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A Preliminary Analysis of the EAW Programme: Looking from the Teachers' Perspective

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ABSTRACT

The objective of this study was to explore the lecturers' perception of the English for Academic Writing programme by taking into account the aspects of course outline, instructors' readiness, course materials and course duration. English for academic writing is not only a prerequisite for graduation requirement but it also helps to prepare the students in completing every assignment and task within their study period. While an academic review is important for every course offered at the higher institutions, opinions and voice from all stakeholders including the instructors must be considered. The need to evaluate the curriculum is necessary to determine the effectiveness of the syllabus and its content. This quantitative study explored the opinions' of teachers who were responsible in delivering the syllabus for the undergraduates at an international university where English is the main medium of instruction. Questionnaires were distributed to 41 instructors at the university's main campus. Their responses were crucial indicators to elicit information on the effectiveness of the course conducted. Although teachers might evince interest in teaching, some may not be experts in academic writing based on their own academic qualification and their



tenure as lecturers. The results showed that the lecturers were positive in terms of course outline, materials and readiness. However, the lecturers' general perception for course duration was considered as moderate and there is no significant difference of perception across different personal background. The analysis and discussions from the study provided a platform for curriculum designers to polish and further improve the English for academic writing course.

Keywords: *English for academic writing, course evaluation, teacher perception, curriculum review*

INTRODUCTION

While universities constantly and continuously revise their English language course to embrace the current and relevant needs of their students, it is also imperative not to overlook the needs and the preparedness of the instructors and the teachers. Eraut, Goad and Smith (1975) originally referred curriculum evaluation as 'the collection and provision of evidence on the basis of which decision can be taken about the feasibility, effectiveness and educational value of the curricula' p. 11. Thus, the crucial factor in ensuring the success of any language programmes do not lie solely on the course content and outline but equally important are the readiness and the effectiveness of the teachers in delivering the lessons. When a new English for academic writing programme is introduced, feedback from all quarters including teachers and students are vital for the improvements of the curriculum and teaching pedagogy. Continuous improvement to any language course has to be carried out to ensure the quality of the English programme as it is vital in achieving the course objectives for the students.

Long (2005) cautioned that language teaching programmes should not be designed without a systematic needs analysis. Needs analysis has been regarded as the most appropriate method as it 'can tell us a lot about the nature and content of the learners' target language needs' (Hutchinson, 1988, p. 71). The demand for academic writing courses is increasing globally due to the fact that such courses are necessary not only for educational purposes in countries where English is the mother tongue, but also in countries where English is spoken widely as a second language or even as the medium of

instruction in universities (Eslami, 2010). There has always been an issue that English for academic purposes programmes have been developed without conducting a systematic needs analysis both from the students' and instructors' perspectives (Eslami, 2010). Hoseini and Shahriari (2010) reminded that needs analysis are considered to have diverse categories and are not observed as a unitary term anymore. Components of a language course are determined by a needs analysis that plays a pragmatic role in leading the language classes (Momtazur, 2012). Through needs analysis procedure, information about learners' needs is collected (Richards, 2001). The importance of a need analysis is stressed through ESP and EAP, as well as general language courses, task-based curricula, and performance assessment (Afzali & Fakharzadeh, 2009).

The findings from this study will be beneficial for practitioners who are deeply concerned with preparing English for academic writing courses because needs analysis is a very fundamental first step prior to designing and developing a language course, producing materials for teaching and learning, and developing language tests (Gholami, Noordin & Mustapha, 2013). English for academic writing, henceforth referred to as EAW, can be considered as an approach to language learning that is based on the learners' needs; related in content to a particular discipline, occupation or activities; centred on language appropriate to these activities in syntax, lexis, discourse, semantics and involves an analysis of the discourse (Hutchison & Waters, 1987; Strevens, 1988). The learning skills that are taught may be restricted, for example, only to writing. EAW has often been touted as the most significant development in the field of English language teaching. Thus, any issues pertaining to EAW including programme evaluation cannot be dismissed without being given any proper attention.

Evaluation of any language courses can be approached from the learners' perspective, from the teacher's perspective and from the perspective of the outside language-teaching experts (Lynch, 1996; Richard, 2001). The scope of coverage also varies from one research to another. Coverage of evaluation studies can include curriculum design, the syllabus and programme content, classroom processes, instructional materials, the teachers, the students, monitoring of pupil progress, learner motivation, the institution, learning environment, staff development and decision making (Sanders, 1992). Genesse (2001) reported that evaluation can be categorised

into three types; formative, developmental or summative. Depending on the objectives of the evaluation, useful information can be gathered about the classroom and more effective teaching pedagogy can be proposed as a result of strategically well executed and conducted evaluation (Rea-Dickins & Germaine, 1992).

Evaluation is a systematic attempt to gather information in order to make judgements or decisions. Programme and /or course evaluation is a process in which different types of data are collected systematically in order to study the virtues and weaknesses of a language instruction programme (Zahrobi, 2012). Although course evaluation can be seen as a positive step in trying to improve and revise the present curriculum, there are others who are hesitant about taking the first step. Fear of negative results, concerns about the potential impact the course has on their students and the adverse remarks received are just a few excuses for not wanting to have the course evaluation done. If treated with professionalism and carried out with noble intentions, course evaluation can bring nothing else but success to the whole course in general. And it goes without saying that the benefits are aplenty for both teachers and students alike. Van de Poel and Gasierok (2006) emphasized that in the process of designing a new curriculum, decisions have to be made by taking into account information from different sources. Al-Jardani (2012) wrote in his article on Oman's curriculum review, internal and external sources are necessary in renewing and revising language courses. However, when the programme has been designed, the development process is not over as the outcome must be assessed, evaluated, revised and update into a course update. These views are parallel with Brown's study when he concludes that 'the heart of systematic approach to language curriculum designs is the evaluation: the part of the model that includes, connects, and gives meaning to all the other elements' (1995, p. 217). Laverie (2002) proposed the idea of differentiating formative and summative evaluations to improve teaching. According to her, the differentiation is critical and the two come together in a comprehensive approach to improving teaching. An example of a formative evaluation is one conducted at mid-semester, when it is still possible to improve, and in contrast the more badly focused summative evaluation happens at the end of or even after the course is completed (Laverie, 2002). Fisher and Miller (2008) also support the idea that findings from formative and summative evaluations should feed into subsequent offerings of the same course.

Struyven, Doccy and Stressen (2005) suggested that educators have an opportunity to provide an important influence on student approaches to learning when their voices are taken into account in programme evaluation. In terms of evaluation where textbooks are concerned, Kayapinar (2009) discovered that teachers strongly feel that textbooks should only be useful in a creative and flexible manner and that they should not be dominating the teaching and learning process. As mentioned by Dunkin (1995) in his article on higher education 'the depth and breadth of the teachers' cognitive repertoire empowers teachers to make good decisions and judgements at the planning, implementation, evaluation, and follow-up stages of the teaching-learning process'. As mentioned by Ajelayemi (2012), the teacher factor has always been identified as one of the most crucial factors in any English language programmes. In other words, teachers' voices are as equally important as other aspects of a programme evaluation and any available information regarding teachers' perception should not be treated with any less respect.

In the Malaysian context, several researchers have voiced their concern over programme evaluation. Stapa and Mohd Jais (2002) revealed in their article, the English courses should be evaluated from time to time in order to improve the language proficiency that is needed for the industry. Sarudin, Zubairi and Ali (2009) emphasized the need to evaluate language courses at tertiary level in Malaysia to meet the current demands of the job market. Further steps that can be taken will be detecting and evaluating the effectiveness or the results from the intended course. In conclusion, evaluation for any language programme is an essential element in ensuring the quality and success of the course. The Malaysian Ministry of Education views evaluation and the effectiveness of a training programme or a course as an effort which aimed to assess the achievement and the objectives of the programme.

The point of departure for the current study is that it proposes an early formative evaluation of the EAW course. This is simply because the study was undertaken in the middle of the semester where the teachers already had an idea of what the course is all about and yet have not quite reached the concluding stage of the course.

In this present study, the former English for academic purposes (EAP) programme was experiencing a transitional stage of emerging as the new English for academic writing programme. However, little is known about the lecturers' view of the new curriculum. Amongst other issues, there were reservations about how equipped the lecturers' are in teaching the course. As highlighted by Alexander (2012), the teaching of EAP alone requires the lecturers' abilities, experience and teaching skills and these attributes should not to be overlooked. The Critical EAP theory as advocated by Benesch (2001) strongly questions the tenet of EAP analysis when EAP educators are simply consenting to changes in developing EAP courses to suit the learners' discipline content. Carlin (2005) concurs by questioning the unequal power relationship between educators and the practicality of the pedagogical activities conducted as outlined in the curriculum. Hence, the critical EAP theory supports the idea of teachers becoming more augmented and proactive in changes that are taking place in the curriculum. The insufficient empirical studies concerning the teachers who are also non-native speakers have exerted numerous questions on the instructors' knowledge and skills. Several existing studies are disposed towards learners' feelings and perceptions (Atef & Munif, 2009; Indera Devi & Teh Zahariah, 2010), but little is known from the educators' point of view. Very often, courses are designed without taking into account the teachers' opinion on the programme, besides neglecting their readiness to teach. Apart from that, there were questions about the allocation of time for the whole course. Matters pertaining to teaching materials were also apparent. Hence, these concerns are some of the challenges that must be addressed by the policy makers at the higher learning institutions.

The interest of this research stems from the need to find out what the teachers feel about the teaching practices involved in English for academic writing. The survey intended to explore the lecturers' perception of the EAW course. This was done by taking into account the aspects of the course outline, the instructors' readiness, the course materials as well as the course duration. This study sought to find out the answers to the following questions: (i) what are the lecturers' general perceptions of the English for academic writing in terms of the course outlines, instructors' readiness, course materials and course duration? (ii) are there any significant differences among the lecturers from different academic qualification in relation to their perceptions of the course outline, instructors' readiness,

course materials and course duration? and (iii) are there any significant differences among lecturers with different number of years in teaching experience in relation to their perceptions of the course outline, instructors' readiness, course materials and course duration?

METHOD

This study is an attempt to obtain feedback from the instructors on the newly-introduced EAW for its effectiveness. It was conducted within a framework of a bigger study that is focusing on the effectiveness of the newly introduced course, English for academic writing. This research employs a survey research design and it is primarily quantitative in nature. A set of questionnaire was constructed and later distributed to all EAW instructors. Survey method is chosen as it was the best technique in identifying their perception towards the EAW in their classes.

The data used for this study of professional development were collected from 41 EAW lecturers. The instructors were all lecturers at the English Language Division, Centre for Languages who were directly teaching the students for the EAW programme. All the instructors were requested to complete the questionnaire via on-line.

An online survey questionnaire was utilised for the purpose of this study. Dillman and Bowker (2000) emphasized the quality of questionnaire design as important for self-administered instruments. The questionnaire comprised of 20 items which were subdivided into four different sections; course outline, instructors readiness, course materials, course duration.

The questionnaire also collected the necessary demographic information of each instructor such as age, gender, academic qualification and number of years in their teaching experience. Ultimately, these findings will be useful to substantiate the quantitative findings.

Table 1 : Demographic Information of the Respondents

Category	<i>n</i>	%
Gender		
Male	7	17.1
Female	34	82.9
Qualification		
Postgraduate	31	75.6
Undergraduate	10	24.4
Teaching experience		
Less than five years	9	22
Six to ten years	9	22
11-15 years	9	22
More than 15 years	14	34

Firstly, the composite score was used to analyse the lecturers' general perception toward the course outline, instructors' readiness, course materials and course duration. The mean scores for the lecturers' perception were categorised as either 'high' (3.33-5.0), 'moderate' (1.67-3.33), or 'low' (1.0-1.67). Next, the independent *t*-test was employed to analyse if there are any significant statistical differences between lecturers from different academic background in relation to their perception towards the four themes. The final set of computation involved the use of one-way between groups ANOVA with post-hoc comparisons to answer Research Question 3; analysing the differences (if any) between lecturers from different number of teaching experiences with regards to course outline, instructors readiness, course materials and course duration. Subjects were divided into four groups according to their number of years in teaching experience (Group 1 : 0-5

years, Group 2 : 6-10 years, Group 3 : 11-15 years, Group 4 : More than 15 years).

RESULTS AND DISCUSSION

The findings for this study are presented based on the three research questions. The first research question is (i) what are the lecturers' general perceptions of the English for academic writing in terms of the course outline, instructors' readiness, course materials and course duration?

The general perceptions of the English for academic writing among the 41 lecturers can be considered as highly positive in terms of the elements of course outline ($M = 4.18$), instructors' readiness ($M = 3.72$) and course materials ($M = 3.78$). But, the lecturers' general perceptions for course duration considered as moderately positive ($M = 3.04$). For the purpose of measuring the level of general perceptions among lecturers, the researcher used the interpretation to classify the level of high ($M = 3.67 - 5.00$), moderate ($M = 2.34 - 3.66$) and low ($M = 1.00 - 2.33$) based on the study by Kamarulzaman Kamaruddin *et al.* (2016).

Table 2: General Perceptions among Lecturers towards English for Academic Writing

Aspects	Mean	Category
Course outline	4.18	High - positive
Instructors' readiness	3.78	High - positive
Course materials	3.72	High- positive
Course duration	3.05	Moderate - positive

What can be concluded from the table above is that the lecturers are generally positive towards the whole EAW programme. Everyone appears to have a clear idea of what the course is all about. This includes having the understanding of how the course is different from other courses, what needs to be achieved at the end of the semester and more importantly, lecturers

are fully aware of how the new EAW is more specific and more relevant to the students as compared to the former course English for academic purposes (EAP).

The next research question focuses on the different academic background of the teachers. The second research question is (ii) is there any significant differences among the lecturers with different academic background towards in relation to their perceptions on the following aspects of course outline, instructors' readiness, course materials and course duration for the English on academic writing?

An independent-sample *t*-test was conducted to compare the perceptions of the lecturers with postgraduate and undergraduate academic background on the following aspects of course outline, instructors' readiness, course materials and course duration for the English on academic writing.

Table 3: Comparisons of the Lecturers' Perceptions Based on Academic Background for Course Outline

Aspects	Academic qualifications	N	M	SD
Course outline	Postgraduate	31	4.23	0.63
	Undergraduate	10	4.02	0.24
Total		41		

Table 4: Comparisons of the Lecturers' Perceptions Based on Academic Background for Instructor Readiness

Aspects	Academic qualifications	N	M	SD
Instructor readiness	Postgraduate	31	3.88	0.62
	Undergraduate	10	3.44	0.99
Total		41		

Table 5: Comparisons of the Lecturers' Perceptions Based on Academic Background for Course Materials

Aspects	Academic qualifications	N	M	SD
Course materials	Postgraduate	31	3.66	0.56
	Undergraduate	10	3.90	0.68
Total		41		

Table 6: Comparisons of the Lecturers' Perceptions Based on Academic Background for Course Duration

Aspects	Academic qualifications	N	M	SD
Course duration	Postgraduate	31	3.00	0.71
	Undergraduate	10	3.18	1.12
Total		41		

Levene's Test for Equality of Variance			<i>t</i> – Test for Equality of Means			
	F	Sig.	<i>t</i>	df	Sig. (2 – tailed)	Mean Difference
Course outline	0.11	0.75	0.86	39	0.39	0.21
Instructor readiness	7.84	0.01	1.33	11.34	0.21	0.44
Course materials	0.41	0.53	-1.10	39	0.28	-0.24
Course duration	5.48	0.02	-0.46	11.4	0.65	-0.17

There was no significant difference in the scores for the lecturers perceptions towards course outline between postgraduate of academic background ($M=4.23$, $SD=0.63$) and undergraduate of academic background ($M=4.02$, $SD=0.24$) conditions; $t(39) = 0.86$, $p = 0.39$.

There was no significant difference in the scores for the lecturers perceptions towards instructor readiness between postgraduate academic background ($M=3.88$, $SD=0.62$) and undergraduate academic background ($M=3.44$, $SD=0.99$) conditions; $t(11.34) = 1.33$, $p = 0.21$.

For course materials, there was no significant difference in the scores for the lecturers perceptions between postgraduate academic background ($M=3.66$, $SD=0.56$) and undergraduate academic background ($M=3.90$, $SD=0.68$) conditions; $t(39) = -1.10$, $p = 0.28$.

The results also mentioned that there was no significant difference in the scores for the lecturers perceptions towards course duration between postgraduate academic background ($M=3.01$, $SD=0.71$) and undergraduate academic background ($M=3.18$, $SD=1.12$) conditions; $t(11.4) = -0.46$, $p = 0.65$

Generally, these results suggest that there are no significant differences among the lecturers to their perceptions on the following aspects of course outline, instructors' readiness, course materials and course duration for the English for academic writing from the different kind of their academic background (postgraduate and undergraduate).

The last research question focuses on their perceptions towards EAW with regards to the different numbers of years in teaching experience. The third research question is (iii) is there any significant difference among the lecturers with different number of years in teaching experience towards their perceptions on the following aspects of course outline, instructors' readiness, course materials and course duration the English on academic writing?

A one way ANOVA was conducted to compare the lecturers' perception by teaching experiences which were categorised into four conditions (less than five years, six to ten years, 11 to 15 years and more than 15 years) towards the following aspects of course outline, instructors' readiness, course materials and course duration the English on academic writing.

Table 7: Comparisons of the Lecturers' Perceptions Based on Teaching Experiences for Course Outline, Instructors' Readiness, Course Materials and Course Duration

Aspects		Sum of Squares	df	Mean Square	F	Sig
Course outline	Between groups	0.116	3	0.04	0.08	0.97
	Within groups	17.18	37	0.46		
	Total	17.30	40			
Instructors' readiness	Between groups	3.932	3	1.31	2.68	0.06
	Within groups	18.08	37	0.49		
	Total	22.02	40			
Course materials	Between groups	0.39	3	0.13	0.36	0.79
	Within groups	13.68	37	0.37		
	Total	14.07	40			
Course duration	Between groups	3.18	3	1.06	1.68	0.19
	Within groups					

The results show that it has no significant difference at the $p < .05$ for course outline level for the four conditions [$F(3, 37) = 0.083, p = 0.969$], for instructor readiness [$F(3, 37) = 2.682, p = 0.061$], course materials [$F(3, 37) = 0.355, p = 0.786$] and course durations [$F(3, 37) = 0.355, p = 0.786$]. Specifically, the results emphasize that there is no significant difference of the lecturers' perception by teaching experiences for all the aspects of course outline, instructors' readiness, course materials and course duration for the English on academic writing.

CONCLUSION

The overall results of the study indicated that lecturers teaching the EAW have a positive perception towards the course although there was some scepticism on the length of time given to complete the course. They have shown positive attitudes towards the course outline, course materials and

their readiness to teach. Looking at the overwhelming materials provided by the course designers, first time lecturers may feel that the 14-week semester may not allocate enough time for them to teach. This can be overcome if the lecturers are experienced enough to select the materials according to the needs of their students. An experienced teacher is one who is capable of sorting and selecting only the suitable materials for his or her class. A clear understanding of the overall objective of the EAW course also helps in guiding the teachers in their lesson delivery though many have expressed concern over the inadequacy of the training. Ongoing in-house trainings would be a good solution to the grievances expressed by the teachers. In the face of such challenges, it is paramount that teachers are given the right support and assistance towards the success of the second language learning.

In terms of their qualification, it appears that possessing a master degree or a PhD did not reflect any statistically significant differences in their opinion of the course outline, instructors' readiness, course materials and course duration. Despite the fact that the EAW course is very much research-based in nature, the lecturers with only first degree or undergraduate qualification did not show any differences in their perception towards the course as compared to their colleagues who have postgraduate qualification. They appear to be as ready, as positive and as clear as the lecturers who are higher in terms of qualification.

Although the lecturers have different number of teaching years in experiences, the survey has proven that this is not a significant factor in determining their readiness to teach, their perception towards the course materials, course outline and course duration. The survey has grouped them according to four groups; less than five years, between six and ten years, between 11 and 15 years and also those with more than 15 years of teaching experience. The grouping did not reflect any differences in their opinions towards the EAW programme. They all showed no significant dissimilarity in their view of the course. Whether they are in highly experienced or they have less than five years in the teaching career, the data did not show any distinction between them. We can safely say that any young lecturers who joined the teaching line can teach the course as they are no different from the senior lecturers although the latter is superior in terms of number of years in teaching career.

This study has served as an initial analysis for the newly introduced EAW course in IIUM. The data analysed in this study may indicate to the policy makers and curriculum designers that there is still a lot of work to be done in order to improve the course. Another set of survey can be carried out to analyse the lecturers' perceptions of other aspects of the course such as assessment or teachers overall satisfaction. The present study had only limited the qualitative data collection based on the feedback received via the 'other comments' provided in the survey, hence, a more vigorous and in-depth study can also be done qualitatively, taking into account the teachers' point of view. A survey on the students' perception may also well be the next study that should be undertaken to complement the existing data. Studies of the same manner are highly important if the language programmes are to be effective for both the students and teachers.

