbusch, K. (2013). "How global leaders develop". *Journal of Management*
- Wildflower, D. L., & Brennan, D. (16 October, 2013). *coachfederation.org*. Retrieved from <http://icfcoachingworld.com>
- Zenger, J. H., & Stinnett, K. (2010). *The Extraordinary Coach: How the Best Leaders Help Others Grow*. United States of America: McGraw-Hill.

EMOTIONAL INTELLIGENCE ON HEALTH BEHAVIOURS AMONG MALAYSIAN UNIVERSITY STUDENTS IN A MALAYSIAN PUBLIC UNIVERSITY: THE MEDIATING ROLE OF SELF EFFICACY

Roxana Dev Omar Dev, Tengku Fadilah Tengku Kamalden., Soh Kim Geok, Maria Chong Abdullah, Ahmad Fauzi Mohd Ayub & Ismi Arif Ismail
Faculty of Educational Studies, Universiti Putra Malaysia
rdod@upm.edu.my, tengku@upm.edu.my, kimgeoks@yahoo.com,
mariachong2002@yahoo.com, afmy@upm.edu.my, ismi@upm.edu.my

ABSTRACT

University students typically enter a dynamic transitional period of new independence from their parents that is characterized by many factors. These factors which involve social, financial, and environment elements, can be a burden to the students putting them at risk in negative health behaviours. Negative health behaviours among university students are a course of concern since they have a tendency to be carried into adulthood which can possibly cause the emergence of chronic disease at a younger age. Self-efficacy is seen to increase with students' emotional intelligence, together with better health behaviour. Therefore, the purpose of the study was to investigate the relationship between emotional intelligence and self-efficacy (mediator) on health behaviours among university students in Universiti Putra Malaysia, Malaysia. A correlational study was conducted on 400 undergraduate university students who lived on campus and were chosen through stratified random sampling technique using closed ended questionnaires (Schutte's Self Report Emotional Intelligence, General Self Efficacy Scale and a modified version of Health Style Questionnaire). Structural equation modeling was used to explore association between these aspects. Emotional intelligence, self-efficacy and health behaviour were significantly correlated and self-efficacy showed a partial mediation effect towards the relationship between emotional intelligence and promoting health behaviour ($p=0.0001$). Thus, there was an association between emotional intelligence with health behaviour, and emotional intelligence partially mediated this relationship. It is interpreted that emotional intelligence can boost positive health behaviour and emotional intelligence associated with self-efficacy relevantly gives benefit to health behaviour. Such data have important implications for both health practice and policy especially for higher education institutions.

Keywords: Emotional intelligence, self-efficacy, health behaviour, undergraduate students

Introduction

Health behavior has been recognized as an important determinant of health status (Wang, Xing & Wu, 2012). It has been stated that 60% of a person's health status is dependent on one's health behavior or lifestyle (WHO, 2004). Many studies have proposed that healthy behaviors reduce morbidity and mortality rates (Hu et al., 2011; Reddy et al., 2011). Moreover, healthy living habits or behavior that is portrayed in the early childhood or youth would be adopted later in the adulthood (Lansberg et al., 2010). Even though, bad habits such as unhealthy behaviors are hard to changed, however, if the detection is done early in the schooling years till early adulthood, it is still possible to have the habits or behaviors changed (Gall et al., 2009). Thus, youth and school children should be educated about the importance of health lifestyle and behaviors (Roxana et al., 2014; Phongsavan et al., 2005) so that a healthy and responsible generation can be produced.

Health risk behaviors are detrimental actions that increases rate morbidity and mortality (Spring et al., 2012). At least five categories of behaviors have been consistently found to correlate with high morbidity and mortality, which are; (1) consuming high calorie diet, high fat, high sodium and low in nutrients (Pokhrel et al., 2013; Mente et al., 2009), (2) inactive physically and sedentary

(Roxana et al., 2013; Fogelholm, 2010), (3) cigarette smoking (Khan et al., 2015; Caldeira et al., 2012), (4) substance abuse such as consuming alcohol and drugs (Guerra de Andrade et al., 2012; Quinn &

Fromme, 2011) and (5) risky sexual behaviors engagement (Poscia et al., 2015; Caico, 2014). Conversely, health promoting or protective behaviours are linked with actions that reduce disease susceptibility and facilitate health restoration (Spring et al., 2012) which are (1) physically active (Deliens et al., 2015), (2) eating fruits and vegetables (Plotnikoff et al., 2015) and (3) adherent with prescribed medication (Rickles et al., 2012)

University students represent a vast component of the youth population (Wang, Xing & Wu, 2013) where most faced a new environment of freedom or independence from their parents (Pullman et al., 2009). They are navigators in the difficult waters that separate adolescence from adulthood as they take more responsibility for their daily lives and develop life skills that are vital as any academic coursework. Hence, health promoting behaviors such as proper nutrition, and physical activities are important to combat multiple stress that will be part of the students' lives in the campus (Roxana et al., 2014).