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ATTITUDE IN LEARNING PHYSICS AMONG FORM FOUR STUDENTS

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ABSTRACT

Physics is considered as the most challenging area of learning within the field of science, and it usually magnetises fewer students compared to other science related subjects from secondary school to university. Generally, students tend to have a negative attitude towards physics presumably because they lack interest in the subject and the syllabus itself. This research is carried out to study the learning attitude in physics and challenges towards learning force and motion among Form Four students in Klang. A total of 200 secondary schools students who are taking physics subject from six schools participated in the study. A descriptive research design was employed using survey method to analyse the students' attitude towards learning physics. The findings on the learning attitudes test showed majority of the students have favourable attitudes in learning physics. However, majority of students hold poor score in physics test, probably due to low science grade obtained by students in 'Penilaian Pentaksiran Tingkatan 3' (PT3). Another finding from the data revealed that the nature of topic was found to be the most predominance challenge in learning force and motion among the participants. The findings are beneficial as they can serve as a stepping stone in overcoming the underlying sources of difficulty that



ABSTRACT

Physics is considered as the most challenging area of learning within the field of science, and it usually magnetises fewer students compared to other science related subjects from secondary school to university. Generally, students tend to have a negative attitude towards physics presumably because they lack interest in the subject and the syllabus itself. This research is carried out to study the learning attitude in physics and challenges towards learning force and motion among Form Four students in Klang. A total of 200 secondary schools students who are taking physics subject from six schools participated in the study. A descriptive research design was employed using survey method to analyse the students' attitude towards learning physics. The findings on the learning attitudes test showed majority of the students have favourable attitudes in learning physics. However, majority of students hold poor score in physics test, probably due to low science grade obtained by students in 'Penilaian Pentaksiran Tingkatan 3' (PT3). Another finding from the data revealed that the nature of topic was found to be the most predominance challenge in learning force and motion among the participants. The findings are beneficial as they can serve as a stepping stone in overcoming the underlying sources of difficulty that impede quality learning of physics. More in depth study is needed to look into this matter with more number of participants including teachers who are teaching physics.

Keywords: *force and motion, learning difficulties, attitude, physics, form four*

INTRODUCTION

Education system plays a vital role in the development of modern technological nation in 2020. To realise the 2020 vision and the National Science and Technology Policy, the Malaysian Ministry of Education (MOE) has launched a mission to ensure that the student ratio in Malaysia will be 60:40 which represents 60% science stream and 40% arts stream students in the upper secondary school (Saleh, 2014). Generally, this policy aims to encourage more science students to participate in the field of health work, engineering, science education, ICT and others science related courses. The MOE was optimistic that the ratio of 60:40 between science and arts

stream students can be achieved by 2010 through students' early exposure towards integrated science and technology curriculum (Veloo & Khalid, 2015). This aspect of science is making significant contribution to many of the inventions that are shaping modern day and establishing a scientific and progressive society, a society that is innovative and forward-looking, for instance, those who are masters in engineering field, specialist doctors, and those who are experts with high technology. However, it is found that the number of students pursuing science subjects is still far behind the targeted figure. Most of the schools can only provide less than 40% science students compared to social science students (Utusan Malaysia, 27 Mac 2009). One of the main reasons identified as the contributor to the lack of student enrolment in the science stream is the outlook that science subjects are difficult. The poor achievement of students in science especially physics has continued to be a major concern to all and particularly those in the main stream of science education (Utusan Malaysia, 27 Mac 2009).

Physics subject is introduced to Malaysian students during their upper secondary school. Physics is taught in two years starting from Form Four and ends when the students are in Form Five. Physics is taught to enable students to grasp its concept and principles in depth along with how this knowledge can be applied in their daily lives (Curriculum Development Centre, 2002). However, physics is considered as the most unpopular and known to be a boring subject compared to chemistry and biology among students especially in the rural areas (Veloo & Khalid, 2015; Guido, 2013; Olusola & Rotimi, 2012). In Malaysia, it has been found that the level of educational achievement in the subject of physics is considered somewhat less satisfactory. Students in Malaysia have not been quite able to excel in physics because most of the students are actually not interested in studying physics. Students' interest towards physics has been found to be on the decline across the stages of study (Halim, Rahman, Ramli & Mokhtar, 2018). Most students consider physics as a difficult subject, mainly due to the learning processes involved in understanding physics, which require the learners to deal with different types of representations, such as formulas, calculations, graphics representations, and also a conceptual understanding at an abstract level (Saleh, 2014; Angell *et al.*, 2004; Sidin, 2003). The lack of students understanding of the problem and their poor mathematical skills also constitute the major obstacles in the circle of difficulties that students experience in solving physics problems (Fadaei & Mora, 2015). As a result,

students have a wide gap and difficulty in understanding specific topics in the curriculum that are usually characterised as lacking concrete examples and requiring a lot of mathematical manipulations or visualisation particularly in learning force and motion. Rohana and Shaharom (2008) reported that generally students failed to master the conceptual understanding of force in Newtonian force concept in physics and they were poor in giving correct answers to problems which are related to force and motion. Besides, Newton's laws of motion have a special role in exploring the world. They are important when viewed in conjunction with other fundamental concepts in physics. Siti Nursaila and Faridah (2016) and Tomara *et al.* (2017) showed congruent finding which revealed that generally students failed to master the conceptual understanding of force in Newtonian force concept in physics and they were poor in giving correct answers to problems which are related to force and motion.

The purpose of this study is to determine the students' attitude towards learning physics. One of the utmost significant factors which affect students' academic success is their attitudes towards school, lessons and academic success (Guido, 2013). Students' attitudes and interest could play significant role among students studying science. Attitude implies favourable, disfavourable or neutral evaluative reactions towards something or item. In other words, attitude is a way of looking or viewing at things. In the theory of attitude, Rosenberg and Hovland (1960) claimed that attitude is the intermediary for all types of reactions which can be categorised into three main components namely emotion, cognitive and behaviour. These three components explain students' attitude towards learning. Gardner (1980) elaborates attitude as the sum total of a man's instinct and feelings, prejudice or bias, preconceived notions, fears, threats, and convictions about any specified topic. In this study, attitude generally are regarded as the positive or negative feelings of individual towards physics learning. Positive learning attitudes are an important aspect in the process of learning science or science related subject like physics. Veloo and Khalid (2015) in a study revealed that positive attitude stimulates students to put more effort and leads to high achievement in that subject while negative attitude towards a certain subject makes learning more difficult. Godwin and Okoronka (2015) agreed with the assertion that a significant relationship exists between students' attitude and their corresponding academic performance in physics.

Most students tend to have a negative attitude towards physics presumably because they dislike the subject, do not obtain high marks in

examination even though they have tried their best, the cramped syllabus content, also do not like physics teachers or lecturers (Halim *et al.*, 2014; Olusola & Rotimi, 2012). A study conducted by Guido (2013) found the similar findings that the students who have negative attitudes towards science; they also do not like physics courses and physics teachers. On the study conducted by Veloo and Khalid (2015), teachers in schools have always commented that student's lower achievement in physics is due to their negative attitude and lack of interest towards the subject. Attitude affects internal motivation which in turn affects the academic achievement and students' participation in school (Visser, 2007). Students with negative attitudes towards physics and limited interest in science can generally be translated into low student enrolments in science stream and consequently in university physics courses leading toward degrees in physical sciences. This has resulted in fewer students pursuing and persevering in physics-related careers during their undergraduate degree. Because of a visible decline in the enrolment in physics and a fall in the interest in physics around the world, many researchers have been made to estimate the attitude of students towards physics at secondary schools and at universities (Milner-Bolotin *et al.*, 2011; Halim *et al.*, 2018). It is deemed necessary to look into this phenomenon.

Previously, the gender difference in university physics achievement has been documented. The terms of gender differences have been used as synonyms in science education studies. The used of gender differences in this study generally to denote achievement differences in learning physics and the challenges in learning force and motion specifically between males and females. Male students, in general, are found to be more interested in the aspects of physical sciences, while female students' interests in science are focused more on the biological and environmental aspects. Eryilmaz (2004) observed that gender contributes to poor achievement of students in physics. According to Mwangi (2003), female enrolment in physics and science subjects in general is very poor. This is in line with the study by Gonzuk and Chargok (2001) which revealed that the number of females who study physics in secondary and tertiary institutions is small compared to the number of males. This difference in the number of females and males in the study of physics has created gender gap in the academic achievement of students in physics and science subjects as a whole. A study by Fatoba and Aladejana (2014) examined the gender on students' attitude in physics

in senior secondary schools in Oyo State, Nigeria. It was found that there was a slight difference in attitude among the students in favour of females in physics. Other study by Coletta, Phillips and Steinert (2012) reported that males outperform females in understanding the force and motion concepts. There is evidence that learning gains in understanding force and motion concept are associated with students' scientific reasoning ability.

Studies conducted by Nworgu, Ugwuanyi and Nworgu (2013) found that school location also play an important role in learning and understanding physics. The result indicated that the rural students appeared to have demonstrated a higher conceptual understanding in physics than the urban students. The result of the study is in tandem with the studies of Erubami (2003) which found that school location is not a significant factor in students' achievement in physics. It however differs from the findings of Isiugo and Labo (2004) which reported significant location effect in favour of urban students. Abdul Rahman (1980) claimed that students from urban areas are generally found to have higher motivation and better understanding than those coming from rural areas. Rural students have been found to exhibit lower performance, due to the lack of exposure to a stimulating environment (Markstrom *et al.*, 2000). Thus, this study aims to investigate the attitudes of Form Four students in learning physics. Specifically, this study is to determine students' challenges in learning force and motion in physics. For further investigation, the study also explores the influence of gender and school location on students' attitude in learning physics.

METHOD

This research is carried out to study the students' attitude in learning physics and to find out the challenges in learning force and motion among Form Four students in district of central state. The study was conducted in six schools (four urban schools, two rural schools), randomly selected in Klang. The research sample consisted of 200 Form Four Science students who took physics at these schools. Convenient sampling techniques were used to ensure the success of the study. The respondents are ready to cooperate with the researcher and agreed to join the study. A descriptive research design is employed using survey method to analyse the students' attitude in learning physics and the challenges in learning force and motion. Questionnaires

regarding 'students' attitude towards learning physics' were designed and disseminated to the schools to be given to the respondents. Students were required to answer the questionnaires honestly within 60 minutes during school hours, arranged by the school administrators. The questionnaires were then collected after the students have completed their answers.

The questionnaire was divided into three parts namely as Part A, Part B and Part C. Part A attempted to gather the respondents' demographic information. Part B contained 15 items which related to the attitudes of students in learning physics. Part C comprised 42 items on the challenges in learning force and motion among students ranging from nature of topic, assessment and curriculum, students, teachers and language and communication. A Likert scale with a five point system was used to measure responses on the questionnaire ranging from '1' (strongly disagree) to '5' (strongly agree). The items had been adapted and adopted from Ornek *et al.* (2008) and Erinoshio (2013). The instruments in Part B and Part C demonstrated strong reliability index with Cronbach's alpha value 0.927 and 0.915 respectively.

The Statistical Package for the Social Sciences (SPSS) programme version 21 was utilised in the data analysis. Descriptive statistics (mean and standard deviation) was used to describe demographic data, determining the attitude of students in learning physics and find out the most predominance challenge in learning force and motion. Meanwhile, inferential statistic such as independent sample *t*-test, Pearson correlation, and Chi-Square analysis were conducted to determine the difference and relationship between variables involved in this study.

RESULT AND DISCUSSION

Research Question 1: What are the Attitudes of Learning Physics among Form Four Students in Klang?

Table 1 shows the attitudes of Form Four students in learning physics. Item 14, 'I do pay attention when my teacher explained the lesson concept in physics' attained the highest mean score with ($M=4.05$, $SD=0.83$). This

was followed by Item 9, 'I can apply physics concepts in a real life situation' with a mean score of ($M=3.93$, $SD=0.94$), Item 12, 'I feel enthusiastic to learn physics' ($M=3.77$, $SD=0.97$) and Item 3, 'I able to use and apply the mathematical skills in physics' ($M=3.76$, $SD=1.00$). Meanwhile, the remaining of the items showed in the range of 2.34 to 3.65. Assuming that an attitude mean score of 2.5 (50%) or greater to be considered as favourable attitude in learning. The findings indicated that the overall attitudes of students towards learning physics are positive and favourable as reflected by the overall attitude mean score 3.460 (69.2%). It is similar to a study conducted by Ali and Awan (2013) and Narmadha and Chamundeswari (2013) which also found a positive attitude among students in learning science and physics.

Table 1: Students' Attitudes towards Learning Physics

No	Item	M	SD
1	Learning physics changes my ideas about how the world works.	3.47	.95
2	Solving problem of physics is an enjoyable and self-satisfying experience.	3.47	.94
3	I able to use and apply the mathematical skills in physics.	3.76	1.00
4	I understand the definition of physics.	3.45	.91
5	I always spend some time and do revision for the topic in physics.	3.10	.93
6	I develop interest in physics lessons.	3.20	1.00
7	I easily learn physics topics.	3.01	.97
8	I study physics not just to pass examination.	3.55	1.06
9	I can apply physics concepts in a real life situation.	3.93	.94
10	Mastering physics topic is an important goal in my life.	3.13	.94
11	I can summarise the important point of the content in physics.	3.05	.94
12	I feel enthusiastic to learn physics.	3.77	.97
13	I like the challenges in physics assignments.	3.55	.99
14	I do pay attention when my teacher explained the concept in physics.	4.05	.83
15	Topics in physics encourage me to continue learning in physics courses.	3.43	1.00
Overall mean score		3.46	0.96

M = mean, SD = standard deviation

Research Question 2: Is There Any Significant Difference in Learning Attitude between Genders?

H_0 : There is no significant difference in learning attitude between male and female students.

H_1 : Male students have more favourable learning attitudes in learning physics compared to female students.

Table 2 shows the analysis of learning attitude between male and female students. It would be beneficial to know which gender has more positive and more negative attitude towards learning physics in secondary schools in Klang. The findings show that female students ($M=3.54$, $SD=0.76$) obtained higher total mean score compared to their male counterpart ($M=3.41$, $SD=0.62$). The overall t -test analysis of physics learning attitudes indicated that there is no a statistically significant difference in learning attitude between male and female students, $t(198) = 1.318$, $p>0.05$. That is the female and male students have shown the same favourable learning attitudes in learning physics. Thus, we fail to reject the null hypothesis. The results of the findings are similar to Guido (2013) and Mushinzimana and De La Croix Sinaruguliye (2016) who reported that there is no significant difference in the attitudes of the male and female respondents in the physics subject. However, these results are contradictory to the early researches conducted by Narmadha and Chamundeswari (2013) who found that the girls are better than boys in attitude towards learning of science. Whereas a study by Fatoba and Aladejana (2014) in their study of gender found slight difference in students' attitude in favour of females in physics. Based on the nature itself, female students mostly lack of interest in physics compared to male students. Female students claimed that physics is difficult for them because the subject tends to favour the masculine nature.

Table 2: Learning Attitude in Physics between Genders

	Gender	N	M	SD	t	df	p -value
Learning attitude	Male	72	3.54	0.76	1.318	198	.189
	Female	128	3.41	0.62	1.246	124.693	.215

Research Question 3: Is There Any Significant Difference in Learning Attitude between Rural and Urban Students?

H_0 : There is no significant difference in learning attitude between rural and urban students.

H_1 : Urban students have more favourable learning attitudes in learning physics compared to rural students.

Table 3 shows that urban students ($M=3.58$, $SD=0.06$) obtained higher mean score compared to their rural counterpart ($M= 3.19$, $SD= 0.06$). The overall t -test analysis for physics learning attitudes indicated that there is a statistically significant difference in learning attitude between urban and rural students since $t(198) = 4.441$, $p < 0.05$. That is, the urban students have shown more favourable learning attitudes in learning physics compared to the rural students. Thus, the null hypothesis is rejected. The results of the findings are supported by Saleh (2014) who revealed that urban students do have a higher motivation compared to rural students in learning physics. This finding concurred with a study conducted by Veloo and Khalid (2015) which claimed that physics is unpopular and known to be a boring subject among students in secondary schools especially in the rural areas. Isiugo and Labo (2004) also reported that the location of the school was closely related to the students' achievements. However, attitudes of students could also be affected by the changing environment. Nowadays, young people all over the world are engrossed in computer gadgets and online social networking which may decrease their interest in learning science. Students nowadays like to spend a lot of time on the internet and playing with their gadgets rather than doing revision on academic subjects. Gadgets seem so much more interesting than school work. This is an environmental challenge that the future communities are facing in this era.

Table 3: Learning Attitude in Physics between Rural and Urban Students

	School Location	N	M	SD	t	df	p -value
Learning attitude	Urban	140	3.58	0.06	3.856	198	.000
	Rural	60	3.19	0.06	4.441	157.601	.000

Research Question 4: Is There Any Significant Relationship between Learning Attitude and Physics Achievement?

H_0 : There is no significant relationship in learning attitude and physics achievement.

H_1 : There is significant relationship in learning attitude and physics achievement.

The Pearson correlation analysis in Table 4 shows that there is a negative and significant relationship between students' learning attitude towards physics and their achievement in physics ($r = -.547, p < 0.05$). The null hypothesis is rejected. This finding shows that students who have favourable learning attitude towards physics obtain low grades in physics and those who have negative learning attitude towards physics obtain high grades in physics. Thus, we fail to reject null hypothesis. This finding is similar to the finding by Visser (2007) which showed that attitude towards science has no relationship with achievement in science. The students were found to achieve good grades in science without having any positive attitude towards science. These results are contradictory to the early researches conducted by Ali and Awan (2013) where students who have positive attitude towards science obtained good achievement in science. Attitude is an important factor to determine success in physics and the findings were supported by Narmadha and Chamundeswari (2013), Veloo and Khalid (2015) and Godwin and Okoronka (2015).

Table 4: Pearson Correlation Analysis between Learning Attitude and Physics Score

		Physics Score	Learning Attitude
Physics score	Pearson Correlation	1	-.547**
	Sig. (2-tailed)		.000
	N	200	200

Learning attitude	Pearson Correlation	-.547**	1
	Sig. (2-tailed)	.000	
	N	200	200

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

Research Question 5: Is There Any Significant Association between Physics Score and Science Grade in PT3?

H_0 : There is no significant association between physics score and science grade in PT3.

H_1 : Physics scores are related to science grade in PT3

Findings in Table 5 shows majority of students ($N=98$) hold poor score in physics test, probably due to low science grade obtained by students in PT3. Further findings in Table 6 (a) and (b) demonstrated an analysis of Chi-Square Tests carried out in determining the association between physics score and science grade in PT3. The findings indicated that there is a significant relationship between students' physics scores and their science grades in PT3 since $\chi^2(2, 200) = 12.257, p < 0.05$. It can be clearly seen that students who obtained high and low grade in science will affect the students' performance in physics. Thus, the null hypothesis is rejected. The findings are in line with Norasyikin and Normashita (2007) study which revealed a significant difference in physics score between students who obtained low and high grade in science and mathematics in *Penilaian Menengah Rendah* (PMR) examination. According to Kinyota (2013), students who were not planning to join science streams perceived themselves as having poor abilities and performance in science subjects. Students equated choosing science subjects with a risk of a life time because that would lead them to fail the final national examination which is a determinant of their future education and life. Abu Hassan's (2004) showed congruent findings, students who obtained high scores in science-related subjects were also found to score highly in PMR examination. Halim *et al.* (2002) also highlighted the role of students' scientific knowledge in influencing their science scores

in national assessments. Besides, Daud *et al.* (2015) revealed that school performance is related closely to the culture practiced in a school. School culture plays a role in driving the school towards achieving the goal set by the school especially academic performance of students. Thus, school with high performance and have an excellent students practice might contribute to easier learning process in physics.

Table 5: Distribution of Physics Scores between Schools in Klang

		Physics Scores			Total
		Excellent	Good	Poor	
Schools	A	3	13	44	60
	B	1	2	17	20
	C	14	9	4	27
	D	1	4	22	27
	E	13	7	7	27
	F	28	7	4	39
Total		61	41	98	200

Table 6: Chi-Square Analysis between Physics Score and Science Grade in PT3

(a) PT3 Grade in Science * Physics Score Crosstabulation

			Physics Score			Total
			Excellent	Good	Poor	
PT3 Grade in Science	High	Count	36	18	31	85
		Expected Count	25.5	17.9	41.7	85.0
	Low	Count	24	24	67	115
		Expected Count	34.5	24.2	56.4	115.0
Total	Count		60	42	98	200
	Expected Count		60.0	42.0	98.0	200.0

(b) Chi- Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.257 ^a	2	.002
Likelihood Ratio	12.299	2	.002
Linear-by-Linear Association	12.079	1	.001
N of Valid Cases	200		
a. 0 cells (0.0%) have expected count less than five. The minimum expected count is 17.85.			

Research Question 6: What are the Challenges in Learning Force and Motion among Form Four Students in Klang?

Finding in Table 7 reveals that the nature of topic ($M=3.91$, $SD = 0.72$) was found to be the most predominance challenge in learning force and motion among the participants. The second highest was attained by the curriculum and assessment with ($M=3.23$; $SD=0.63$), followed by challenges among student with a mean score of ($M=2.79$; $SD=0.64$). Meanwhile, both teacher and language and communication have the mean score of ($M=2.13$; $SD=0.67$) and ($M=3.23$; $SD=0.63$) respectively. The findings have been supported by Checkley (2010) who reported that the nature of topic is often considered boring, the fast progression of the topics can be demanding and the large amount of curriculum content can be confusing. Erinoshio (2013) also claimed that students are always faced with difficulty in understanding force and motion due to the content that usually provided less concrete examples, textbooks content is hard to understand, past year questions are not easy to answer and examination questions are more difficult than learning in class. Besides, teachers typically explain the content according to the textbooks and give students notes to copy. The content is inflexible. There are very few students who take part in arguing or discussing ideas in the class, consequently, students do not develop good understandings of physics concepts, and students' interest in physics is low and their development of understanding of physics concepts is limited.