Emotional intelligence (EI) is known to have a variety of positive effects on the functioning of human beings and also has been recognized as the main factor that can maintain and improve human positive health behaviour (Roxana Dev, et al., 2014). According to Li, Lu, & Wang (2009), good emotion handling is a motivating factor for most human behaviour. In other words, the ability to verify various forms of emotion in conjunction with thinking process, and use of this ability to manage personal growth is defined as emotional intelligence (Mayer, Salovey, Caruso, & Sitarenios, 2001). Li et al. (2009) showed that EI was one of the psychological mechanism that was responsible for positive changing behavior that associated with physical activity participation which was also seen in a Malaysian study (Roxana Dev et al., 2012).

Self-efficacy refers to a person's belief in his/her ability to organise and execute a required course of action to achieve a desired result (Bandura, 1997). Self-efficacy has been found to be related to academic achievement, behaviours and attitudes (Faulkner & Reeves, 2009; Hagger, Chatzisarantis & Biddle, 2001; Yalcinalp, 2005; Schwarzer & Fuchs, 2009; Salami, 2004; Salami & Ogundokun, 2009). It is, expected that self-efficacy will be related to students' health behaviours. However, there is scarcity of research that examined the self-efficacy of college students in relation to their health behaviors. Self-efficacy determines an individual's resiliency to adversity and his/her vulnerability to stress (Bandura, Caprara, Barbaranelli, Gerbino & Pastorelli, 2003). General self-efficacy aims at a broad and stable sense of personal competence to deal effectively with a variety of stressful situations (Adeyemo, 2008; Schwarzer, 1994). Perhaps for an individual who has low emotional intelligence, having high self-efficacy will help him/her in displaying appropriate health behaviours. Therefore, it is expected that self-efficacy will moderate the relationship of emotional intelligence with students' health behaviours. Hence, with the combination of these various past studies, this study aims to investigate the influence of self-efficacy (SE) as the mediator between emotional intelligence (EI) and health behaviors (HB) among university students in a public university in Malaysia.

Methodology

This study is a quantitative correlational research. Pena and pencil, self assessed survey from and questionnaires were the main data collection method. Participants were recruited from 16 dormitories of a Malaysian public university. 400 students participated by using proportionate stratified random sampling technique. There were three main instruments used in the study which were The Assessing Emotions Scale (TAES), General Self Efficacy Scale (GSES) and Health Behaviour Questionnaire (HBQ) (a modified version of Health Style Questionnaire).

The Assessing Emotions Scale (TAES), developed by Schutte, Malouff and Bhullar (2009) was used to measure four facets of emotional quotient (Salovey & Mayer, 1990) which are; 1) perception of emotion, 2) managing own emotions, 3) managing others' emotion, and 4) utilization of emotion. TAES comprised of 33-items using a 5-point Likert scale that based on four dimensions of

emotional intelligence (EI) which are perceive emotions, utilizing emotions, regulating emotions and managing emotions. The scale ranges from 1=strongly disagree, 2=disagree, 3=somewhat agree, 4=agree, and 5= strongly agree. The Cronbach alpha reported by Schutte et al. (2009), was .90 while this study attain .87.

Generalized Self-Efficacy Scale (GSES) was developed by Schwarzer and Jerusalem (1995). The GSES is a 10-item scale that assessed self-efficacy based on personality disposition. It is measured on a 4-point Likert scale ranging from 1= Not at all true to 4= Exactly true. The Cronbach's alpha coefficient of GSES range from .75 to .90 for this study.

Lastly, Health Behaviour Questionnaire (HBQ) was adapted from Lifestyle Self-Test, Department of Health and Human Services, U.S. Public Service. There are 32-items with six constructs which are: 1) smoking, 2) nutrition/eating habits, 3) physical activity, 4) alcohol and drugs, 5) stress management and safety, which had been evaluated with 5-point Likert scale ranging from 0=almost never, 1=rarely, 2=sometimes, 4=often, and 5=lmost always. This study gain Cronbach alpha of .87 which fall in acceptable range that was reported by Jackson (2007) .78 to .95 in many studies.

The participants administered the questionnaires which consisted of the measures described above in their college. Informed consents of the students and the college authorities were obtained. Of the 400 questionnaires, 400 were returned and all were properly filled and were used for data analysis. The data was collected within six weeks and the questionnaires were completed anonymously with some additional information regarding gender, age, races, department, and current year of study. IBM Statistical Package for Social Science Statistics (version 20.0) and IBM Statistical Package for Social Science Amos (version 22.0) were used for data analysis. Besides, correlation analysis between EI, SE and HB, the mediating effect of SE towards the relationship between EI and HB was also analyzed using path analysis in AMOS.

Research Finding

Relationship between Emotional Intelligence, Self-Efficacy and Health Behavior

Correlation analysis was used to attain the relationship between variables. Based on table 1.1, all the variables are positively correlated. Emotional intelligence significantly correlate with self-efficacy ($r = .398, p = <.001$) and health behavior ($r = .354, p = <.001$). Self-efficacy also significantly correlated with health behavior ($r = .395, p = <.001$). Therefore, these three variables are suited to be tested in mediation model.

Table 1.1 Emotional Intelligence, Self-Efficacy and Health Behavior Correlation Analysis

	Emotional Intelligence	Self-Efficacy	Health Behaviour
Emotional Intelligence	Pearson Correlation 1 Sig. (2-tailed)		
Self-Efficacy	Pearson Correlation .398*** Sig. (2-tailed) .000	1	
Health Behaviour	Pearson Correlation .354*** Sig. (2-tailed) .024	.395*** .011	1

Notes : *** = $p < .001$ (2-tailed); * = $p < .05$ (2-tailed)

Mediating Effect of Self-Efficacy toward the Relationship between Emotional Intelligence and Health Behaviour

Table 1.2 shows the direct effect of emotional intelligence on health behaviour without mediator variable as illustrated in Figure 1.1. The result showed that there was a significant relationship between emotional intelligence and health behavior with $\beta = .354, p < .001$. The results indicated that as emotional intelligence increased by 1 standard deviation, health behavior will increased by .354.

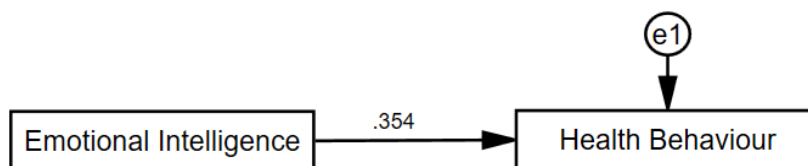


Figure 1.1. The direct effect of emotional intelligence toward health behavior

Table 1.2 Before Mediator Variable Enter the Model

Regression weights	Estimate	SE	C.R.	P.Value
HB ← EI	.354	.052	7.558	***

Notes : *** = $p < .001$

Next, results in table 1.3 indicated the direct effect of emotional intelligence on health behaviour with mediator variable as illustrated in figure 1.2. The results show that the direct effect of emotional intelligence to health behavior was significant with $\beta = .233$, $p < .001$. It indicated that when emotional intelligence increased by 1 standard deviation, health behavior will increased by .233. On the other hand, emotional intelligence had significant direct effect to self-efficacy with $\beta = .398$, $p < .001$. It can be indicated that as emotional intelligence increased by 1 standard deviation, self-efficacy will increase by .398. Lastly, self-efficacy direct effect toward health behavior was also significant with $\beta = .302$, $p < .001$. It shows that when self-efficacy increase by 1 standard deviation, health behavior will increased by .302.

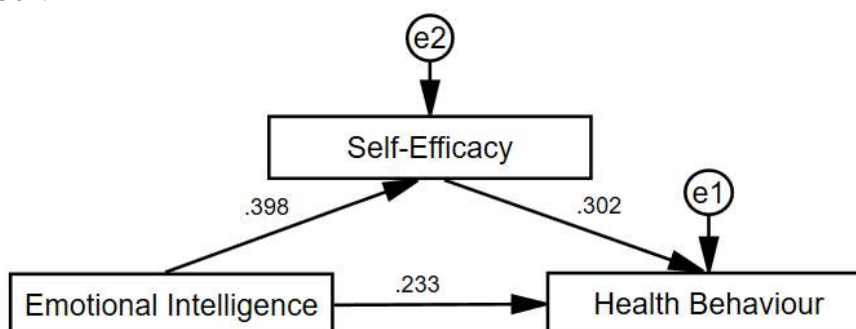


Figure 1.2 The indirect effect of emotional intelligence, self-efficacy and health behavior