Table 7: Challenges in Learning Force and Motion

Factors	M	SD
Nature of topic	3.91	0.72
Student	2.79	0.64
Teacher	2.13	0.67
Curriculum and assessment	3.23	0.63
Language	2.23	0.67

Research Question 7: Is There Any Significant Difference in the Challenges in Learning Force and Motion between Genders

H_0 : There is no significant difference in the challenges in learning force and motion between genders.

H_1 : There is significant difference in the challenges in learning force and motion between genders.

Table 8 shows an independent sample t -test analysis carried out in confirming the influence of gender on the factors of learning difficulties of force and motion. It can be seen that a majority of the respondents are female which made up 128 out of 200 respondents. The findings also found there was no significant difference between genders with respect to all the challenges in learning force and motion given $p > 0.05$. The null hypothesis is accepted. That is, the means score between the male respondents was significantly similar to that of the female respondents. Thus, the null hypothesis is accepted. On contrary, Nworgu, Ugwuanyi and Nworgu (2013) found gender was the main factor in understanding the concept of force and motion. Female students tended to demonstrate superior conceptual understanding of force and motion than their male counterparts.

Table 8: The Challenges in Learning Force and Motion between Genders

Factor	Gender	N	M	SD	<i>t</i>	<i>p</i> -value
Curriculum and assessment	Male	72	3.28	0.63	.743	.458
	Female	128	3.20	0.64		
Student	Male	72	2.19	0.73	-.001	.999
	Female	128	2.79	0.65		
Teacher	Male	72	2.19	0.73	.897	.371
	Female	128	2.10	0.63		
Nature of topic	Male	72	3.84	0.70	-1.072	.285
	Female	128	3.95	0.73		
Language and communication	Male	72	2.21	0.69	-3.59	.720
	Female	128	2.25	0.67		

CONCLUSION

Learning attitude in physics is an important element to study physics which has been considered as a problematic subject for most students. The findings of this study show that students reflect positive or favourable attitude in learning physics. However, poor performance in physics is detected among the students. It can be seen from the Pearson correlation analysis which indicated that there is a negative and significant relationship between students' learning attitude and their achievement in physics. It clearly indicates that attitude towards physics has no relationship with achievement in physics. The students might achieve a good grades in physics without having any positive or favourable learning attitude towards physics and vice versa. It is believed that the poor performance in physics positively correlated to low science grade obtained by students in *Pentaksiran Tingkatan 3* (PT3). Having a poor abilities and prior knowledge in science subject would lead them to fail the examination. The findings also found that female and male students have shown the same favourable learning attitudes in learning physics. Interestingly, the urban students in this study have shown more favourable learning attitudes in learning physics compared to the rural students. There are many challenges identified by students in learning force and motion. Some are the challenges are nature of topic, curriculum and assessment, students, teachers and language and

communication. Nature of topic was found to be the most predominance challenge in learning force and motion among students. Students claimed that the topic requires good mathematical skills, problems not easy to solve and too many formulae and laws to memorise. The study indicated that there was no statistically significant difference between gender with respect to all the challenges in learning force and motion. Therefore, the findings in this study are beneficial as they can serve as a stepping stone in overcoming the underlying sources of difficulty that impede quality learning of physics as well as in learning force and motion. However, more in depth study is needed to look into this matter with more number of participants including teachers who are specialising in physics.

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SATISFACTION TOWARDS AN ENRICHMENT PROGRAMMES: *HALAL ACTION FOR YOUNG SCIENTISTS CAMP*

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ABSTRACT

Early teenager is a stage to develop individual interest, skills, and preferences which are salient for the future. An enrichment programme is one of the approaches to disclose teenager's interest. This study aims to identify the effectiveness of Halal Action for Young Scientists Camp as an enrichment programme for secondary school students. A week-long camp were administered by Kolej PERMATA Insan USIM to expose 'halal' and 'thoyyib' education with scientific analysis. In addition, this study also identifies the elevation of science interest through five modules that were exposed through this camp. A survey was given to obtain the overall feedback of the camp including trainers, modules and facilities. Participants in this study were 22 students in total from various secondary schools in Malaysia who participated in the camp. The data analysis was calculated using descriptive and inferential statistic. The results of data processing shows that this camp was suitable as an enrichment programme through five related modules. Most of the students have deepened their interest in science after participating in this camp.



Keywords: *enrichment programme, 'halal' education, gifted and talented, integration 'naqli' and 'aqli'*

INTRODUCTION

Education plays an important role for a developing country. The nation's success depends on their knowledge, skills and competencies (Ministry of Higher Education, 2015). Current Malaysia education system is developed based on the needs of industrialisation compared to nature creativity and individualism among students as reported in National Report. For example, in last ten years, many new science programmes have been developed due to a high demand by the industries. It makes the students enrol the related course to prevent from being unemployed after completing the study. This situation can make some students less satisfied to uncover their academic potential because of a lack of interest in their courses.

The Malaysian curriculum is an on-going effort to mould a holistic individual. This mission will not be achieved if none of the agencies participated in this agenda. A suitable programme is needed for the students to receive extra educational services, additional courses, challenging environment and others to enhance their potential. This effort can be classified as an enrichment programme. The enrichment programme will be frequently correlated as a gifted and talented programme. However, an issue was raised on who is the gifted student chosen and how the nation claims that the student is gifted.

People believe that every child is gifted. The giftedness need to be nurtured daily. So, the enrichment programme has to be different from the conventional programme that had been participated during the school day. Shaughnessy and Waggoner (2015) identified various programmes which constitute enrichment and was classified into a few categories; higher order thinking skill, critical thinking skills, reasoning skill or project. For the higher order thinking skill category, the enrichment is provided through the higher order of thinking question that utilises higher domains of Bloom's taxonomy. On the other hand, some programmes require examination of the event from multiple perspectives to enhance the critical thinking whilst some enrichments are required to discuss from the case study for

the reasoning skill. Other than that, the development of project as an enrichment is a common programme used by gifted and talented learners. This is mainly because it requires all the skills need by the gifted learners (Baska & Brown, 2015).

All enrichment programme were mostly based on the Enrichment Triad Model suggested by Renzulli (1976). This noble model in gifted education curriculum stated the three types of enrichment. Type I and Type II are appropriate to all learners; general exploratory activities and group training while Type III is a small group investigation of real problem as shown in Figure 1. The Type I aims to bring the learner to explore different areas of potential interest for the students to involve in greater depth and higher level. The students may naturally design in-depth investigation that is require in any training or group activities (Type II). During the training, the learner will develop high level of thinking skill which are either critical thinking, problem solving, reflective thinking, inquiry thinking, divergent thinking, awareness development and creative or productive thinking (Reis & Renzulli, 1984). With the development of thinking skill, learners will develop a group investigation to investigate a real problem or the topic related as suggested in Type III.

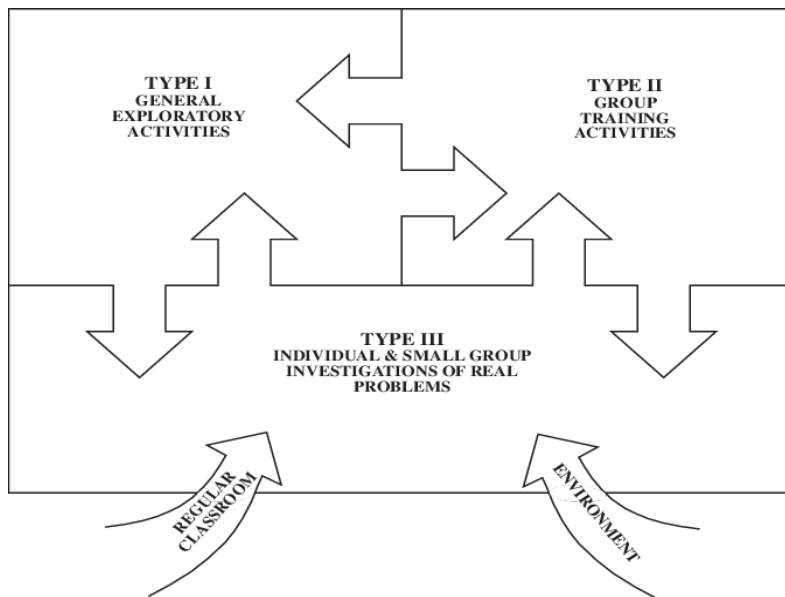


Figure 1: The Enrichment Triad Model (Reis & Renzulli, 1984)

Jl (2018) reported that the former Prime Minister vision about 60% of secondary school graduates would specialise in Science, Technology, Engineering and Mathematics (STEM) by 2014. Often parents make mistakes by looking for extra classes to increase the interest of sciences among their children. Parents need to identify the child's learning type either from surface learning (cognitively passive learning) or deep learning (cognitively active learning) to understand the point of the subject. This issue had been discussed and characterised by Weimer (2012) and Stanger-Hall (2012). Thus, it is necessary to find a good quality enrichment programme in order to develop a personal, cognitive and social aspects basis by science knowledge as discussed by O'Donoven (2007).

Enrichment programme varies from student's level, school or any curriculum and project. It depends on how the agencies define the enrichment programme (Shaughnessy & Waggoner, 2015). Dr Maszlee Malik who is the Minister of Education has been acknowledging *Kolej Permata Insan* as one of the gifted and talented schools in Malaysia. The school accepts that the enrichment provides the curriculum a greater depth and breadth than it generally provides as defined by Davis and Rimm (2004). It had done a great deed for the secondary students by conducting an Edu camp; *Halal*

Action for Young Scientists Camp started from 26 November 2017 until 2 December 2017. This enrichment programme has been integrated with *naqli* (Al-Quran) and *aqli* (science).

The programme aimed to broaden the student's knowledge in *fiqh*, *sharia*, food science and chemical analysis by developing the student's cognitive ability and enhancing their laboratory skill for the student's educational experience. This camp also provides opportunity to investigate *halal* food and products using scientific analysis by hands-on the specific instruments based on the selected package. It offers two module packages, which are basic and expert. The basic module package includes Basic Principle of *Sharia* in *Halal*, *Halal* Science for Safe, *Thoyyib*, and Nutritious Food and Basic Investigation of *Halal* and *Thoyyibah*. In addition, Molecular Analysis in *Halal* or Analytical Chemistry in *Halal* and *Thoyyib* Identification has become an expert package.

In basic principle of *sharia* in *halal*, many aspects of *fiqh* and *sharia* were enlightened in this course. It includes the practical of modern Islamic cleansing known as *sertu* and a visit to a slaughtering house on the second day of camp. The visit aims to experience the real process and procedure in the accredited *halal*'s factory. The third day starts with the introduction of food science, Good Manufacturing Product (GMP) analysis and *halal* management from farm to plate. The additional topic discussed in *Halal* Science for Safe, *Thoyyib*, and Nutritious Food's module is fermentation and a comparison between alcohol and *khamr*. In the evening, the participants use their cognitive skills to produce an idea of food innovation with the requirement on GMP and *halal*. It was discussed in five groups in order to improve their social skills. For the Basic Investigation of *Halal* and *Thoyyibah* modules, the participants enhance their laboratory skills through a burning test for some consumable product, microscope and Fourier Transformed Infrared (FTIR) Analysis.

In addition, the expert package; Molecular Analysis in *Halal* provides the theory on Deoxyribonucleic Acid (DNA) and protein synthesis. It also exposes the students on the sample preparation; extraction for biological compounds (DNA) before it was enhances using real time polymerase chain reaction (PCR). The identification of porcine in the food using porcine detection kit was provided by Agilent Technology. On the

other hand, expert package; Analytical Chemistry in *Halal* and *Thoyyib* Identification exposed the student on chemical analysis. The theory of chromatography was exposed using simple and understandable delivery. The sample preparation was needed to be prepared by the students before it was analysed using Gas Chromatography Mass Spectrometer and High Performance Liquid Chromatography.

The modules and activities were in trail of Reis & Renzulli's (2010) suggestion for the enrichment programme. It consists of three levels; exploring activities by providing the appropriate environment, guided activities towards a certain skill and problem solving. This study is aimed to investigate the effectiveness of *Halal* Action for Young Scientists Camp as an enrichment programme among the secondary students in the area's facilities, modules and facilitators. In addition, it also identifies the impact of this camp towards the science interest. This study also aims to identify the relation between modules and the effectiveness of the camp.

METHOD

Participants

The population of the study consisted of 22 students (13-17 years old) from various national secondary schools all over Malaysia (five students from Centre Region; three students from Northern region; 12 students from Southern Region and two students from East Coast Region) who participated in *Halal* Action for Young Scientists Camp. 18 of them proceeded with the expert package; nine participants with Molecular Analysis in *Halal* and another nine Analytical Chemistry in *Halal* and *Thoyyib* Identification while the rest only participated for the basic package. They were assisted by two research assistants; two laboratory assistants and eight facilitators from *Kolej PERMATA Insan* students (15 years old).

Instruments

In order to achieve the objective of the study, an evaluation form was developed to obtain the feedback from the participants. It consists of 36 questions for four components with the Likert's Scale for Satisfaction. It starts with one mark for not satisfied; second mark for slightly satisfied, three marks for moderately satisfied, four marks for very satisfied and five marks for extremely satisfied. The four components evaluated were based on the modules, facilities, trainers, and overall camp.

Research Procedure

The evaluation form was given once the participants registered. Four participants submitted the evaluation on day five once they completed the basic package. Meanwhile, other 18 participants had submitted after day seven when the expert modules had completed. The participants need to evaluate for each module once completed to avoid from overlooking the moment of teaching and learning session. The camp was conducted for seven days, which was divided into two packages of basic and expert. The content of the modules are as Table 1.

Table 1: *Halal* Action for Young Scientists Module

Module	Content
Basic Principle of <i>Sharia</i> in <i>Halal</i> ^a	Concept of <i>sharia</i>
	Concept of <i>halal</i>
	<i>Fiqh</i> of food
	Slaughtering
	Practical: <i>Sertu</i>
	<i>Halal</i> issues
	Case studies

<i>Halal Science for Safe, Thoyyib and Nutritious Food</i> ^a	Dimension of food science
	Chemical elements of the food
	Good Manufacturing Product: From raw to plate
	<i>Halal</i> issues
Basic Investigation of <i>Halal</i> and <i>Thoyyibah</i> ^a	Physical properties of
	Spectroscopy
	Practical : Physical analysis for burning test, colour test and functional group using microscope and Fourier Transformed Infra-Red Spectroscopy
Molecular Analysis for <i>Halal</i> Authentication ^b	From gene to protein : Central dogma
	Concept of polymerase chain reaction
	Practical: Sample preparation pre PCR
	Practical: Porcine detection using RT-PCR
Analytical Chemistry in <i>Halal</i> and <i>Thoyyibah</i> ^a	Introduction to analytical chemistry
	Principle of chromatography
	Practical: Sample preparation
	Practical: <i>Thoyyibah</i> analysis using Gas Chromatography and High Performance Liquid Chromatography
^a Basic package	^b Expert package

Data Analysis

Data from the evaluation form was analysed, calculated and tabulated using descriptive and inferential (Partial Pearson Correlation) methods approach of statistical software, SPSS. Graphs and tables were designed in a way that would be best to explain the result.

RESULT

The effectiveness of *Halal* Action for Young Scientists Camp as an enrichment programme among secondary students was identified based on the evaluation form. Majority of the participants (12 participants) were 13-14 years old while eight participants were among 15-16 years old and the minority were two participants age 17-18 years old as shown in Figure 2. A total of 12 participants were females and the others were males.

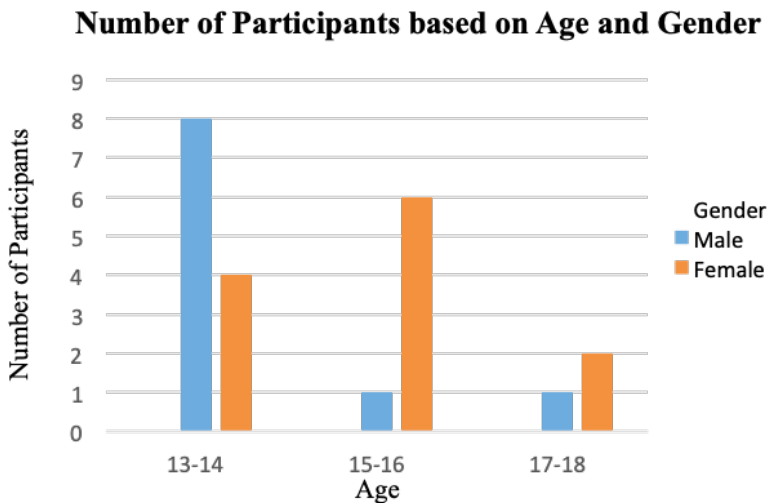


Figure 2: Number of Participants Based on Age and Gender

From the overall feedback, *halal* education that has not been taught in school formally was exposed during this camp. The camp's objective, which is to expose *halal* education among secondary students, was achieved when the mean for overall feedback is 4 while the frequencies of extremely satisfied was higher in Table 2.

This follows the criteria for the enrichment's programme as suggested by Reis and Renzulli (2010)' syllabus is higher than the normal curriculum.

Table 2: Overall Feedback of HALFYST Camp

		N %	Mean (SD)
The objectives of this camp was achieved	Moderately satisfied	1 (4.5)	4.32 (0.57)
	Very satisfied	13 (59.1)	
	Extremely satisfied	8 (36.4)	
This camp increase my knowledge in <i>halal</i>	Moderately satisfied	1 (4.5)	4.64 (0.58)
	Very satisfied	6 (27.3)	
	Extremely satisfied	15 (68.2)	
This camp increase my interest towards science	Moderately satisfied	4 (18.2)	4.41 (0.80)
	Very satisfied	5 (22.7)	
	Extremely satisfied	13 (59.1)	
The modules challenged my mind	Slightly satisfied	1 (4.5)	4.41 (0.80)
	Moderately satisfied	1 (4.5)	
	Very satisfied	8 (36.4)	
	Extremely satisfied	12 (54.5)	
I would like to participate this camp again	Not satisfied	1 (4.5)	4.45 (0.97)
	Moderately satisfied	1 (4.5)	
	Very satisfied	6 (27.4)	
	Extremely satisfied	14 (63.6)	
I would like to invite my friends to participate in this camp	Moderately satisfied	2 (9.1)	4.45 (0.67)
	Very satisfied	8 (36.4)	
	Extremely satisfied	12 (54.5)	

I am satisfied throughout this camp	Moderately satisfied	2 (9.0)	4.23 (0.61)
	Very satisfied	13 (59.1)	
	Extremely satisfied	7 (31.9)	

The camp also succeeded in increasing or deepening the interest towards science subject as it can be seen when all the students' remarks in a range from moderately satisfied to very satisfied while the mean obtained is 4.41 and standard deviation (SD) is 0.80 as in Table 1. Most of the students stated their interest in science especially chemistry and biology due to their extra knowledge gained during the camp.

Table 3 (a): Correlation for Uncontrolled Variables

Uncontrolled variable	Modules		Trainers		Facilities	
	Correlation (<i>r</i>)	<i>p</i> -value	Correlation (<i>r</i>)	<i>p</i> -value	Correlation (<i>r</i>)	<i>p</i> -value
Overall feedback on HALFYST's camp	0.26	0.23	0.43	0.05*	-0.16	0.48
Modules	1.00	-	0.51	0.02*	0.19	0.40
Trainers	0.43	0.05*	1.00	-	0.24	0.29

*significant at $p < 0.05$

Table 3 (b): Correlation for Controlled Variables

Controlled Variables (Trainer and facility)	Overall feedback on HALFYST's camp	
	Correlation (<i>r</i>)	<i>p</i> -value
Modules	0.85	0.73

*significant at $p < 0.05$

The factors of satisfaction among participants were investigated through Partial Pearson Correlation based on modules, trainers and facilities. Table 3(a) shows the significant value (0.05) with fair correlation (0.43) between overall feedback on HALFYST's camp and trainers. Similar result was gained by associating factors of trainer and modules ($r = 0.51, p < 0.05$). Due to this, the trainers assisted participants effectively during conducting the modules throughout the camp.

On the other hand, the main purpose of the enrichment programmes is to evaluate the area of scientific knowledge and the level of experience with science skills. It is measured through the activities or modules conducted. Therefore, the feedback towards the overall camp was correlated within the modules conducted when the facility and facilitator were controlled. Table 3(b) shows high correlation between the overall feedback of camp and modules ($r=.85$, $p<.05$) due to increasing of value when it was not controlled from 0.26 to 0.85 when it was controlled.

Since there is a high correlation between the value of overall feedback towards the camp and the feedback of modules, this study would like to identify the best module during the camp that may become as a motivation among students.

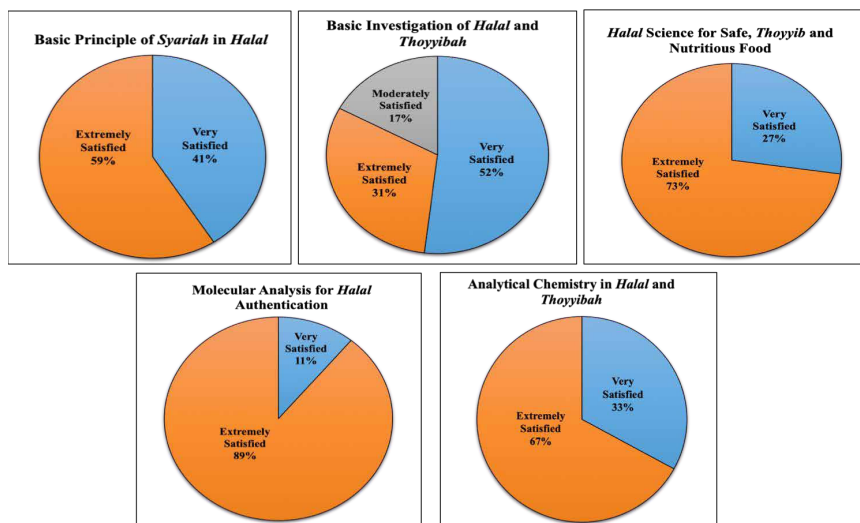


Figure 3: Percentage of Feedback for the Modules

Referring to Figure 3, all the modules received high satisfaction feedback ranged from moderate satisfied to extremely satisfy. It starts with Molecular Analysis in *Halal* (89%), which received extremely satisfied continues with *Halal Science for Safe, Thoyyib, and Nutritious Food* (73%), Analytical Chemistry in *Halal and Thoyyib Identification* (67%), Basic Principle of *Sharia in Halal* (59%), Basic Investigation of *Halal and Thoyyibah* (31%).

DISCUSSION AND CONCLUSION

The participants from 13 to 18 years old received some extra knowledge compared to school. Even though all the modules are usually taught in the university level, the acceptance of these modules will become higher when the participants participate the camp in future. It showed the well-trained trainers especially facilitators from *Kolej Permata Insan*'s students who are only 15 years old can guide their peers advance subjects.

The modules also received good feedbacks without the influence of the facilities and the trainers. It is because the camp was designed well to engage the participants in fun, hands-on activities and challenge student's mind while developing the subject content and awareness towards *halal*. It proves that the higher-level content is suitable to be taught towards the secondary students for the enrichment programme.

HALFYST's camp also similar with the enrichment programme conducted at New York City School, which based on Schoolwide Enrichment Model. O'Donoven (2007) reported the school emphasizes on broadening learning experience by combining enrichment activities such as field trips and assemblies, the development of thinking and problem-solving skills, and interest-based projects and tasks delivered by trained teachers and specialists.

Enrichment models' are based on objective for HALFYST's camp when all characteristics as enrichment programme that were suggested by few similar models to develop high level thinking (higher order thinking skill, critical thinking skills, reasoning skill) and the project was based on appropriate environment, guided activities. However, it has been integrated with the science (*aqli*) and *syariah* (*naqli*) to nurture Muslim Scientists. The feedback of modules and the effectiveness of this camp indicate high relationship when the other factors were controlled. In brief conclusion, the modules received satisfied feedback ranges during the evaluation by participants. As a conclusion, HALFYST's camp is an integrated enrichment programme supplied greater depth and breadth curriculum for the secondary students.

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THE DEVELOPMENT OF (ArtHis) INTERACTIVE MODULE IN TEACHING AND LEARNING ART HISTORY

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ABSTRACT

The publishing material of art history pedagogy is known to have too many facts and students need to digest lots of information. The alternative methods of teaching and learning have become more reliable when technology-based methods have been found to be an effective pedagogical material. This study aims to design and develop an ArtHis Interactive Module for teaching and learning art history in Visual Art Education. For this reason, this study also investigates the impact of its usability in classroom and assesses the learning motivation of Visual Art students simultaneously. In this study, the Design and Developmental Research (DDR) method was used. For the most part, the ArtHis Interactive Module is developed by using ADDIE Model by considering the elements of design, technical, pedagogical, and the content which is appropriate to achieve the objectives stated in Visual Art Education syllabus. Specifically, the development process was guided and supported by Dual Coding Theory and Flow Theory for information processing. For this purpose, the research focused on Form 5 Visual Art students. Microsoft PowerPoint was used to produce the interactive module with the aim of enhancing the students' motivation in learning Art History. The finding shows that the impact of learning art history using ArtHis Interactive Module has improved students' conceptual understanding. It is also determined that 93.9 percent students agree that the exercises in the ArtHis Interactive



Module help them to gauge their level of understanding and knowledge on the topics in Art History. In conclusion, ArtHis Interactive Module is used for the purpose of improving teaching methods and increasing the motivation of students in Visual Art Education especially Art History topics.

Keywords: *art history, learning motivation, interactive module, visual art education, ArtHis*

INTRODUCTION

The use of interactive modules through a combination of multimedia elements can produce an effective presentation (Ampa, 2015). The combination elements of text, graphics, audio, video and animation also helped to facilitate teaching and learning process. Following the development of multimedia technology, multimedia applications and innovation also move forward hand in hand with the development of education. The use of interactive multimedia is necessary for students to have a better understanding of the topics taught through exposure to the real picture or a clear demonstration for students. The incorporation of interactive media in the art classroom will provide students with greater access to imagery, content and experience that can form those beliefs (Yang, Suchan, & Kundu, 2011).

William D. Beeland, J. (2011) stated that the value of technology in the classroom has raised the issues and debates among educational technologists. However, various forms of technology that is now available for its intended use by teachers and students in the classroom are in fact providing great potential to meet the needs of students and sink all issues that prevent them from learning. Technology has been proven to increase productivity, enhance motivation, provide author's direct support, teaching abilities that are unique and enhance information literacy (Kamaruddin, 2015). The advent of technology is supposed to be used in the field of education and developed and innovated for educational purposes. Research objectives for this study are: (i) to identify the elements and appropriate contents to be implemented in the interactive module, (ii) to design and develop an art history interactive module based on the upper secondary syllabus, (iii) to identify the levels of usability of the interactive module as a teaching aid for Visual Art Education teachers.

LITERATURE REVIEW

Visual Art Education Syllabus (Pusat Perkembangan Kurikulum, 2000) for upper secondary level mainly focuses on two main themes which are a) Production of Visual Art (*Penghasilan Seni Visual*) b) The Historical of Visual Art (*Sejarah dan Apresiasi Seni Visual*). The weighting of these two components are balanced in teaching and learning session. The implementation of teaching in the classroom poses a problem because teachers face a lack of teaching aids needed especially for the topic, The Historical of Visual Arts details on topics that are related to western and Malaysian artists (Azizan, 2009).

At the same time, teachers also face the problem of learning content that is related to the topic as the topics are usually too broad and need a long time to finish. Consequently, teachers are also currently using a few books to teach these topics. Due to limited teaching materials and teaching aids, it has caused students to lose interest in the subject that is based on history. Furthermore, the image in the book is printed in black and white which does not show the original colours of the artwork which are important for students' observation in art criticism sessions. As stated in Duh (2016), to encourage students to master the skills in art appreciation, the observation of original objects is important so that students can express their feelings. Therefore, artworks that are printed colourless and illustrated in a low quality manner will affect the process of art criticism.

To have well planned lessons, a form of systematic instructional design is necessary to ensure the effectiveness of the learning objectives. Chou *et al.* (2015) argue that an effective teaching material is a material that enables students to acquire specific skills, knowledge and attitudes. Effective teaching materials are materials that are preferred by students. The study that will be carried out involves the development of teaching materials to enhance students' motivation and interest in Art History. In addition, it also functions as a teaching tool that can diversify the teaching methods to enhance the effectiveness which will directly increase students' interest in art history.

RESEARCH METHODOLOGY

The research design for this study is a design and development research design which will focus on development of the interactive module in teaching the Art History (Richey & Klein, 2005). The design and development research includes:

- i. The study of the process and impact of the specific instructional design and; or
- ii. A situation in which an instructional design activities and learning, development or evaluation and review process in same time; or
- iii. A research design of teaching and learning, development and assessment of the overall process or a group of processes.

The study concluded that the design and development of a systematic study which aimed at obtaining empirical basis for production output and teaching apparatus and models of new or better that includes the construction (Richey, Klein & Nelson, 2004a). The research design and development of a problem-oriented research and using research methodology between the discipline of case studies, experiments, studies or research actions votes (Richey *et al.*, 2004a). Various approaches can be used for the research development, as shown in Table 1.

Table 1: A Comparison of Two Types of Developmental Research by Richey and Klein (2007)

	Design Research 1 (Review Product and Hardware)	Design Research 2 (Model)
Emphasis	The study of the product or the design of a specific programme, the development and evaluation of projects.	Process review, equipment design or model, development or evaluation.
Product / Findings	The lessons of developing a specific product and analyse the conditions that facilitate the use of the product.	Procedures and / or model design, development and evaluation of new and situations that support its use.
Result	Context-specific conclusion.	Generalised conclusions.

THE MODULE INTERACTIVE DEVELOPMENT PROCESS USING INSTRUCTIONAL SYSTEM DESIGN MODEL

To develop interactive modules, researchers chose to use the ADDIE model. This model is the basis model compare with other instructional design that has advantages of its own (Nawi, Abdul & Zakaria, 2016). Among its advantages are ADDIE model consists of five basic phases of instructional design. The phases have its own purpose, which allows researchers to organise the work of process during the construction of interactive modules in art history.

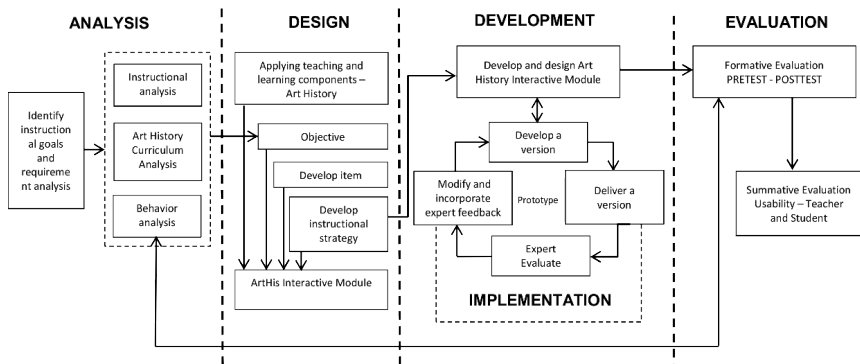


Figure 1: Module Interactive Development Process
(Source by the authors)

In the analysis phase, researchers conducted a process to analyse the need to ensure the development of an interactive module that is more systematic. Analysis of the needs of the demonstration was implemented in Phase 1: Needs analysis. This main phase allowed a developer of interactive modules that clearly understand the terms, or the main features of a development project implemented.

The design phase is carried out after completing the process of needs analysis. It explains the whole view about the shape, structure, teaching approaches, learning theory, types of media and technology to be used (Nawi, Abdul & Zakaria, 2016). Some of the other things to be determined in this phase include the formation of specific objectives for teaching and

learning strategy selection (Nachiappan, 2013). Learning objectives in accordance with the requirements of the Ministry of Education (MOE) should be incorporated during the process of developing this interactive module to measure the learning outcomes achieved. Activities also need to be established accurately so that it is able to motivate students.

The development phase is carried out as soon as the analysis and design phase are completed. The work will shift from thinking about and planning to a process of developing interactive modules based on the planning design that have been made in the previous phase. Multimedia elements such as text, images, graphics, audio, video, interactivity and animation will begin to be collected and produced using PowerPoint 2010 and supporting software, in addition to getting it from external online sources such as the internet. Thus the content development process of interactive modules is moving to the stage of composing or writing using appropriate software.

Interactive modules that are ready to be developed will be presented informally to a group of expert Visual Art teachers. The aim is to evaluate the usability and identify the problems discovered during the execution phase of design and development. All deficiencies and shortcomings that arise are identified and modified based on the findings from usability evaluation. After passing the modification process, the usability evaluation on the interactive modules to Visual Art students is held. During this stage, pre-test and post-test are conducted to identify the level of knowledge of students after using this interactive module.

The evaluation phase is divided into two parts consisting formative and summative evaluation. Formative evaluation is carried out at all phases to ensure its effectiveness while summative evaluation will take place at the end after interactive multimedia is settled. This involves feedback from users of content, strategy, graphics, audio, video, interface and others through supervision, tests, and questionnaires. In this study, researchers have been able to carry out the evaluation of usability interactive modules through the procedure in pre-test and post-test of students who were selected through purposive sampling method. Differences in pre-test and post-test scores were analysed to determine the usability of the module. Summative evaluation was conducted to obtain feedback from the respondents involved. They consist of a group of students who are using the interactive modules.

The evaluation for a group of students was conducted by survey while the teacher was done through the semi-structured interview. Data obtained were analysed to determine the usability of interactive modules.

DEVELOPMENT OF INTERACTIVE MODULE AS LEARNING MATERIALS

Education technology is a combination of people, equipment, techniques and events that aim to give a good impression to education. When all these sources combined, it will make teaching and learning to be more engaging and effective for students. According to Nawî, Abdul and Zakaria (2016), educational technology involves using hardware, software and delivery methods. All three of these components must be implemented systematically to achieve effective delivery of instruction. Computer technology today has been developed progressively; especially multimedia technology which has become a factor affecting schools. This merger will create a more efficient and interesting teaching and learning process. In the development of teaching materials for interactive modules in art history; the researchers chose to develop this module by using Microsoft PowerPoint slide presentation.

Microsoft PowerPoint 2010 version has been duly elected as premier software in the development of interactive modules due to its many advantages. Generally, Microsoft PowerPoint is a universal software that is easily accessible to all users of the computer. Although there is many sophisticated software in the market, Microsoft PowerPoint is still compatible and able to compete with other existing software (Chiew *et al.*, 2013). In addition, this software also comes with the ability to operate including the use of multimedia elements, graphics, animation and object-oriented programming that can be used easily and effectively. According to Hashemi, Azizinezhad, and Farokhi (2012), this educational model is suitable to be integrated into the classroom through the design of PowerPoint presentation.

INTERFACE DESIGN ON LEARNING MATERIALS

Interface design is a key element in delivering information through computer-based multimedia teaching materials. Technological developments taking place in the world of education today makes use of elements such as movement, colours, and illustrations that can now be delivered more effectively such as the use of text, graphics, audio, video and animation through this interactive module.

Text

The use of text in a multimedia system is something that is absolutely of undeniable importance. Although there is a variety of multimedia elements that are more interesting and dynamic, the use of text is still needed as one of the key elements in the process of information delivery. Text generally refers to the letters arranged to form a meaning that can be understood. By, text refers to any type of symbol, letters, alphabet, numbers, statistics, and various types of writing and font that form the basis for the dissemination of information (Hashemi, Azizinezhad, & Farokhi, M, 2012). In an interactive multimedia system, the text also plays an important role in disseminating information to a user.

Graphic

According to Tangen *et al.* (2011), graphic refers to a variety of presentation of graphic image or visual display that does not move such as drawings, paintings, sketches, photographs, illustrations and others. It is among the most important elements to emphasize in a process of information delivery. The use of graphics is said to deliver a piece of information more quickly and exactly that is presented in a visual form. The graphics are also able to assist in explaining a piece of information accurately and effectively.

Audio

Audio or sound effects are an effective lure to attract someone's attention. Audio in a multimedia system refers to voice recording, voice, music and other audio special effects (Tomljenovic, 2015). In an interactive multimedia system, the audio elements can be used to assist the process of delivering presentations as they are more robust and effective. In addition,

audio can also increase motivation among users to be more interested in pursuing a process of information delivery.

Video

Video is one of the multimedia elements that is the most dynamic and realistic compared to other elements. According to Tangen *et al.* (2011), video is a combination of various media such as text, graphics and audio. The use of video in the delivery of information is capable of affecting the feelings and emotions of its users.

Animation

Animation refers to a visual display that is dynamic. According to Tangen *et al.* (2011), animation refers to the process of making an object that looks life or gives the impression of moving to something that is essentially static. The animation is one of the most popular multimedia elements and is in the limelight because it is capable of expressing a human fantasy into the realm of reality. In addition, animation is also able to give confirmation to enable the delivery of an audience's attention focused on the content to be conveyed.

Colour

Besides being able to influence attention, a good colour selection has a positive impact on students' learning process, it is also able to highlight a piece of information to facilitate and enhance the visual clarity so that they become more effective.

Sample Interfaces Layout in the Interactive Module



Figure 2: Main Menu and Sub Menu for Topics of the Art Stream
(Source by the authors)

USABILITY TEST

The evaluation is conducted to test the usability of interactive modules that is done through the use of questionnaire given to four experienced teachers teaching Visual Art at Form 5 level. The assessment was performed to identify any weaknesses inherent in the design and development of interactive modules.

Analysis of Usability Test

The discussion of findings was based from expert evaluation on the interactive module on the following themes:

- i. Item Evaluation on Technical Aspects
- ii. Interface Design
- iii. Multimedia Elements
- iv. Content of Teaching

Analysis of Feedback on Technical Aspects

Table 2: Analysis on the Item of Technical Aspects

No	Item Evaluation on Technical Aspects	Percentage Value of Strongly Agree (%)
A1	Interactive module has clear instructions.	75
A2	Interactive modules work well.	75
A3	Interactive modules have a smooth transition from one view to another.	75
A4	Interactive modules have a clear background voice.	50
A5	Interactive modules can be used for all computer systems (Windows 95, 98, 2000, XP, Macintosh and others).	100

With reference to Table 2, researchers found the highest percentage was the item, A5, which is 100 percent and the lowest is in A4 item. Three out of the four teachers that provided expert criticisms reported that the background music is quite slow and not diversified. They also suggested that the background music should be strengthened to stimulate students' enthusiasm.

Analysis of Interface Design

Table 3: Analysis on the Item of Interface Design

No	Item Evaluation on Interface Design	Percentage Value of Strongly Agree (%)
B1	This interactive module contains interactive icons / buttons that are easy to understand.	75
B2	This interactive module contains interactive icons / buttons that are easily accessible.	100
B3	Interactive module provides interface interactive icons / buttons that is consistent.	100

B4	Hypertext (accessible via text) currently function well.	75
B5	Hypermedia (access through image / animation / video) works well.	100
B6	Interactive features in this module does not interfere with teaching and learning process.	100

In the analysis of the interface design theme, it was found that only items, B1 and B4, are below the standard of expert evaluation. However, the majority of experts agree with the interface design that has been developed. Suggestions given by an expert teacher include in the item of the background colour to be diversified and more vibrant. In addition, another teacher also suggested that the main menu button to be made available on certain parts to facilitate the process of finding the next subtopic.

Analysis of Multimedia Element

Table 4: Analysis on the Item of Multimedia Element

No	Item Evaluation on Multimedia Element	Percentage Value of Strongly Agree (%)
C1	Integration of interactive modules have the appropriate colours.	75
C2	Interactive modules have bright and clear images / illustrations.	75
C3	Interactive modules have the appropriate and clear sound effects.	25
C4	Interactive modules have a bright and clear video clip.	75
C5	Interactive modules using an appropriate and clear letters / fonts / text.	50
C6	Interactive modules integrate compatible multimedia elements (text, audio, video, animation or graphics).	50
C7	Interactive modules have an attractive integration of multimedia elements.	50
C8	Multimedia elements are functioning properly.	75

In Table 4 above, C3 item has recorded the lowest of agreement at only 25 percent. Most experts were less satisfied with elements of sound effects used in the interactive modules. Among the criticisms made in the use of text for content is the alleged lack of clarity. They suggested that a keyword in the highlighted text is necessary to facilitate the students to identify the difference. One of the expert teachers also suggested that animated elements be varied with interesting sound effects. While two of the four expert teachers commented on the use of video with English voice-over, others suggested that the videos to be translated into the Malay language so that students can better understand the content of the video.

Analysis of Content of Teaching

Table 5: Analysis on the item of teaching content

No	Item Evaluation on Content of Teaching	Percentage Value of Strongly Agree (%)
D1	Interactive module developed according to the Visual Arts Education curriculum syllabus formulated by Ministry of Education.	75
D2	Interactive modules provide teaching content meets the stated objectives.	100
D3	Interactive modules provide facts and concepts that are easily understood by students.	50
D4	Interactive modules provide continuous content and well organised and not misleading.	50
D5	The module provides a presentation and interactive teaching strategies appropriate to the diversity of students' abilities.	25
D6	Interactive modules provide teaching strategies (simulations, tutorials, exercises and games) appropriate to the topic being taught.	75
D7	Interactive modules help simplify the process of teaching and learning.	100

The results of evaluation on the theme content of teaching as in Table 5 above indicate that the majority of expert teachers strongly agreed with items D2 and D7. However, for D5, only 25 percent of expert teachers strongly agreed with the contents of interactive modules that meet the teaching strategies according to student ability. One of the four expert teachers suggested that the keywords for each content to be highlighted on each slide to avoid confusion facts.

CONCLUSION

This research is focused on the implementation of interactive module in teaching and learning art history in Visual Art Education. Gioffre (2012) highlighted that interactive multimedia has its advantages in terms of being interactive which then promotes active learning among students from all age groups. An example of multimedia technology that has interactive potential is the computer. Neo *et al.* (2012) discovered that active learning process can be created through multimedia-oriented learning environment. In addition, active learning and cooperative learning have succeeded in improving interpersonal relationships among students.

Another key point in this research could contribute towards education of the 21st century. As stated in National Education Blueprint (Ministry of Education, 2013), in gaining students' aspirations in thinking skills, the equipment and teaching aids should be in line with the current requirements. According to Ampa (2015), with various technology approaches that are incorporated into the learning syllabus, students will not only be more interested to learn academic knowledge, but also stimulate students to be creative and inspire curiosity about the technology used in the learning system. Yoag *et al.* (2012) stated that history learning is important for students' spiritual, emotional, intellectual and physical development. In developing interactive modules for the history of art, Gioffre (2012) pointed out that the millennial generation who were born in the era of technological development has been identified as weak in responding to information that is static. Teaching aids that do not have interactive elements such as traditional slides were unable to complete their cognitive ability levels.