Table 1.3 Model with Mediator

Regression weights	Estimate	SE	C.R.	P.Value
HB ← EI	.233	.054	4.787	***
SE ← EI	.398	.054	8.675	***
HB ← SE	.302	.046	6.204	***

Notes : EI = Emotional intelligence; SE = self-efficacy; HB = Health Behavior; *** = $p < .001$

As the mediator variable was placed in the model (refer to Figure 1.2), the direct effect estimate was decreased from $\beta = .354$ to $\beta = .233$ and the results remain significant at $p = <.001$. This finding demonstrated that self-efficacy was partially mediated relationship between emotional intelligence and health behavior. However, bootstrapping method was applied to test the significant of the mediation model. 5000 samples were requested for bootstrapping; a bias-corrected and accelerated confidence interval (CI) was set to 95% CI. The results shown in Table 1.4 indicated that self-efficacy had significant mediation effect with lower bound = .082 and upper bound = .171, with $p = .001$.

Table 1.4 Bias-corrected Percentile Method

	Lower-bounds Physical Activity	Upper-bounds Physical Activity	Two-tailed Sig
Health Behaviour	.082	.171	.000**

Notes: ** = $p < .001$

In conclusion, results in table 1.5 is a summary for direct effect and indirect effect of emotional intelligence on health behavior. The direct effect of emotional intelligence to health behavior was $\beta = -.232$ and significant at $p < .001$. The indirect effect of emotional intelligence to health behavior with self-efficacy as the mediator was also significant with $\beta = .120$, $p = < .001$.

Table 1.5 Summary of Emotional Intelligence as Mediation

Hypothesis	Direct effect (x → y)	Indirect effect	Result
EI → SE → HB	.233***	.120***	Partial Mediation

Notes: EI = Emotional intelligence; SE = self-efficacy; HB = Health Behavior; *** = $p < .001$

Discussion

The primary aim of this study was to investigate the relationship of emotional intelligence, self-efficacy with health behaviors. It was found that the independent variables significantly predicted the students' health behaviors. These findings support the work of previous researchers who found that both cognitive variables (emotional intelligence and self-efficacy) influenced students' behavior specifically health behavior. This study found that there was a positive moderate correlation between emotional intelligence (EI) and health behavior (HB). This study was supported by Roxana et al. (2014) as it stated that high EI increases physical activity (an element of health behavior) and vice versa (Li, et al., 2011) Moreover, Syqit-Kowalkawska et al. (20145) showed that students who had higher EI demonstrated pro-health behavior such as abstinence of smoking and alcohol intake. Next, McPhie and Rawana (2015) stated that emotional intelligence assisted the adolescence to become more relax and conduct their daily lives with a purpose. In addition, Salami (2010) explained that emotional intelligence gave impact towards psychological and cognitive to give a feeling of relaxed, happy, enhance confidence and self-esteem. Hence, health behavior is also in aligned with the positive attitude and personality. This study showed that higher participation in EI decreased the negative aspects of psychological and in consequence with that increases health promoting behavior.

Next, it was also found that there was a significant positive moderate correlation between SE and health behavior. Association between SE and health behavior have been studied globally even though the numbers are still limited. However, this study indicated that there was an association between those variables. Some of the previous research supported the findings in this study. Zlatanovic (2015) found that there was a relationship between SE and health behavior by stating the effect of SE towards mood regulation and health behavior. Moreover, it was also supported by Li et al. (2009) as they found that higher level of SE will lead students to have more positive mood, optimistic attitude and lowering negative mood. Self-efficacy beliefs also influence a number of biological processes that, in turn, influence health and disease. Bandura (1986) has argued that perceived self-efficacy is a crucial determinant of health-related stress reaction, and this general relationship is supported by extensive empirical evidence. It is also found that people with high self-efficacy beliefs respond with more adaptive ways or forms of coping when an illness is experienced; for instance, higher self-efficacy is associated with greater ability to withstand pain, as well as with frequent and successful use the coping strategies directed to problem (instead of using the mechanism of escaping) (Trouillet et al., 2009). Hence, higher SE will in turn have better health behavior.

This study also found that there was significant positive moderate relationship between EI and self-efficacy. There are a few previous researches supported the findings in this study. Gertepheh et al. (2015) well supported this study's findings as EI has positively correlated with SE, where promote positive cues and reaction in life. While EI has negatively correlated with negative psychological

well-being such as depression, stress and loneliness, and this was found in Lougheed and Hollenstein (2012) reported that low range of emotional regulation lowered the internalizing problems such as depression, anxiety and social anxiety because of low self-efficacy, in part of not having the capability of internalizing problems in adolescents.