The use of the ADDIE model could serve as the basis for the development of instructional design of the ArtHis interactive modules. Overall, all the five phases of ADDIE model have been successfully used as a guideline when developing this interactive module. To ensure the interactive modules can be tested for its usability, the selection of Microsoft PowerPoint 2010 as a universal platform for the presentation of a module, has been successfully applied to the respondents in this study. Finding is parallel in the study of by Chiew *et al.* (2013) which explains that students would concentrate due to the design of the slide that has animated elements and colour variations thereby creating an interaction between lecturers and students.

Subsequently, the findings of the second research question on how does the level of ArtHis Interactive Module usability on the technical aspects, interface design and learning content accordance with expert views is determined by analyses on the ArtHis Interactive Modules which have been developed. In the context of this study, experts chosen amongst experienced teachers of Visual Art Education have agreed that the components of ArtHis Interactive Module are consistent and convenient as applicate as a teaching aid for the topic of Art History for upper secondary students. From a technical perspective, the majority of respondents gave positive comments and all of them agreed that elements of audio and video in interactive modules play a significant role in ensuring that the objectives can be achieved. This finding is consistent with a previous study by Kamaruddin (2015) which indicated that students concentrate on teaching and learning session if the applications use components of animation, video, quality image and graphics. Similarly, in another study by Saripah *et al.* (2013), found that the aspects of audio, colour, text and display on the multimedia modules should be relevant and can attract students and at the same time does not distract them. This study also hoped that the use of multimedia modules could be expanded with the use of technology in teaching and learning by replacing the conventional approach, which is less effective, especially in the current era of technological innovation.

Accordingly, the design and development of ArtHis Interactive Module also focus on aspects that the content of teaching must comply with the requirements of the syllabus of upper secondary Visual Art Education. The results of the evaluation performed by expert teachers on

the aspects of content, found the majority agreed that development of ArtHis interactive module is in accordance with the requirements of the learning objectives for Visual Art Education as contained in Art Education Syllabus (*Pusat Perkembangan Kurikulum*, 2000). The findings in this phase also strengthen the usability of ArtHis Interactive Module. Majority of expert teachers agreed with the characteristics of interactive modules that could facilitate the process of teaching and learning Art History topic that has a wide scope to be ruled by a Form 5 student. The support of teaching aids such as ArtHis Interactive Module can become a facilitator for teachers of Art Education to further strengthen their pedagogy. This finding is also consistent with the study of Ohwojoro (2015) which explained that teaching aids are pedagogical tools that assist in the delivery of information by the teachers to the children in the classroom. The use of teaching aids such as computers, audio-visual, slide shows and animation software used to present information interactively have shown to increase student motivation.

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OWNERSHIP STRUCTURED FIRMS IN MALAYSIA: AUDIT COMMITTEE CHARACTERISTICS AND AUDIT FEES

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ABSTRACT

The political economy shaped the ownership structure of corporations in Malaysia. The rapid growth of the economy has not diluted the concentrated ownership structure in the Malaysian firms. Malaysia has its own unique feature of ownership structured firms which can be divided into politically connected (PCON) firms, institutional ownership and managerial ownership (INST&MGRL) firms, and family ownership (FAMILY) firms. The purpose of this paper is to investigate whether PCON, INST&MGR and FAMILY firms are associated with higher audit fees. This study also examines the association between audit committee characteristics IND, DIL and EXP and audit fees based on the revamped Bursa Listing Requirements in 2008, which focus on audit committee characteristics. Using data from 567 firm-year observations from years 2008 to 2010, we find that PCON firms pay higher audit fees than INST&MGRL and FAMILY firms. Further, the association between audit committee IND, DIL and EXP and audit fees is positive and significant for PCON firms, suggesting that the government intervention



is expected to produce better governance and improve the firm's business performance. This is because the government has given much attention and initiatives to ensure that these firms perform in an effective way and assist the government to improve the economic growth.

Keywords: *audit fees, audit committee, corporate governance, political connections*

INTRODUCTION

Malaysia offers clearly identifiable capital segments which are divided into different types of ownership structures. This division can be observed and categorised into institutional ownership and managerial ownership (INST&MGRL) firms, family ownership (FAMILY) firms and politically connected (PCON) firms. Institutional ownership under the Malaysian corporate sector is one of the ownership structures that is being shared amongst the East Asian economies such as Indonesia, Thailand, Singapore and Korea (Sulong & Mat Nor, 2008). It represents approximately 13 per cent of the total market capitalisation of Bursa Malaysia (Abdul Wahab *et al.*, 2009). In addition, firms with managerial ownership are also common amongst Malaysian listed firms. Claessens *et al.* (2000) estimates that approximately 85 per cent of Malaysian listed firms are owner managed, at the 20% cut-off of control right. Jensen and Meckling (1976) observe that as management ownership increases, their interests are more aligned with that of the owners and thus, the need for intense monitoring by the board decreases. Managerial ownership needs to be restricted because high managerial ownership results in managers having high personal interests, so that managers do not act in the best interest of the company, but for their self-interest (Setiadi *et al.*, 2016). Family controlled firm or family ownership is another common form of business organisation. A stream of literature explains that family ownership is central in most countries (Ibrahim & Samad, 2011). Malaysia has its own unique feature of politically connected firms or favoured firms, given the close link between selected large firms or conglomerates and the government. Market economists have argued that firms in the hands of the government are inferior in performance compared to firms in private hands (Boycko *et al.*, 1996b; Shleifer & Vishny, 1998; Dewenter & Malatesta, 2001). This argument arises due to

their institutional relationship with the government, the market structure in which they operate, or the management systems applied within them (Shleifer & Vishny, 1998). It is supported by the political embeddedness perspective emphasising that such connections provides opportunities to gain access to valuable resources (Okhmatovskiy, 2010). These favoured firms' political linkages influence the accumulation and concentration of wealth in Malaysian business (Gomez & Jomo, 1999). Thus, high level of government equity ownership was then seen as a challenge in enhancing good corporate governance in Malaysia (World Bank, 2005).

Malaysia has made significant progress in developing an efficient and well-regulated capital and financial market, as well as strengthening the institutional framework for the regulation of the accounting and auditing profession (World Bank, 2012). Good progress has been achieved in improving the quality and consistency of corporate financial reporting and corporate governance for listed firms. For instance, the revised Malaysian Code of Corporate Governance (MCCG) 2007 called for increased interactions between audit committee and internal audit functions. To ensure that audit committee serves as an effective check on the management of a firm, the Bursa Malaysia Listing Requirements (BMLR) was amended in 2008 to provide for the composition of audit committees, the frequency of meetings and the need for audit committee members to attend continuous training to keep abreast with developments in relevant financial and other related developments. With the continuous improvement on corporate governance practices, PCON firms are perceived to have better corporate governance practices and it is envisaged that these firms will reinforce this mind-set of continuous improvement in their day-to-day operations. This is important because Malaysian PCON firms were once perceived to be associated with higher business risk and poor performance. Hence, firms with good corporate governance attributes demand higher audit quality, resulting in higher external audit fees. Due to the above arguments, this study extends the audit fee literature to examine the relation between the enhanced internal governance mechanisms after the revision of BMLR 2008, specifically, audit committee independence, diligence and expertise, and audit fees amongst INST&MGRL firms, FAMILY firms and PCON firms.

Prior studies on PCON firms have generally drawn on the supply based perspective. Additionally, these studies have also examined the relationships

between corporate governance and audit fees for PCON firms before Bursa Malaysia revised listing requirements in 2008 (for example, Abbott, 2003; Gul, 2006; Yatim *et al.*, 2006). To date, no study has examined the audit fee phenomenon subsequent to the enhanced reforms in 2008. It is important to investigate whether the enhanced corporate governance rules impact the PCON and other ownership structured firms differently.

The reminder of this paper is structured as follows. The next section provides a review of literature and hypotheses development. The third section describes the research design while the results and discussions are reported in the fourth section. The final section presents conclusions of the study.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

It is generally accepted that selected large firms or conglomerates in Malaysia have close link with the government. As a result of the government's policy to increase Bumiputra equity ownership (Gomez & Jomo, 1999), selected Malays become politically involved in business and have more personal connections with the politicians (Gul, 2006; Johnson & Mitton, 2003). They have close connection with individuals who exert political power in the government and has given firms political influence (Faccio, 2006; Johnson & Mitton, 2003; Riahi-Belkaoui, 2004). Johnson and Mitton (2003) argue that the relationships between entrepreneurs and politicians in Malaysia are based on 'chance personal histories'. They find the PCON firms to have negative impact on firm performance during the Asian Financial Crisis 1997. They provide insights that stock returns of PCON firms were lower in comparison with other ownership structured firms. They observe that PCON firms also suffered the most during the early stages of the Asian Financial Crisis when the government was unable to implement capital controls. However, once capital controls were imposed, the returns of these favoured firms were higher on average (Johnson & Mitton, 2003). During the pre-2007 period, Gul (2006) find a greater increase in audit fees for PCON firms than for other ownership structured firms, suggesting a supply-side explanation for audit fees. Abdul Wahab *et al.* (2009) find a positive relationship between institutional ownership and audit fees and they too found that the audit fees

are higher for PCON firms during the pre-2007 period. In addition, a study by Sherliza and Nur Farha (2015) show a significant positive relationship between audit fees and firms with larger foreign ownership and government ownership but no significant relationship with firms with higher managerial ownership. Amir (2014) found that family ownership firms pay fewer fees for the audit work. Khan *et al.* (2011) provide further evidence with regards to ownership structure; companies with institutional ownerships have a significant negative relationship with audit fees and will pay lower audit fees. Suggesting that companies which are dominated by institutional ownerships will pay lower audit fees.

However, no studies have been reported to date on the impact of the BMLR 2008 on audit fees for PCON and other ownership structured firms. Based on prior literature for pre-2007 period and the arguments presented above, we propose the following hypothesis:

Hypothesis 1: PCON firms pay higher audit fees than INST&MGRL and FAMILY firms post BMLR2008.

Past literature has put forward the idea that an independent audit committee is an effective monitor as it is not part of the management and has no financial interest in the firm. This is because the board and audit committee are in place to monitor the management who otherwise may act in their best personal interest and not the interest of their principal (Fama & Jensen, 1983; Jensen & Meckling, 1976). Due to the separation of ownership and control, the agency theory also views managers as self-interested actors who could engage in opportunistic behaviour (Jensen & Meckling, 1976). Consistent with the risk-based approach, an independent audit committee leads to an effective audit committee oversight of the financial reporting process which reduces the incidence of financial reporting issues (Abbott *et al.*, 2004; BRC, 1999; Dechow *et al.*, 1996; McMullen, 1996). Thus, it is not surprising that Abbott *et al.* (2003) and Vafeas and Waagelein (2007) find that audit committee independence has a significant positive impact on audit fees when the audit committee is made up of either solely or a majority of independent members. It also lends support that an independent audit committee is connected with higher audit fees due to greater demand for audit quality in order to protect its members' reputation

(Abbott & Parker, 2000; Carcello & Neal, 2000). Thus, this study expects that audit committee independence contributes to higher audit fees. Since PCON firms aim at enhancing corporate governance, it is hypothesized that their audit committee members should be more independent and provides superior oversight over financial reporting process. As the firms require more extensive audit testing, higher external audit fees are expected. Therefore, the foregoing argument leads to the following hypothesis stated in an alternate form:

Hypothesis 2a: The association between audit committee independence and audit fees is stronger for PCON firms than INST&MGRL and FAMILY firms post BMLR2008

Past studies and governance best practices called for audit committees to be diligent in carrying out their duties (Abbot *et al.*, 2004). Further, according to Yatim *et al.* (2006), frequent audit committee meetings can reduce the tendency for financial reporting problems as they provide a forum for the audit committee and internal auditor to exchange relevant and important information and also allow the audit committee to notify the auditor of issues that require greater attention from the auditor (Raghunandan *et al.*, 1998). As found by Kalbers and Fogarty (1998) and Goodwin and Kent (2006), audit committees that meet frequently are more likely to be better informed and more diligent in discharging their responsibilities. As such, it is reasonable to expect that audit committees who meet frequently will demonstrate greater diligence in performing their duties. Consequently, as supported by Yatim *et al.* (2006) external audit fees are positively and significantly related to the frequency of audit committee meetings. Studies by Carcello *et al.* (2002) and Abbott *et al.* (2003) which are consistent with the demand approach, argue that more diligent audit committee is likely to seek higher quality audits from external auditors, resulting in higher audit fees. This supports prior research (Yatim *et al.*, 2006; Carcello *et al.*, 2002; Abbott *et al.*, 2003) which determined that diligent audit committee will seek higher quality audits from external auditor resulting in higher audit fees, and conjectures the next hypothesis.

Hypothesis 2b: The association between audit committee diligence and audit fees is stronger for PCON firms than INST&MGRL and FAMILY firms post BMLR2008.

Having a financial expert on the board helps when reviewing the internal audit proposals (Read & Raghunandan, 2001) and investigating accounting irregularities. Moreover, past experience and knowledge in accounting and auditing enhances the accuracy of the investigation and produces better financial reporting quality. DeZoort and Salterio (2001) find that audit committee's professional judgements on auditor-management issues pertaining to accounting policy differed between those with and without accounting and auditing knowledge.

As such, Sharma *et al.* (2009) reveal that audit committee accounting experts and independent directors play an important role in monitoring by demanding frequent audit committee meetings when management adopts aggressive accounting practices. Further, Gendron and Bedard (2006) reveal that an audit committee who is financially literate is more effective in adhering to best practices, and to secure a high quality of reported earnings. Thus, the more experts there are in the audit committee, the better will be the monitoring and adherence to best practices. According to Abbott *et al.* (2003), audit committee financial expertise has a significant positive impact on audit fees. Yatim *et al.* (2006) find a significant and positive association between audit committee expertise (proportion of audit committee members with accounting and finance qualifications) and audit fees. This is because a financially literate and knowledgeable audit committee will demand audit quality as the members are knowledgeable on technical auditing issues, and hence the increase in audit fees. As PCON firms are expected to adopt stronger governance which includes having an audit committee with financial expertise, it is hypothesized as follows:

Hypothesis 2c: The association between audit committee expertise and audit fees is stronger for PCON firms than INST&MGRL and FAMILY firms post BMLR2008

Based on the above hypotheses, the model is schematically described as follows:

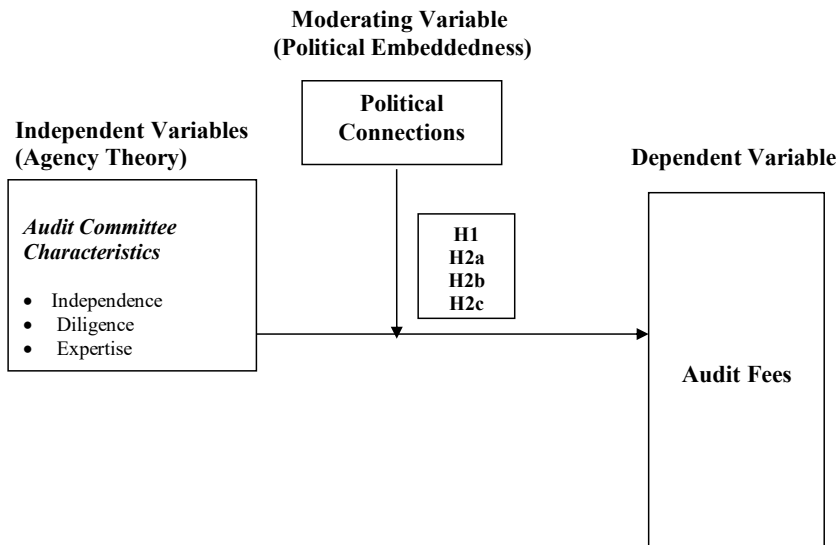


Figure 1: Research Model

RESEARCH METHOD

Data Collection

With regards to quantitative method of data collection, this study uses sample firms' annual reports from years 2008 until 2010. A total of 189 firms with 567 firms' year-observation data were collected. Data that were not available from DataStream were collected from the annual reports of Malaysian firms listed on Bursa Malaysia's main board. Table 1 reports the frequency of ownership structure for the sample firms. 36 per cent of the samples are politically connected (PCON) firms, 34% are family-owned firms (FAMILY), and the balance of 30% are institutional and managerial owned firms (INSTL&MGRL).

Table 1: Frequency of Ownership Structured Firms

	Frequency	Percentage
Politically Connected Firms	68	
Non-Politically Connected Firms:	171	36%
Family Ownership Firms	65	64%
Institutional Ownership Firms & Managerial Ownership Firms	56	34%
		30%
	189	100%

Audit Fee Model

The dependent variable that is the audit fees, is measured by the *Ringgit Malaysia* (RM) value of the audit fee paid by the audit client firm. The main experimental variables are audit committee characteristics namely audit committee independence (IND), diligence (DIL) and expertise (EXP). Audit fees models employed in past research have used a variety of variables to control sectional differences which are primarily influenced by size, complexity and risk of the audit client (Simunic, 1980; Craswell, 1992; Gul & Tsui, 1998; Francis, 1984; Chan *et al.*, 1993). Prior studies have found that the most significant determinant of audit fees is the size of the auditee, which is usually measured by total assets (TA) (Craswell, 1992; Palmrose, 1986; Simunic, 1980; Turpen, 1990). Non-audit fees (NAF) are also included as a control variable because it is significantly associated with audit fees (Whisenant *et al.*, 2003; Hay *et al.*, 2006). Further, the number of business segments (SEG) has been previously used to control for audit complexity (Simunic, 1980; Hackenbrack & Knechel, 1997). Zmijewski score (ZFC) is computed for each firm to control for financial crises. As profitability has also been argued to influence audit fees (Chan *et al.*, 1993), a negative relationship between return on assets (ROA) and audit fees is predicted. A fee premium exists for Big4 audit firms (Francis & Simon, 1987), and it is expected that client firms of Big4 purchase a higher level of audit quality. Finally, an indicator variable equals to '1' if PCON firms and '0' if otherwise is tested.

Descriptive Analysis

The analysis includes the univariate test and One-Way Anova with post-hoc test between the audit fees and audit committee characteristics. Table 2 shows univariate analysis for the continuous and indicator variables. It represents sample for PCON, INST&MGRL and FAMILY firms, with the descriptive statistic of mean, standard deviation and median. The descriptive statistics show that PCON firms are bigger in terms of total assets and have a larger number of business segments (SEG). The PCON firms also have higher non-audit fees and a higher audit quality. In general, PCON firms have higher average audit fees than INST&MGRL and FAMILY firms. As expected, the sample firms' audit committee characteristics IND, DIL and DIL record higher scores for PCON firms. It shows that the PCON firms are complying with the amended BMLR 2008 on audit committee characteristics. This is consistent with past studies (Abdul Wahab *et al.*, 2011; Chan *et al.*, 1993; Collier & Gregory, 1996; O'Sullivan, 1999 and 2000; Carcello *et al.*, 2002) that document higher audit fees for firms with improved governance, which is in line with the demand side explanation.

Table 2: Univariate Analysis for Sample Firms (n = 567)

	PCON	Firms (n=204)	FAMILY	(n=195)	INST&MGRL	(n=168)
Variable	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
LAF	12.63	1.07	11.72	0.81	11.92	0.83
AF	739045.69	1727857.350	189890.49	371583.93	216048.51	248825.79
LTA	14.31	1.51	12.78	1.06	13.11	1.32
TA	5945714.89	11669897.66	690219.490	1235117.63	1839621.10	5107855.01
LNAF ^a	8.25	8.01	2.13	10.49	2.23	10.65
NAF	461066.97	1324152.27	33455.29	69257.86	64752.97	245056.72
SEG	3.40	1.73	2.73	1.33	3.17	1.65
ZFC	-2.99	0.86	-3.27	0.85	-2.91	0.89
ROA	0.06	0.07	0.06	0.06	0.05	0.07
AQ	0.79	0.41	0.63	0.47	0.62	0.49
IND	0.97	0.09	0.98	0.71	0.96	0.12
DIL	5.63	2.33	4.80	0.88	5.11	1.32
EXP	1.47	0.67	1.35	0.64	1.43	0.55

* $p < 0.05$; © chi-square tests ^aObservations having a zero for LNAF are re-coded to a small positive value (0.00001) to enable a logarithmic transformation.

Notes: AF is audit fees while LAF is natural logarithm of audit fees; TA is total assets (in RM) while LTA is natural logarithm of total assets; NAF is non-audit fees (in RM) while LNAF is natural logarithm of non-audit fees; SEG is the

number of business segments; ZFC is the Zmijewski score for financial crisis; ROA is net profit before tax over total assets; AQ an indicator variable equals to '1' if the firm hires Big4 auditor and '0' if otherwise; IND is the proportion of independent non-executive directors to audit committee; DIL is the number of meetings; EXP is the number of audit committee with accounting or finance qualification.

Model Specification

The study examines the moderating effects of political connections on audit committee (AC) characteristics and audit fees. Drawing from Craswell and Francis, (1999), Tsui *et al.* (2001), and Carcello *et al.* (2002), the following audit fee model is used to test the Hypotheses (refer Table 3).

$$\text{LAF} = \beta_0 + \beta_1\text{TA} + \beta_2\text{NAF} + \beta_3\text{SEG} + \beta_4\text{ZFC} + \beta_5\text{ROA} + \beta_6\text{AQ} + \beta_7\text{INST\&MGRL} + \beta_8\text{FAMILY} + \beta_9\text{IND} + \beta_{10}\text{DIL} + \beta_{11}\text{EXP} + \beta_{12}\text{IND_PCON} + \beta_{13}\text{DIL_PCON} + \beta_{14}\text{EXP_PCON} + \varepsilon,$$

Table 3: Measurement of Independent and Dependent Variables

Hypotheses	Dependent Variable	Exp Sign	Measurement of Variables
	AF		Audit fee paid by the client (Natural logarithm of audit fees used in regression model).
AC Characteristics	Experimental Variables		Measurement of variables
	IND	+	The proportion of independent non-executive directors to AC.
	DIL	+	Number of AC meetings.
	EXP	+	Number of AC with accounting or finance qualification.
	Control Variables		Measurement of variables
	TA	+	Total assets for client at the end of fiscal year (Natural logarithm of TA).
	NAF	+	Total non-audit fee paid by client (Natural logarithm of NAF).
	SEG	+	Number of business segments.

	ZFC	+	Zmijewski scores for financial crisis.
	ROA	-	Profit before tax over TA.
	AQ	+	An indicator variable equals to '1' if the firm hires Big4 auditor and '0' if otherwise.
Hypothesis 1	INST&MGRL	-	An indicator variable, '1' for INST&MGRL, with reference to PCON and '0' if otherwise.
Hypothesis 1	FAMILY	-	As an indicator variable, '1' for FAMILY, with reference to PCON and '0' if otherwise.
Hypothesis 2a	IND_PCON	-	Interaction between IND and PCON
Hypothesis 2b	DIL_PCON	-	Interaction between DIL and PCON
Hypothesis 2c	EXP_PCON	-	Interaction between EXP and PCON

RESULTS AND DISCUSSIONS

One-Way ANOVA with Post-Hoc Tests

Table 4 shows one-way between-groups ANOVA test results for the three groups namely, the PCON firms, INST&MGRL firms and FAMILY firms. A one-way between-groups analysis of variance was conducted to compare the variance (variability in scores) between the three groups, as measured by the ownership structure. The analytical procedure is applied to answer the first hypothesis as to whether PCON firms pay higher audit fees than INST&MGRL and FAMILY firms. The above results generally show significant differences for the three groups except for ROA and audit committee EXP. There was a statistically significant difference at the $p < 0.01$ level in AF scores for the three groups ($F = 87.89$, $p = 0.000$). The actual difference in the mean scores between the groups was large. The post-hoc comparisons using the Tukey test indicates that the mean score for AF for PCON firms ($\mu = \text{RM } 654,881.40$, $SD = \text{RM } 1,474,057.76$) is significantly different from FAMILY firms ($\mu = \text{RM } 165,140.96$, $SD = \text{RM } 303,254.03$) and INST&MGRL firms ($\mu = \text{RM } 182,359.10$, $SD = \text{RM } 193,699.48$), respectively.

From the table, it shows that PCON firms have the highest audit fees in comparison with the other two groups, thus fully support Hypothesis 1. This indicates that PCON firms demand for substantive audit testing and improve audit quality from external auditors and are willing to pay higher audit fees. This is supported by Sherliza and Nurul Farha (2015) that foreign and government ownership will lead to higher audit fees paid to external auditors. According to them, government ownership is very strong in influencing the audit fees. The audit committee IND is significant at one per cent level ($F=16.48$ $p=0.00$) for all groups. The PCON firms have the highest IND mean score of 91 per cent (INST&MGRL = 84%, FAMILY = 87%). It indicates that the PCON firms have higher percentage of audit committee members who are independent non-executive directors. Similarly, audit committee DIL is also significant at one per cent level of significance ($F=20.38$ $p=0.000$) for all groups. The post-hoc comparisons test indicates that the mean score for PCON firms ($\mu=5.53$ $SD=2.21$) is significantly different from INST&MGRL ($\mu=4.94$ $SD=1.13$) and FAMILY firms ($\mu=4.80$ $SD=1.01$).

It can be further concluded that the audit committee members in PCON firms conduct an average of 5.5 meetings in a year. In comparison, INST&MGRL and FAMILY firms conduct an average of 4.94 and 4.80 meetings in a year, respectively. However, there is no significant difference for audit committee EXP between the groups. Similarly, given the F-statistic value of 38.65 with a significant level of $p=0.000$, the NAF is statistically significant for all groups. The post-hoc comparisons test indicated that the mean score for PCON firms ($\mu=$ RM 403790.66 $SD=$ RM 1056255.03) is significantly different from INST&MGRL ($\mu=$ RM 59406.54 $SD=$ RM 196056.76) and FAMILY ($\mu=$ RM 27392.41 $SD=$ RM 54516.02) firms. The client size measured by total assets (TA) is statistically significant for all groups, with PCON firms having the largest total assets ($F=5817479.97$ $SD=12320223.66$). Additionally, comparable evidence of significance was noted for business segments (SEG) at one per cent level of significance for all groups. The post-hoc comparisons test indicated that the mean score for all groups are significantly different from each other. The financial crisis index (ZFC) is significant and differ significantly from each group, with INST&MGRL firms experiencing higher financial distress during the financial crisis.

Table 4: One-way between Groups ANOVA with Post-Hoc Tests (n = 567)

Variable			Mean	SD	F-stat	Mean Differences	p-value
LAF	PCON	INST&MGRL FAMILY	12.49	1.08	87.89	P>IM P>F	0.000***
	INST&MGRL	PCON FAMILY	11.77	0.79		IM<P	
	FAMILY	PCON INST&MGRL	11.61	0.78		F<P	
AF	PCON	INST&MGRL FAMILY	654881.40	1474057.76	30.89	P>IM P>F	0.000***
	INST&MGRL	PCON FAMILY	182359.10	193699.48		IM<P	
	FAMILY	PCON INST&MGRL	165140.96	303254.03		F<P	
LTA	PCON	INST&MGRL FAMILY	14.28	1.50	137.54	P>IM P>F	0.000***
	INST&MGRL	PCON FAMILY	12.99	1.29		IM<P IM>F	
	FAMILY	PCON INST&MGRL	12.68	1.06		F<P F<IM	
TA	PCON	INST&MGRL FAMILY	5817479.97	12320223.6	43.71	P>IM P>F	0.000***
	INST&MGRL	PCON FAMILY	1431606.96	3978752.80		IM<P IM>F	
	FAMILY	PCON INST&MGRL	634630.40	1091172.92		F<P F<IM	
LNAF	PCON	INST&MGRL FAMILY	7.54	8.81	38.65	P>IM P>F	0.000***
	INST&MGRL	PCON FAMILY	1.23	10.82		IM<P	
	FAMILY	PCON INST&MGRL	1.81	10.48		F<P	
NAF	PCON	INST&MGRL FAMILY	403790.66	1056255.03	34.99	P>IM P>F	0.000**
	INST&MGRL	PCON FAMILY	59406.54	196056.76		IM<P	
	FAMILY	PCON INST&MGRL	27392.41	54516.02		F<P P>IM	
SEG	PCON	INST&MGRL FAMILY	3.40	1.72	16.28	P>IM P>F	0.000**
	INST&MGRL	PCON FAMILY	3.17	1.64		IM>F	
	FAMILY	PCON INST&MGRL	2.72	1.32		F<P F<IM	
ROA	PCON	INST&MGRL FAMILY	0.05	0.06	1.92		0.16
	INST&MGRL	PCON FAMILY	0.05	0.06			
	FAMILY	PCON INST&MGRL	0.06	0.05			

AQ	PCON	INST&MGRL FAMILY	0.79	0.40	13.10	P>IM P>F	0.01***
	INST&MGRL	PCON FAMILY	0.64	0.48		IM<P	
	FAMILY	PCON INST&MGRL	0.62	0.48		F<P F<IM	
ZFC	PCON	INST&MGRL FAMILY	-2.94	0.84	11.39	P<F	0.00***
	INST&MGRL	PCON FAMILY	-2.96	0.88		IM<F	
	FAMILY	PCON INST&MGRL	-3.23	0.84		F>P F>IM	
IND	PCON	INST&MGRL FAMILY	0.91	0.13	16.48	P>IM P>F	0.00***
	INST&MGRL	PCON FAMILY	0.84	0.18		IM>P	
	FAMILY	PCON INST&MGRL	0.87	0.15		F<P	
DIL	PCON	INST&MGRL FAMILY	5.53	2.21	20.38	P>IM P>F	0.00***
	INST&MGRL	PCON FAMILY	4.94	1.13		IM<P	
	FAMILY	PCON INST&MGRL	4.80	1.01		F<P	
EXP	PCON	INST&MGRL FAMILY	1.41	0.64	1.08		0.33
	INST&MGRL	PCON FAMILY	1.41	0.57			
	FAMILY	PCON INST&MGRL	1.35	0.62			

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

P: Politically connected firms IM: Institutional ownership and Managerial ownership firms F: Family ownership firms

°Observations having a zero for LNAF are re-coded to a small positive value (0.00001) to enable a logarithmic transformation.

Notes: AF is audit fees while LAF is natural logarithm of audit fees; TA is total assets (in RM) while LTA is natural logarithm of total assets; NAF is non-audit fees (in RM) while LNAF is natural logarithm of non-audit fees; SEG is the number of business segments; ZFC is the Zmijewski score for financial crisis; ROA is net profit before tax over total assets; AQ an indicator variable equals to '1' if the firm hires Big4 auditor and '0' if otherwise; IND is the proportion of independent non-executive directors to audit committee; DIL is the number of meetings; EXP is the number of audit committee with accounting or finance qualification.

Table 5 represents the multiple regression results for testing hypotheses 2a, 2b and 2c. In testing the validity of the models used in the study, the traditional audit fee model introduced by Simunic (1980) is employed whereby the natural log of audit fees is regressed on control (Simunic, 1980; Yatim *et al.*, 2006; Gul, 2006; Ferguson, 2005) and experimental variables.

Results in Models A, B and C are significant at one per cent significant level ($p=0.000$), with an adjusted R^2 of at least 79.9 per cent which is comparable with other Malaysian studies in this area (Yatim *et al.*, 2006; Abdul Wahab *et al.*, 2011). Model A shows the association between external audit fees on 8 control variables derived from the extant literature (Abbott *et al.*, 2003, Goodwin & Kent, 2006; Yatim *et al.*, 2006; Abdul Wahab *et al.*, 2009). The client size (TA) coefficient (0.03, $t=1.51$) is positive and significant at one per cent significant level indicating that the larger the size of firms, the higher the audit fees charged. The coefficient (0.06, $t=2.45$) on NAF is also positive and significant at one per cent significant level. Besides that, SEG, ZFC and ROA indicate a positive and significant relationship at $p=0.05$, $p=0.14$ and $p=-0.03$, respectively. It indicates that as the complexity and risk are higher, the audit fees also increase. AQ is also positive and significant at $p<0.05$. Further, the ownership structure grouping variable coefficient is negative and significant at $p=0.02$ and $p=0.05$ for INST&MGRL and FAMILY firms, respectively. The unstandardised coefficient beta of -0.02 and -0.15 for INST&MGRL and FAMILY firms indicate that the audit fees is lower for these firms compared to the PCON firms, provided that other predictors are constant.

Table 5(a): Audit Fee Regression Models ($n = 567$)

Variable	Model A		Model B	
	Coefficient	t-value	Coefficient	t-value
Constant		35.81		33.12
LTA	0.44	17.70***	0.42	17.79***
TA	0.03	1.51***	0.05	2.65***
LNAF	0.08	4.51**	0.06	3.93***
NAF	0.06	2.45**	0.08	3.65***
SEG	0.05	2.98***	0.05	3.31***
ZFC	0.14	5.59***	0.14	5.90***
ROA	-0.03	-1.53	-0.04	-2.12***
AQ	0.05	3.16**	0.06	4.04***
INST&MGRL	-0.02	-1.23**	-0.02	-1.59**
FAMILY	-0.05	-2.57**	-0.05	-3.13***
IND			0.04	3.21***
DIL			0.07	4.41***

EXP		0.02	1.24*
F-Statistics	231.27		257.26
p-value	0.00		0.00
Adj. R ²	0.79		0.82

$p < 0.10$; ** $p < 0.05$; * $p < 0.01$**

^oObservations having a zero for LNAF are re-coded to a small positive value (0.00001) to enable a logarithmic transformation.

Notes: AF is audit fees while LAF is natural logarithm of audit fees; TA is total assets (in RM) while LTA is natural logarithm of total assets; NAF is non-audit fees (in RM) while LNAF is natural logarithm of non-audit fees; SEG is the number of business segments; ZFC is the Zmijewski score for financial crisis; ROA is net profit before tax over total assets; AQ an indicator variable equals to '1' if the firm hires Big4 auditor and '0' if otherwise; IND is the proportion of independent non-executive directors to audit committee; DIL is the number of meetings; EXP is the number of audit committee with accounting or finance qualification.

Model B introduces the audit committee characteristics IND, DIL and EXP. The results reported shows that external audit fees are positively and significantly associated with the audit committee independence (IND) and diligence (DIL) at $p < 0.01$ and expertise (EXP) at $p < 0.1$. Prior research recommends that stronger audit committee members demand for higher quality audits (Goodwin & Kent, 2006), and firms with strong governance practices engage in greater level of internal auditing and are connected with higher audit fees. Carcello *et al.* (2002) argue that high quality board demands for more external monitoring from external auditors and are willing to pay higher audit fees. The signs for the control variables are all in predicted directions except for ROA. Following prior research (Simunic, 1980; Francis & Simon, 1987; Craswell *et al.*, 1995) it is expected that the AF is positively associated with TA, NAF, SEG, ZFC, AQ, and all other variables remain significant with the exception of INST&MGRL.

Model C brings in the interaction variables, PCON which comprise of three Models I, II and III. Hypotheses 2a, 2b and 2c predict a significant relationship between AC characteristics, IND, DIL and EXP with audit fees for PCON firms as compared to INST&MGRL and FAMILY firms. The results indicate that the interaction term audit committee IND_PCON ($p < 0.1$), DIL_PCON ($p < 0.01$) and EXP_PCON ($p < 0.01$) are significant, thus H2a, H2b and H2c are supported. It reveals that there is a significant positive association between the audit committee IND, DIL and EXP, and

audit fees for PCON as compared to INST&MGRL and FAMILY firms. This is because under the demand side perspective, audit committee members who are independent, diligent and with financial expertise demand for additional audit procedures from the external auditors especially for areas that subsequently reveal greater amounts of contention or risk, consequently higher audit fees.

Table 5(b): Audit Fee Regression Models (n =567)

Variable	Model C					
	I		II		III	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant		32.85		31.99		32.19
LTA	0.41	17.83***	0.42	17.97***	0.41	17.38***
TA	0.05	2.74***	0.07	3.33***	0.05	2.55***
LNAF	0.06	3.87***	0.06	3.98***	0.06	4.03***
NAF	0.08	3.65***	0.09	4.07***	0.07	3.09***
SEG	0.05	3.36***	0.06	3.59***	0.05	3.49***
ZFC	0.14	5.93***	0.14	5.89***	0.14	6.00***
ROA	-0.04	-2.18***	-0.04	-2.12**	0.06	-1.77*
AQ	0.06	3.99***	0.06	3.84***	0.05	4.13***
INST&MGRL	-0.07	-1.25	-0.13	-3.18	-0.12	-3.78***
FAMILY	-0.04	-0.79	-0.11	-2.51**	-0.15	-4.62***
IND	-0.06	-3.34***	-0.05	-2.79*	-0.04	-3.19***
DIL	0.07	4.56***	0.02	0.56	0.08	5.12***
EXP	-0.02	-1.31	-0.03	1.73	-0.00	1.49
IND_PCON	0.11	1.85*				
DIL_PCON			0.24	4.20***		
EXP_PCON					0.16	4.19***
<i>F-statistic</i>	219.05		223.18		223.86	
<i>p-value</i>	0.00		0.00		0.00	
<i>Adj. R²</i>	0.82		0.82		0.83	

$p < 0.10$; ** $p < 0.05$; * $p < 0.01$**

^oObservations having a zero for LNAF are re-coded to a small positive value (0.00001) to enable a logarithmic transformation.

Notes: AF is audit fees while LAF is natural logarithm of audit fees; TA is total assets (in RM) while LTA is natural logarithm of total assets; NAF is non-audit fees (in RM) while LNAF is natural logarithm of non-audit fees; SEG is the number of business segments; ZFC is the Zmijewski score for financial crisis;

ROA is net profit before tax over total assets; AQ an indicator variable equals to '1' if the firm hires Big4 auditor and '0' if otherwise; IND is the proportion of independent non-executive directors to audit committee; DIL is the number of meetings; EXP is the number of audit committee with accounting or finance qualification.

Firms that are committed to strong corporate governance demand additional assurance from auditors and higher audit quality (Lifschutz *et al.*, 2001), and are likely to engage in greater levels of internal auditing resulting in higher external audit fees (Goodwin & Kent, 2006). Increasing monitoring by audit committees also associated with increase in audit fees (Ismail *et al.*, 2012). According to Norziation *et al.* (2015), PCON firms have higher audit fees due to improved governance which demands an increase in audit effort. Further, the association between audit committee independence, diligence, and expertise and audit fee is significant, suggesting that PCON firms are committed to strong corporate governance and are prepared to pay a higher quality external audit work. This is because audit committee members who sit on PCON firm's board demand for expanded audit scope in order to avoid being associated with financial misstatement and to preserve their reputational capital. Hence, the PCON firm's audit committee members are committed to strong corporate governance practices. They are in place to monitor the management, who otherwise may act in their own personal best interest and not in the interest of the shareholders. Hence, it can be concluded that there is a marked improvement in corporate governance of PCON firms since it was then generally perceived to exhibit poor corporate governance, greater agency problems (Abdul Wahab *et al.*, 2009) and with high risks (Gul, 2006).

CONCLUSION

This current study draws on the agency theory, where the separation of ownership and control between the owner and manager of a firm would subsequently lead to agency costs, such as audit fees. As managers may not act in the best interests of shareholders, monitoring by independent directors is crucial. The importance of the agency theory in corporate governance is further supported by the findings of this research, which applies an agency theory framework, that the improved internal governance mechanisms through enhanced audit committee characteristics increase the demand

for audit procedure resulting in higher audit fees. In addition, the political embeddedness perspective may also be pertinent to explain the corporate setting in Malaysia which examines the relationship between audit committee characteristics and external audit fees. It is predicted that the mandatory regulations on the audit committee characteristics are positively associated with higher external audit fees for PCON firms than INST&MGRL and FAMILY firms. The panel analysis of 567 firm's year-observation for the years 2008 to 2010 reveals that positive association between audit committee IND, DIL and EXP, and external audit fees was evidenced for PCON firms. Clearly, this study shows that audit committee members have a duty not just to oversee the conduct of business in compliance with laws they should also be effective stewards and guardians of the firm in respect of ethical values, and to ensure an effective governance structure for the appropriate management of risks and level of internal controls. The enhanced corporate governance regime has been effective in that PCON firms still pay higher audit fees even though their internal governance mechanisms are stronger, indicating the dominance of the demand-side explanation. This observation strengthens claims that the corporate governance regulatory has indeed been effective. This study also facilitates to dispel the concerns regarding PCON firms in the corporate governance reform efforts as highlighted in the World Bank Report in 2012.

The present study has a number of limitations that should be noted, hence providing opportunities for further research. First, this study is based on the revamped BMLR in 2008 which emphasised on audit committee characteristics. Future research should examine the new changes in BMLR and their relation to audit fees. Second, this study's sample comprises of 567 firm's year-observation public firms listed on Bursa Malaysia, excluding financial services sector. Hence, generalisation of the results to smaller firms, either public or private, may be inappropriate. It should examine the latest data from the Bursa Malaysia as it will reflect the current situation of ownership structure in Malaysia. A point to note as well, the current study did not distinguish between audit fees and non-audit fees; as it was not the focus of the research to ascertain these differences. It can be highlighted that future research may delve into non-audit services factors that may contribute to the auditor-client relationship.

NOTE

¹The Malaysian government's implementation of capital controls in 1998 was primarily to benefit political-connected firms that were hit by the Asian financial crisis in 1997.

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COMPARISON OF RESILIENCY, OPTIMISM AND SOCIAL SELF-EFFICACY IN DELINQUENT AND NORMAL ADOLESCENTS

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ABSTRACT

The present study aimed to examine and compare resilience, optimism, and self-efficacy in delinquent and normal adolescents in Fars Province, Iran. The statistical population comprised 100 delinquent adolescents in Shiraz Juvenile Detention Centre and 100 normal adolescents. Research hypotheses were investigated in this descriptive-analytical study using Scheier and Carver's Life Orientation Test, the Connor-Davidson Resilience Scale, and Sherer's Self-Efficacy Scale and statistical analysis was conducted using independent samples t-test. Results showed that there was a significant difference between two groups of adolescents in terms of the optimism, resilience and self-efficacy. The optimism in adolescents had a significant impact on the mental health and behaviour of them and plays an important role in the personal and social life of individual. Furthermore, the resilience and self-efficacy have crucial roles in the life of adolescents. Having any of these traits and enhancing and improving them play important roles in the life of adolescents.

Keywords: *resilience, optimism, self-efficacy, adolescent*



INTRODUCTION

Adolescence is one of the most critical periods of life, accompanied by extensive physical, psychological, and social changes. It is also an important period for starting high-risk and delinquent behaviours because of the adolescents' egocentrism and lack of proper understanding of their own behaviours (Saeedy *et al.*, 2017; Boyer, 2006). By advancing in age, adolescents participate in several risky activities and have rising tendency to engage in such behaviours, consecutively (Croisant *et al.*, 2013). Thus, this participation and the tendency towards delinquent behaviours have become one of the major sources of concern. One of the inconvenient issues of today's societies attracting the attention of many researchers is the delinquency of adolescents and young adults (Thornberry *et al.*, 2016). Adolescents and young people engage in delinquent acts (Tate *et al.*, 2008). The new psychology attempts not to emphasize solely all on mental problems but also tries to focus more on positive aspects of life. The aim of positive psychology is to accelerate the change of the very centre of psychology, so that it takes action to build positive living qualities in addition to treatment of diseases (Duckworth *et al.*, 2005). Optimism is one of the positive characteristics of human beings and has attracted special attentions in psychology and social sciences over the past two decades (Seligman & Csikszentmihalyi, 2000). Optimism refers to a perspective in which positive outcomes are expected; these consequences are considered as the results of constant, general and internal factors (Boyer, 2006).