This study found that there was a significant partial mediating effect of SE on the relationship between EI and health behavior (HB). Prior to the collection of data, researcher had reviewed in depth on the role of SE as the mediator for any relationship. Armum and Chellapan (2016) found the potential of SE as the mediator between EI and exercise behaviour. It was found that SE mediated the relationship between personality and exercise behaviour. This showed that SE has the capability to mediate a relationship with HB as variable, thus support the finding in this study where SE was correlated with EI.

In conclusion, it was found that higher level of EI can promote healthy behavior. This means that high EI individuals did not only increase their emotional health but also in health behavior. Furthermore, this study also found that EI was positively correlated with SE. Higher level of EI elevated SE score thus, having better skills in coping with stressors and likely to take problems that occur as a challenge to succeed. The large body of research on this kind of influence has shown that enhancing self-efficacy beliefs is crucial to the successful change and maintenance of various patterns or forms of health-related behaviours in the face of obstacles and aversive experiences, including the following practices: stress management (stress response and coping), addictive behaviors, reducing sexual risk behavior, AIDS-related health behaviour, smoking cessation, nutrition and weight control, adherence to medication requirements and suggested treatment or rehabilitation, regular physical exercise, healthy decision making and choices of healthy lifestyle, health-protective behavior, and disease detection behaviors such as breast self-examinations (Zlatovic, 2015)

Lastly, the findings of this study indicated that SE partially mediates the relationship between EI and HB, by demonstrating a reduction in the direct effect of EI on HB after inclusion of SE into the path analysis. This may suggest that individuals with high level of EI tend to use SE skills involving the ability to organize and execute a required action that contribute to less risky health behaviors. However, the effect of EI on HB remained significant even after inclusion of the mediator, and according to Baron and Kenny (1986), this may indicate the operation of multiple mediating factors.

References

- Armum, P., & Chellapan, K. (2015). Social and emotional self-efficacy of adolescents: measured and analysed interdependencies within and across academic achievement level. *International Journal of Adolescence and Youth*, 21, 279-288.
- Bandura A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs: Prentice Hall.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.
- Gharetepeh, A, Safari, Y., ashaei, T., Razaee, M., Kajbaf, M.B. (2015). Emotional intelligence as a predictor of self efficacy among students with different levels of academmic achievement at Kermanshah University of Medical Sciences. *Journal of Advances in Medical Education and Practice*, 3(2), 50-55.
- Li, G. S.-F., Lu, F. J. H., & Wang, A. H.-H. (2009). Exploring the Relationships of Physical Activity, Emotional Intelligence and Health in Taiwan College Students. *Journal of Exercise Science & Fitness*, 7(1), 55-63.
- Lougheed, J. P., & Hollenstein, T. (2012). A limited repertoire of emotion regulation strategies is associated with internalizing problems in adolescence. *Social Development*, 21(4), 704-721.
- McPhie, M. L., & Rawana, J. S. (2015). The effect of physical activity on depression in adolescence and emerging adulthood: A growth-curve analysis. *Journal of adolescence*, 40, 83-92.

- Roxana Dev, O. D., Ismi Arif, I., Maria Chong, A., & Soh Kim, G. (2014). Emotional intelligence as an underlying psychological mechanism on Physical Activity among Malaysian adolescents. *Middle-East Journal of Scientific Research*, 19, 166-171,
- Roxana Dev, O. D., Ismi Arif, I., Mohd Sofian, O.-F., Maria Chong, A., & Soh Kim, G. (2012). Emotional intelligence as a potential underlying mechanism for physical activity among Malaysian adults. *American Journal of Health Sciences (AJHS)*, 3(3), 211-222.
- Salami, S.O. (2010). Emotional intelligence, self-efficacy, psychological well being and tudents' attitudes: Implications for quality education. *European Journal of Educational Studies*, 2(3), 247-257.
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (2009). Development and validation of a measure of emotional intelligence. *Personality and individual differences*, 25(2), 167-177.
- Syqit-Kowalkawska, E., Sygit, K., & Sygit, M. (2015). Emotional intelligence vs. health behavior in selected groups in late adulthood. *Annals of Agriculture and Environmental Medicice*, 22(2), 338-343.
- Tronille,t R., Gan,a K., Lourel, M., & Fort, I. (2009). Predictive value of age for coping: The role of self-efficacy, social support satisfaction and perceived stress. *Aging and mental health*, 13, 357-366.
- Zlatovic, L. (2016). Self-efficacy and health behavior: some implication for medical anthropology. *Journal of the Anthropological Society of Serbia Niš*, 51, 17–25.