Resilience is the ability to successfully adapt to threatening situations (Windle, 2011). It is not a mere resistance to damages or threatening situations, but the active and constructive participation in the environment. In general, resilience is one's ability to establish biological-psychological balance in dangerous situations (Weavera *et al.*, 2008; Dolan & Martin, 2008). A resilient person is flexible and finds solutions, adapts to environmental changes and quickly returns to recovery after the stressors are removed (Southwick *et al.*, 2014). People with low resilience (on the continuum of high and low resilience) can hardly adapt themselves to new situations; they recover slowly from stressful conditions to a normal and natural status (Schweizer & Koch, 2001).

According to Karademas and Kalantzi-Azizi (2004), resilient people often return to normal situation by creating positive emotions after stressful confrontations. Individuals with high resilience can pass stressful events

without any reduction in their mental health or suffering from mental illness (Shrivastava & Desousa, 2016). Also, it seems that in some cases, they have made progress and been successful despite their hard experiences (Karademas & Kalantzi-Azizi, 2004). The optimism has an important role in adaptation with the life events. Among all factors and elements contributing to a developed and high resilience, the role of internal and personal processes should not be neglected. This issue is true about the overall human behaviours and characteristics (including the resilience). There are other factors that act as triggers of human behaviour, but all of them are subject to the individual's beliefs (Boyer, 2006). In addition to reducing fears and expected inhibitions, perceived self-efficacy affects the level of motivation and the effort to coping with life events (Karademas, 2006). Perceived self-efficacy decreases fears and expected inhibitions and affects behavioural outcomes as well as one's motivation and effort to cope with different situations by increasing expectations of probable success (Sayal *et al.*, 2002; Karademas, 2006). Optimism accompanies resilience and is identified as the most effective cognitive factor in adults, reducing the effects of stressors in life. The self-efficacy or self-esteem is defined as the level of confidence that each individual to his ability in performing a set of actions or carrying out a particular task (Williams, 2010). In investigating the statistical population of the research, the delinquent people referred to the adolescents who are under the age of 18 and their behaviour is such that is punishable by law. Some criminal acts such as robbery, assault, rape, murder or use of drugs are also considered as crime if they are committed by an adult (Schweizer & Koch, 2001).

Krasikova *et al.* (2015) reported a significant difference between resilience, optimism and self-efficacy in normal and delinquent adolescents. Normal adolescents have optimistic and self-efficacious capital and have a positive view of their ability, which leads to resilience in them. While, optimism and self-efficacy are very low in delinquent adolescents.

Hodder *et al.* (2016) also reported that there was a difference between the two groups of delinquent and normal in terms of resilience, self-efficacy and optimism. Having a sense of self-efficacy and optimism will make people more active and seek to resolve the problem and deal with incompatibilities and problems.

Bartone *et al.* (2015) concluded that low levels of resilience are correlated with tendency to misdemeanour. In other words, resilience

represents a state of efficiency and flexibility in dealing with life's problems. Delinquent adolescents have a low self-efficacy and optimism, and have weak social connections.

People with high self-efficacy are more resistant to problems, and they do not believe in a negative and non-realistic view of their abilities. Therefore, this capability leads to the resistance of these individuals to the pressures of life and peer groups. Accordingly, even if the person does not want to have any delinquency behaviour, in the event that the level of self-efficacy is low, it may lead to misdemeanour behaviours due to pressures. This applies to resilience, because the person is fragile with low resilience against social damage and peer group and it may be biased toward harsh and unusual behaviours with the slightest adversity. Teenagers with high self-efficacy and resilience have stronger social relationships. They care about their health and have more communicative principles. As a result, they are easily creating communication networks in any environment (Khodaverdi, 2019). Therefore, in the present study comparison investigation of the resilience, self-efficacy and optimism in delinquent adolescents was performed.

METHOD

The aim of the present study was to compare the resilience, optimism and self-efficacy among delinquent and ordinary adolescents in Fars province in Iran. The statistical population of the study was all delinquent adolescents in Shiraz juvenile detention centre. Given that the age range of subjects was considered between 15 to 18, so the total number of male delinquent adolescents was 100. Due to the small size of the statistical population, all members were also considered as study samples. In contrast, for the group of ordinary adolescents, 100 ordinary adolescents in the same age range were randomly selected. Descriptive-analytic method was used in the present study. For measuring the resilience, the measurement scale of Connor and Davidson was used; this questionnaire had 25 items that are graded by Likert scale between zero (completely false) and five (always true). For measuring self-efficacy, Scherrer's Questionnaire was used; this scale contains 17 questions and each question is graded based on Likert scale from 'I totally disagree' to 'I totally agree'. From 1 to 5 points are given to each choice. The Questions 1, 3, 8, 9, 13 and 15 are scored from right

to left and the rest of the questions are scored in reverse order, from left to right. Therefore, the maximum score that a person can get from this scale is 85 and the minimum score is 17. This scale has been translated to Persian and validated by Karademas and Kalantzi-Azizi (2004). Also, the reliability coefficient of the scale was obtained 0.76 using Gutmann's two-half method and 0.79 using Cronbach's alpha (Sterling *et al.*, 2007). For measuring the optimism, the scale of Scheier and Carver (1992) was used to evaluate nature optimism; the Life Orientation Test (LOT) has compiled a summary report and subsequently revised it (Boyer, 2006). The kind of optimism evaluated by LOT is a personality trait characterised by personal desires in the future. The Life Orientation Test (LOT) included eight items; four items represented the optimistic mood, four items represented the pessimistic mood and the respondents declared their agreement or disagreement with each of the sentences, on a multi-degree scale. The following point was investigated in the test of research hypotheses using SPSS software.

RESULTS

First Hypothesis: There is a Difference between the Resilience of the Delinquent and Ordinary Adolescents

The independent variable in this hypothesis was ordinarily and delinquent adolescents, which was a double name. For measuring the relationship, an independent binary nominal variable and a dependent interval variable from *t*-test were used. As it can be seen in the Table 1, the independent variable had two categories, and the mean of the obtained score for the dependent variable for these two groups was equal to: the mean of the ordinary adolescents score: 79.64, and the mean score of delinquent adolescents: 46.41. The observed difference in the mean of scores showed that the mean score of delinquent adolescents was higher than the mean score of ordinary adolescents. Therefore, according to the *t*-value and its significance level that were respectively equal to -0.79 and 0.000 , the H_0 based on the absence of a significant difference was rejected and the H_1 was confirmed. Thus, the hypothesis was approved in the 95% confidence interval and it can be concluded that there was a significant difference between the resilience of ordinary and delinquent adolescents.

Table 1: *t*-Test of Resilience between the Delinquent and Ordinary Adolescents

Subjects	Frequency	M	SD	SE	<i>t</i>	<i>p</i>
Ordinary	50	79.64	6.18	0.8740	-.790	.000
Delinquent	50	81.46	15.07	2.1310		

Second Hypothesis: There is a Difference between the Optimism of the Delinquent and Ordinary Adolescents

The independent variable in this hypothesis was ordinarily and delinquent adolescents, which was a double name. For measuring the relationship, an independent binary nominal variable and a dependent interval variable from *t*-test were used. According to Table 2, the independent variable had two sides and the mean of the obtained score for the dependent variable for these two groups was 35.60 for the ordinary adolescents, and the mean score of delinquent adolescents was 34.56. The observed difference in the mean of scores showed that the mean score of ordinary adolescents was higher than the delinquent adolescents.

Therefore, consequently, according to the *t*-value and its significant level that were respectively equal to -0.88 and 0.268, the H_0 based on the absence of a significant difference was confirmed. As a result, the above hypothesis was not approved in the 95% confidence interval. In other words, there was no significant difference between the optimism of the delinquent and ordinary adolescents.

Table 2: *t*-Test of Optimism between the Delinquent and Ordinary Adolescents

Subjects	Frequency	M	SD	SE	<i>t</i>	<i>p</i>
Ordinary	50	35.60	4.99	.706	-.88	.268
Delinquent	50	34.56	6.63	.938		

The Third Hypothesis: There is a Difference between the Self-Efficacy of the Delinquent and Ordinary Adolescents

According to Table 3, the means of the obtained score for the dependent variable for these two groups was 54.56 for the ordinary adolescents, and 53.80 for the delinquent adolescents. The observed difference in the mean of scores showed that the mean score of ordinary adolescents was higher than the delinquent adolescents. Therefore, consequently, according to the t -value and its significant level that were respectively equal to 0.467 and 0.018, the H_0 based on the absence of a significant difference was rejected, and the above hypothesis was approved in the 95% confidence interval. In other words, there was a significant difference between the self-efficacy of the delinquent and ordinary adolescents.

Table 3: t -Test of Self-Efficacy between the Delinquent and Ordinary Adolescents

Subjects	Frequency	M	SD	SE	t	p
Ordinary	50	54.56	6.53	0.924	.467	.018
Delinquent	50	53.80	9.47	1.339		

DISCUSSION AND CONCLUSION

Results revealed significant differences in optimism, resilience, and self-efficacy between normal and delinquent adolescents. Optimism helps people resist depression which leads to failure and sad events. Optimists enjoy a higher level of self-efficacy and resilience. Results also showed that delinquents do not have a desirable level of optimism compared to normal adolescents. Lack of optimism has destructive mental effects. In general, delinquent adolescents had a lower resilience, tolerance, and patience. The finding was consistent with the research results of conducted by Khodaverdi (2019); Karimi *et al.* (2017), and Bartone *et al.* (2015). Also, the results of this study are also consistent with Krasikova *et al.* (2015) and Hodder *et al.* (2016) in terms of comparison between resilience, self-efficacy and optimism in two groups of normal and delinquent adolescents.

According to Scheier and Carver (1992), the optimism is defined as the tendency to adopt the most hopeful view and it requires a positive evaluation

and prediction of the person about the consequences and outcomes of life events. Therefore, the optimism creates a positive and satisfying feeling of life in different aspects, which is followed by high resilience and self-efficacy. The optimism is also defined as a strong expectation of the person that in spite of the obstacles and frustrations in the whole life, everything will be fine (Karademas, 2006). Thus, the optimist people have higher level of self-efficacy and resilience. As it has been clear in the present research, the delinquent adolescents had not satisfying level of optimism in comparison with ordinary adolescents. The lack of optimism in theses adolescents has harmful effects on them in spiritual and psychological dimensions.

Some studies have shown that self-efficacy in normal adolescents has led to more activity, and they seek to resolve the problem and deal with incompatibilities and problems. They also tend to have less misdemeanor behaviours when faced with problems (Khodaverdi, 2019). Karimi *et al.* (2016) report that juvenile delinquents have lower levels of resilience. Bartone *et al.* (2015) concluded that low levels of resilience had a relationship with tendency to delinquency and can predict it. Bartone *et al.* (2015) also reported that resilience is a dynamic process, which includes positive adjustment at times of hardship, and this ability has a close relationship with self-efficacy. As a result, resilience is a strategy to deal with tensions and challenges.

Resilience includes factors such as self-concept, optimism and self-efficacy, and the creation of desirable social effective communication (Rahmati & Saber, 2017). Normal adolescent with high levels of resilience accepts existing facts and they believe that human life has a profound meaning, which makes them resistant to problems. While adolescent with low resilience consider changes in life as negative and uncontrollable (Bartone *et al.*, 2015).

Resilient people feel that they are able to cope with the problems because of their optimism, and logically deal with problems. These people have an optimistic view of the message and act and can easily control their own issues (King, 2017).

Optimistic individuals have stronger social relationships than pessimistic, they care more about their health, and have more communicative

principles. This makes it easy for them to create networks in any environment that they are placed. As a result, adolescents with high optimism have less tendency to misdemeanor behaviours (Alterman *et al.*, 2014). As it can be seen from the results of the present research and also similar studies, the delinquent adolescents have a lower level of resilience and endurance. Also, in terms of self-efficacy, there was a significant difference between two groups.

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LEARNING BY NATURE: THE IMPLEMENTATION AND EVALUATION OF CULTURALLY RESPONSIVE PICTORIAL MODULE OF NATURE TIE-DYE *BATIK* CRAFT

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ABSTRACT

The aim of this study is to determine the usefulness of Culturally Responsive Pictorial Module of Nature Tie-Dye Batik Craft for teaching and learning the topic 'Batik Pelangi' in Visual Art Education (VAE). The pictorial module was developed using the ADDIE Model that was supported by Zone of Proximal Development (ZPD) – Scaffolding by Lev Vygotsky (1978). This study uses the Design Development Research (DDR) approach. The Pictorial Module was evaluated by two expert panels which is one experienced VAE school teacher and one Visual Art senior lecturer at a local university. A purposive sampling consisting of 29 VAE students and one VAE teacher were used in this research to measure their acceptance using the module. Both the responding groups of students and VAE teacher provided positive feedbacks toward learning and teaching using the module. Based on the findings, the Pictorial Module is relevant and appropriate to be implemented at secondary school level for art education in Malaysia.

Keyword: natural dye, tie-dye 'batik', visual art education, culturally responsive education



INTRODUCTION

Numerous opinions and writings have put the importance of consolidating elements from the National Philosophy of Education into the educational curriculum in Malaysia to attain a holistic approach in developing generations who are not only academically excellent but also those who will be responsible citizens. It has been highlighted by Siti Zuraida and Saedah Siraj (2013) that the study of multicultural education in Malaysia has received much attention the past few years not only from educators but also from other stakeholders. Visual Art Education (VAE) is seen as a subject with multiple contents and skills which could develop and instil multicultural awareness among students and other stakeholders who have their interests in education. Additionally, to attain further understanding and inclusivity in learning, Dorn (2005) have put forth that a successful VAE classroom should engage students with activities which have significant influence for them to accept and be able to recognise. More significantly, Siti Zuraida Maaruf *et al.* (2017) have connoted that with all the current social mobility and diverse cultural conditions, it only make sense to fabricate the VAE curriculum content that would satisfy the needs of not only multicultural classrooms but to impart multicultural arts even in mono-cultural classrooms. Multicultural education is becoming an essential part in many societies now because it has been proven to provide life-enhancing impacts on students and other stakeholders with other outward benefits such as creating more multicultural awareness into the society (Stuhr, 1994).

The tie-dye art is an art practiced by various cultures worldwide including in multicultural Malaysia that is also popular with tie-dye for *batik*. However, it has been observed that the general public is more exposed to using synthetic dyes compared to the natural type when making this art. The VAE curriculum has for many years include tie-dye to produce *batik* which is a famous local heritage. Famous for being a cultural heritage both in Malaysia and Indonesia, batik has been long promoted in these two nations not only commercially but starting at its foundation – the education system through visual arts subjects. Despite tie-dye being widely used, current trend has made the shift for use of natural dye in *batik* production, promoting more environmentally friendly approach in producing art.

Background of Study

Malaysia is made up of various ethnics which include diversity in their cultures. These cultures are either passed down through formal or informal teachings to ensure that they would not diminish in time. Therefore, conscious efforts have been made by various quarters in Malaysia to ensure that the uniqueness of cultural diversity in all of its forms will not fade with time. The Ministry of Education for instance has continuously given efforts to improve and maintain prominent elements of culture in the school curriculum aiming to instil cultural awareness at the school level. Culturally responsive teaching and learning would have a lot of benefits not only to teachers but also to students. However, a great deal of consideration needs to be thoroughly looked into so that teachers would have the appropriate skills and tools to teach for culturally responsive classrooms (Gay, 2002). This is especially necessary when teachers do not have certain cultural knowledge when teaching the content of other cultures. Therefore, Kozleski (2000) reminded that it is valuable to develop teaching modules which would assist teachers to not only develop their skills but to also have confidence when teaching for culturally responsive classrooms. Visual Arts Education (VAE) in the Malaysia school curriculum has been used as one of the various platforms to teach diverse cultural elements. It has been put forth by Badrul (2006) that art may be a used to proliferate knowledge of diverse cultural contents. Art has witnessed extensive presentations concerning matters on biasness, prejudice, racism, and discrimination in the society and within the school community.

The tie-dye art method has been used in various art products. It was mentioned by Krani and Goodarzian (2010) that the use of natural dyes in the textile industry gradually decreased when the synthetic dyes was developed. However, more efforts have currently been made to use natural dyes in this form of art due to a lot of issues which include health and the environment concerns. Such concern was highlighted by Siva (2007) who pointed out that synthetic dyes would release harmful chemical that could cause various health complications. Therefore, many now turn to the use of natural dyes which are more eco-friendly, biodegradable, and non-toxic to the health. It has been emphasized by Aminoddin and Haji (2010) that natural dyes are clinically safer than synthetic dyes which are non-biodegradable and hazardous to both the environment and health. The *batik* art is a prominent

cultural element in Malaysia which over the years has been taught in the Malaysia school curriculum and is an industry which is very much close to Malaysia economy. Subsequently, producers in Malaysia *batik* industry have also turn to natural dyes.

With various economic factors which affect the educational budget nationwide, teachers in Malaysia need to be more wary and prudent in selecting their teaching and learning aids. Costing of materials used for art projects in schools is also affected in the school budget which drives teachers to look for alternative solutions. Using natural dyes for tie-dye *batik* projects is one way be economical and importantly friendly to health and the environment which subsequently teach students a lot of other knowledge and concerns that would have impact on them and the society. Natural dyes may come from many different foods and plants. It was mentioned by Ashis, Samanta and Adwaita (2011) that natural dyes are aplenty, while more interests in the production of natural dyes would have positive impacts towards the socio-economy too. Therefore, teaching and learning arts for culturally diverse content may be extended to teaching and highlighting matters of other social concerns.

Problem Statement

A concerning matter that needs to be appropriately addressed as mentioned by Siti Zuraida, Khadijah, Saedah and Voviana (2013) that the Malaysia VAE curriculum could be reviewed so the elements of cultural content belonging to other various cultures are not deprived and be included and taught in schools. Methods and skills of producing certain cultural art piece could also be appropriately practiced to allow students experience not only their own cultural element but also that of others. *Batik* for instance is not only famously known as the pride of Terengganu but it is also a gem from Kelantan, which has the influences from Thailand and Indonesia; two countries which practices Buddhism and Hinduism, similar to Malaysia that is made up of various people with different ethnic and culture with similar beliefs. Therefore, further review could consider developing a body of content throughout the school curriculum to discuss any necessary progression for cultural elements. However, it has been warned by Najeemah (2005) that the practice of multicultural education among teachers in Malaysia is not to desired level, thus requiring more careful look at teacher

training programmes. Therefore, this study will attempt to address only the teaching and learning of tie-dye *batik* with its present implementation within the VAE classroom.

Meanwhile, it was pointed out by Rungruangkitkran and Mongkholrattannasit (2012) that a number of commercial dyers and small textile export houses have looked at the possibilities of using natural dyes for regular basis dyeing and printing of textiles to overcome environmental pollution caused by synthetic dyes. It needs to be warned though that although synthetic dyes are widely available and sold at an economical price with wide variety of colours, these dyes can be toxic to the environment and health. Concerningly, July and Fatmahwaty (2014) highlighted that the European Union (EU) has declared that the Indonesian *batik* industry is damaging to the environment and health for use of synthetic dyes. A prior study by Ashis, Samanta and Adwaita (2011) revealed that there have been reports of skin allergies and other toxicities experienced by users of synthetic dyes. Therefore, an alternative using natural dyes is timely and would add further support to all the other prior and existing studies. Also, this study would supplement on details and steps in producing and using natural dyes in the Malaysia VAE classrooms.

Students and teachers who participated in this study will be required to produce their own natural dyes from organic items and ingredients for a tie-dye *batik* project in the VAE classroom. It is hoped that by learning and making their own natural dyes for their tie-dye *batik* product would enable them to not only have the knowledge of producing dyes from natural ingredients but would provide more health and environmental awareness between using synthetic and natural dyes.

Research Objective

The present study seeks to provide more insights on the following matters:

- i. To investigate teacher's perceptions towards the use of the Culturally Responsive Pictorial Module of Nature Tie-Dye *Batik* Craft as teaching aid in the Visual Art Education subject.
- ii. To investigate students' perceptions towards the use of the Culturally Responsive Pictorial Module of Nature Tie-Dye *Batik* Craft as learning aid in the Visual Art Education subject.

METHODOLOGY

This research applies the Design and Development Method (Richey & Klein, 2007) that focuses on the development of Culturally Responsive Pictorial Module of Nature Tie-Dye *Batik* Craft. In line with the research aim, this research has three phases that contain specific procedures following the sequences outlined in the ADDIE Model. However, this study will describe results and findings performed in Phase 3 for Implementation and Evaluation.

Phase 3: Implementation and Evaluation

Table 1: Sampling Matrix

Sample	Number of Sample	Sampling Method	Research Method
Teacher (VAE subject)	1	Purposive sampling	Semi-structured interview
Students	29	Purposive sampling	Closed-ended question survey

Semi-structured Interview

After the implementation, the researcher employed a semi-structured interview in order to explore the VAE teacher's perceptions and opinions based on the experiences gathered while teaching using the module. According to Fraenkel, Wallen and Hyun (2012), data gathered from this instrument is most convenient to be tabulated and it is also more popular among respondents. The interview was also an instrument used to gather data of the teacher's perceptions and opinions. All the data collected were transcribed verbatim.

Closed-Ended Question Survey

A set of survey were distributed to the students to collect the students' perceptions after using the Culturally Responsive Pictorial Module of Nature Tie-Dye *Batik* Craft Module. According to Frankel, Wallen and Hyun (2012), this instrument is consistent, convenient and popular to be used. It is also considered to be a very relevant method for researchers.

Research Participants

In this Phase 3 of the research, it will look into the implementation and evaluation of using the module in schools, one (1) teacher who is teaching the VAE subject was chosen and 29 fourth-formers VAE students from a secondary school in Kuala Lipis, Pahang also participated in providing their responses.

Data Analysis

Data gathered from the semi-structured interview and closed-ended question gathered from the participating teacher were transcribed into Microsoft Word programme to while feedbacks obtained from the VAE students were analysed using the SPSS software. The data was analysed to interpret the overall perceptions and opinions about the Culturally Responsive Pictorial Module of Nature Tie-Dye *Batik* Craft.

FINDINGS OF SEMI-STRUCTURED INTERVIEW

Suitable Use as a Teaching Aid

From the interview session held with the VAE teacher, the perceptions towards the use of the module (Pictorial Book Module and PowerPoint Slide Module) were analysed. The teacher provided positive feedback suggesting that the module is suitable and easy for students to follow with the instructions during lessons. Importantly, the teacher also stated that the module is very effective for students to create tie-dye *batik*.

She stated that:

“Okay...this tie-dye ‘batik’ module is...aaa...very easy and it is also simple to...aaa...what...to be followed by students in their learning process because there’s...aaa...what...there’s a few steps that I think...emm...are very effective for the students to create an easy tie-dye ‘batik’.” (Respondent 1: L: 1-5, D: 6th April 2017)

The Quality is Up to Standard

Another positive remark was also provided when the respondent viewed the quality of the module to be suitable for teaching and learning at the upper secondary level. Importantly the teacher asserted that the module had diligently included current school syllabus while providing some examples such as in the explanation of detailing of the steps to produce colours to support her assertion.

She stated that:

“Aaa...to master...aaa...this existed tie-dye ‘batik’ module...aaa...it is very suitable...aaa...by following the current syllabus...and the right usage of material that already in the module itself, for example the production of colour material from nature was detailed...aaa...because the references material before this did not explain how to gain perfection in production... yeah...so...aaa...with this module, students can get their own material at home...aaa...with the help of the module.” (Respondent 1: L: 1-4, D: 6th April 2017)

Complement the Existing Teaching Aid

The respondent was also asked if she finds the module to be suitable to replace or to be compared to with existing books available in the market. Her feedback provide an encouraging input suggesting that the module is suitable and easy to be used for students in the school setting. Although the module may not consist of all elements of the *batik* art, it is considered sufficient in assisting students to achieve more than 50% of the elements they need to learn about tie-dye *batik*.

She stated that:

“Aaa... as far as I know...ba...there’s a lot of tie-dye books but most of them comes from the other countries. So for tie-dye material aaa...that I know aaa...That I know so far...aaa...the module is very light...light which is easy to be carried by the students...aaa...and...aaa...not too much in detail...I think this module is very suitable even though they didn’t cover almost all of the ‘batik’ but when they were asked regarding the basic of tie-dye ‘batik’, for the students to reach the target more than 50% of them know about the subject or the topic of tie-dye ‘batik’...aaa...this...tie-dye...I

think it is one of the module that can be used.” (Respondent 1: L: 3-8, D: 6th April 2017)

Increase Students' Motivation

The teacher respondent also highlighted that her students did not have any complains when they were using the module in the classroom. Additionally, in her personal observations while facilitating the student in the classroom, the teacher finds the students to be at ease while following the instructions provided in the module.

She stated that:

“Aaa...most of them did not complain. They can use the module well. Aaa...they can follow...aaa...the production of colour...aaa...if there is...emm....any...err...mistakes or...emm...to fix it back there might be a few pictures that can be fixed...but those things are only minor.” (Respondent 1: L: 1-3, D: 6th April 2017)

Students' Reactions and Participation

The teacher was also asked about the students' reactions and participation level when using the module. The positive outcome is very welcoming as students were more excited during the lesson when they have coloured pictorial material with clear step-by-step instructions that are easy to follow such as the ones explaining the folding technique and producing colours.

She stated that:

“They seem more excited when they have a pictorial material...aaa...and colourful. Yeah...because in their text references or stuff that been given by the teacher mostly we didn't provide a lot of material with just a general material. So...the...material...for the tie-dye with the picture, folding, how to produce the colour...aaa...the steps of production the students...I think can...aa...use it easily compared...aaa...than only refers to the current text book being produced in Malaysia.” (Respondent 1: L: 1-8, D: 6th April 2017)

Teachers' Perception of the Module as the Teaching Aid

The respondent was asked about her perceptions towards the use of the module as a teaching aid for the *Batik Pelangi* (tie-dye) topic. The respondent is positive that the module is suitable to be used for all secondary school level from Form 1 to Form 5. Additionally, the respondent finds the module is easy to understand and not too complicated to be used as a teaching and learning aid because the words and sentences used are more relaxed.

She stated that:

Emm...this book can be used to me for all level aa...for...secondary... secondary schools from Form 1 until Form 5. Aaa...because..it is easy to understand...aaa...the production...as well as this module is not too complicated...aaa...the sentences used also is not hard to understand... what...so this module will be use much more relaxed and easy..aa..I think as a reference for the teachers and students it is very convenient...aaa...the production using..aa..fabrics or tissue materials can also be included...aa... and slightly...added so the students can ...aaa...choose...aa...to produce this tie-dye 'batik'. (Respondent 1: L: 1-8, D: 6th April 2017)

Design for Further Module

The last question seeks to collect the respondent's opinion on how to improve the module for further reviews. The respondent mentioned that realistic images may be more beneficial when demonstrating the steps of producing tie-dye *batik*.

She stated that:

Haa...okay. We can...aaa...imagine the production...aa...by steps... aaa... steps by steps from the first steps...aa...the process in producing... aa...the tie is more realistic. Okay...from the first step the students fold it... tie...fold...aa...students will colour them by themselves until they untie the ties and show it together by the students themselves. Maybe it might...be used as students' production of guideline material. It shows how the students succeed in producing. (Respondent 1: L: 3-6, D: 6th April 2017)

FINDINGS OF CLOSED-ENDED QUESTION SURVEY

Students' Perceptions on the Pictorial Module Format

Table 2: Students' Perceptions on the Pictorial Module Format

Descriptive Statistics			
	N	Mean	Std. Deviation
Q1) Graphic design for the front and back cover pictorial module is appropriate and interesting	29	4.38	.494
Q2) The size of the module is compatible with the needs of the students	29	4.45	.506
Q3) Font / typeface used is appropriate and easy to read	29	4.66	.484
Q4) Thickness of module is sufficient	29	4.52	.688
Q5) The quality of module's binding / printing	29	4.31	.660
Valid N (list wise)	29		

The ratings for each item in the construct were summed up to get the total score. Students' perceptions on the pictorial module score is gathered from item Q1, Q2, Q3, Q4 and Q5. Table 2 shows the total score for students' perceptions on the Pictorial Module Format. It can be seen that the students' perceptions on the module of each question have different total score which are (mean = Q1=4.38, Q2=4.45, Q3=4.66, Q4=4.52 and Q5=4.31). Majority of the students find that the format of the pictorial module is sufficient, appropriate and interesting which suits to their level.

Students' Perceptions on the Module Content of the Pictorial Module

Table 3: Students' Perceptions on the Content of the Pictorial Module

Descriptive Statistics			
	N	Mean	Std. Deviation
Q1) Learning outcome is clear by using the pictorial module	29	4.52	.509
Q2) Contents of the pictorial module arranged in orderly manner and help students to reach the learning outcome	29	4.72	.455
Valid N (list wise)	29		

The ratings for each item in the construct were summed to get the total score from item Q1 and Q2. Table 3 shows the total score for students' perceptions on the content of the Pictorial Module. It can be seen that the students' perceptions on the pictorial module of each question has different total score which are (mean = Q1=4.52 and Q2=4.72). However, majority students find that the content of the pictorial module provided clear and organised content for them to achieve the learning outcome.

Students' Perceptions on the Learning Material of the Pictorial Module

Table 4: Students' Perceptions on the Learning Material of the Pictorial Module

Descriptive Statistics			
	N	Mean	Std. Deviation
Q1) Learning materials are appropriate and helpful in learning session	29	4.66	.484
Q2) The quality of the diagrams, illustrations and tables are clearly shown	29	4.38	.494
Valid N (list wise)	29		

The students' perceptions on the pictorial module score is the total sum of item Q1 and Q2. Table 4 shows the total score for students' perceptions on the learning material of the Pictorial Module. It is clear that the students'

perceptions on the pictorial module of each question has different total score which are (mean = $Q1=4.66$ and $Q2=4.38$) with majority of the students find the learning material of the Pictorial Module to be appropriate, helpful and clear.

Students' Perceptions on the Activities and Exercise in the Pictorial Module

Table 5: Students' Perceptions on the Activities and Exercise in the Pictorial Module

Descriptive Statistics			
	N	Mean	Std. Deviation
Q1) Activities and exercises in the pictorial module are appropriate	29	4.66	.484
Q2) Appropriate guidance is given in solving activities and exercises	29	4.55	.506
Q3) Comment and feedback from the activities help students mastering the course requirements	29	4.38	.561
Valid N (listwise)	29		

The students' perceptions on the pictorial module score is the total sum of item Q1, Q2 and Q3. Table 5 shows the total score for students' perceptions on the activities and exercise in the Pictorial Module. It can be seen that the students' perceptions on the pictorial module of each question has different total score which are (mean = $Q1=4.66$, $Q2=4.55$ and $Q3=4.38$). In an encouraging analysis, the students viewed the activities and exercises have appropriate input which provided guidance for them to solve each activity and exercise while comments and feedback included help them with mastering the subject requirement.

Students' Motivation towards Learning the Pictorial Module

Table 6: Students' Motivation towards Learning the Pictorial Module

Descriptive Statistics			
	N	Mean	Std. Deviation
Q1) Students were very interested in the VAE learning activities	29	4.45	.572
Q2) Students liked the activities in the pictorial module	29	4.41	.568
Q3) Students were very interested in learning the technique of the pictorial module in learning VAE	29	4.45	.506
Q4) I loved the pictorial module techniques that required me to think carefully to complete its activities	29	4.31	.541
Q5) Students were fully satisfied upon completion of the activities in the pictorial module	29	4.72	.455
Valid N (listwise)	29		

The students' perceptions on the pictorial module score is the total sum of item Q1, Q2, Q3, Q4 and Q5. Table 6 shows the total score for Students' Motivation towards Learning the Pictorial Module. It is obvious that the students' motivation towards learning the module of each question have different total score which are (mean = Q1=4.45, Q2=4.41, Q3=4.45, Q4=4.31 and Q5=4.72). The students were motivated to learn using the module with its interesting pictorial approach with appropriate guidance for techniques to be implemented while performing the activities. Importantly, the students find the activities to be interesting as they are required to use their critical thinking skills cautiously to complete each task.

CONCLUSION

Results in this study prove that the teaching tools and materials used in the development of Culturally Responsive Pictorial Module of Nature Tie-Dye *Batik* Craft is very effective and successful in increasing the teacher's and students' skills and knowledge towards learning and making *Batik Pelangi*. All of the respondents who participated in this research provided positive feedbacks for the development of the Culturally Responsive Pictorial Module of Nature Tie-Dye *Batik* Craft giving further support in its future development. In addition, some respondents also mentioned that the module provided new experience with a new method in the Visual Art Education subject. It needs to highlighted cautions need to be taken when considering the values of crafts in education due to the possibility that crafts may lose their identities when they are made as only part of a subject content (Mason, Nakase & Toshio: 1988). Since batik is known worldwide and have vast audience beyond the Asian region, it is therefore essential that its arts receive central attention in Malaysia Arts Education.

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THE FUNCTIONS OF CODE-SWITCHING IN EFL CLASSROOMS

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ABSTRACT

Code-switching is a concept which has existed in bilingual and multilingual societies and it occurs quite frequently in English as a second or foreign language classes. Especially when the learners are all bilinguals or multilinguals and they have to switch back and forth between their mother tongue and a second or foreign language. This paper is driven by the three objectives. First, the study investigates the situations which trigger code-switching in EFL classes in Balkh and Kandahar Universities of Afghanistan. Secondly, it investigates the perception of Afghan EFL lecturers in these universities towards code-switching. Third, to find out how the EFL lecturers use code-switching as an effective strategy while teaching English in their classes. In this study, the qualitative research approach was used to collect data from four Afghan English language lecturers of the two universities via the interview method. The results of this study indicate that these Afghan EFL lecturers have a positive perception regarding code-switching and they are using it in certain situations which facilitate their teaching and students' learning of the content, however they also hold negative perception towards switching while teaching. The findings also show that the lecturers use code-switching in different situations such as



when dealing with cultural issues that tend to be difficult to explain only in the target language, explaining grammar and new vocabulary, giving clear instructions, and instructing English for Specific Purposes (ESP) classes.

Keywords: *code-switching, EFL lecturers, perceptions, effective, teaching strategy*

INTRODUCTION

English as an international language is popular in different countries around the world. In Afghanistan, it is a foreign language that people use for the purposes of travel, work and study. According to Library of Congress-Federal Research Division (2008), Afghanistan has two official languages: Pashto and Dari which are the medium of communication in everyday life. In Afghanistan universities the official national languages are used as the medium of instruction but in English language and literature departments both instructors and students are required to use English in the class. This indicates that in Afghan EFL classes there are bilingual and multi-lingual individuals who use two or more languages namely Dari/Pashto and English while communicating with one another and this quite often leads to code-switching. Valdes-Fallis (1977) declared that code switching refers to the use of more than one language simultaneously. According to Crystal (1987) code switching takes place when two speakers who are bilingual shift and interchange between two languages while talking. Auer (1998) also stated that code-switching is the alternate use of two or more languages in one episode of conversation.

There are various reasons why code-switching occurs in the classroom. The first reason is low proficiency in target language. This means that when bilingual and multi-lingual speakers who cannot find the proper and suitable word(s) from the target language (L2) which is equivalent to their first language or (L1), they switch to the other codes (Azlan & Suthagar, 2012). The second reason is effective communication and interaction in the class. According to Shartiely (2016), code-switching is an essential part of Tanzanian teachers' teaching process. They believe that code-switching is used to fill the linguistic gap between teachers and students. Hence, code-switching helps students comprehend the content of the lesson. In

addition, another claim for code-switching is lack of register. This refers to a particular set of vocabulary and phrase which does not exist in the first language of the speaker. Therefore, the speaker has to switch to a familiar language during a conversation (Muthusamy, 2009). In a language class, code-switching may have both positive and negative roles. When teachers and students switch codes in the teaching and learning process, this can assist students understand the concepts in their first language easily as Shartiely (2016) argued that code-switching can facilitate learning. Additionally, Alenezi (2010) also found that students in Kuwait University had a positive attitude towards code-switching. They prefer that both Arabic and English should be used as the medium of instruction in their classes. On the other hand, code switching could have a negative impact on student's language learning process. It can lead them to feel reluctant to use the target language in the class and be much more dependent on switching the code. This idea was supported by Cook (2001) who emphasized that use of first language in the class reduces the use of the target language. Additionally, according to Dykhanova (2015), who carried out a research on the functions of code-switching and attitudes towards it found that the attitudes of most teachers and students towards code-switching were negative. Most of the time teachers code-switched in order to translate and interpret the meaning of terminologies. They believe that code-switching does not elevate students' level of proficiency. The present study is directed by the following research objectives:

- To identify situations which trigger code switching among Afghan EFL lecturers
- To investigate the perception of Afghan EFL lecturers towards code switching
- To determine the effectiveness of code switching as a teaching strategy for EFL students from the lecturers' perspective

LITERATURE REVIEW

Code-switching happens in a natural discourse in which more than one language exist between the speaker and the listener of a conversation and often this phenomenon happens because the speaker feels more convenient while speaking. This is a common phenomenon all over the world in

bilingual communities, in fact bilinguals find code-switching as an aid to strategise their communication (Macaro, 2005). Code-switching refers to the ability of bilinguals who alternate between the two languages effortlessly (Bullock & Toribio, 2009). Milroy and Muysken (1995) believe that code switching mainly belongs to the bilingual context in which speakers who know more than one language (bilinguals), code switch while having the same conversation. Meanwhile Trudgill (as cited by Sert, 2005) asserted that bilingual speakers code switch for the intention of dealing with, making an influence or describing a situation as desired, transfer their personal intention and meanings. Trudgill further claims that code switching is used in order to establish and maintain close interpersonal relationships between individuals in a community that is bilingual, or code-switching can also be perceived as a tool for establishing solidarity among individuals who share the same ethno-cultural identity.

Code-switching in classroom context

The usage of more than one linguistic code alternatively by teacher, and student in the context of the classroom is called classroom code-switching (Lin, 2008). Similarly, Numan and Carter (as cited by Sert, 2005) define code-switching as the alternation between two languages by switching between them in classroom settings. Usually in the foreign language classroom the two languages include a native language and target language which is often a foreign language in which students seek to gain proficiency. According to Mattson and Burenhult (as cited by Sert, 2005) in the context of teaching a class, teachers' code-switch subconsciously and the teacher is usually not attentive to the functions or consequences of the code-switching phenomenon. Regardless of whether it is performed consciously or subconsciously, some basic functions of the phenomenon are found to be fruitful in the learning of a language and these functions include topic switch, affective functions and repetitive functions. In the instance of topic switch function, the teacher switches language based on the topic that is being discussed such as in grammar class where the teacher tries to describe a grammatical structure by switching to the native language of the students. The affective function of code switching is employed by teachers to establish rapport, close relations and solidarity with students. They may also use it at appropriate moments to utter words of encouragement and motivation. Lastly, the repetitive function of code switching enables teachers

to convey important knowledge to students by making it clearer to them. For instance, repeating instructions from the target language to the students' native language for clarification purposes. Likewise, Macaro (2005) proposes several purposes for which language teachers' code-switch in the L2 classrooms: (1) building rapport with students, (2) giving instructions for complex procedural activity, (3) controlling students' behaviour, (4) teaching grammar explicitly, (5) checking the comprehension of students for adapting the speed of teaching due to time pressure. On a similar note, Bista (2010) identified factors that affect code-switching in the classroom. The main factor identified that contribute to code-switching is low proficiency in the second language or target language. Other factors according to Bista include, easier to speak in native language than target language, prevention of misunderstanding, retention of privacy, and unfamiliarity with certain English words.

In addition, Obaidullah (2016) believes that as a result of code-switching to first language, the topic or subject of discussion in the classroom is more comprehensible regardless of whether the teacher or student had engaged in code-switching. Similarly, Ray (2015) asserted that code-switching and the use of native language is of great benefit to students even if they relate to higher proficiency classes. Ray also claimed that there might be various challenges to both learners and teachers due to the linguistic and cultural differences in an English classroom, but he believes with proper teacher training and education programmes, the challenges can be converted into beneficial resources that would make the class activities effective and inclusive. Additionally, in a study by Azlan and Suthagar (2013) it was revealed that three types of code switching (tag switching, inter-sentential switching and intra-sentential switching) were mostly used during classroom communication among students and between students and teacher.

Jingxia (2010) conducted a study that investigated the influence of code switching on Chinese in EFL classrooms in three Chinese universities. The study specifically sought the perception of teachers and students towards the influence, functions and patterns of code-switching. The study employed both qualitative and quantitative research types and questionnaires and classroom observation were used as data collection tools. The findings of the study indicated that code-switching to native Chinese language was a common phenomenon in the EFL classrooms. The data results also showed that the switching to first language plays a positive role in teaching and learning of the English language.

Another study by Obaidullah (2016) investigated the reasons for the first language usage in EFL classrooms and to study the perceptions of both teachers and students about code-switching. Survey method was used to collect data from 34 teachers and 175 students from two Bangladeshi universities (Northern University Bangladesh and Kulna University). The findings indicated that both teachers and students held positive attitudes towards code-switching and believed that it helps in effective learning and understanding of the lesson content. It was also revealed that teachers code-switch for facilitating better learning and teaching, however the same teachers discouraged students from code-switching frequently. Additionally, students showed satisfaction with their teachers who code-switched as it was making them feel more comfortable with their learning. Likewise, Ahmad and Jusoff (2009) conducted a study to investigate the learners' and teachers' perception of code-switching, the relationship of teachers' code-switching and learners' effective support, the relationship between the learning success of learners' and teachers' code-switching and the future use of code-switching in students' learning. The study collected data using a questionnaire from 275 low English proficiency learners in a public university in Malaysia. The findings showed that the learners' perceived code-switching as a positive strategy due to its various functions. It was also revealed that there is a significant relationship between the teachers' code-switching and the effective support of learners and learners' learning success and teachers' code-switching. Moreover, it was found that code-switching to be an effective method for dealing with low proficiency English language learners.

METHODOLOGY

This study employed a qualitative research design to present a more detailed account for the topic under investigation. According to Freankel, Wallen and Hyun (2012), a qualitative research tries to gather a detailed picture of a situation inductively. The design of the current study is a case study that is a type of qualitative research and is prevalent in social science (Starman, 2013). A case study is utilised by researchers to scrutinise a problem, issue, or an event. The method of data collection in this study was interview, so a structured interview was carried out to obtain data. A questionnaire which was adapted from Johansson (2013) a study on 'Code-switching in

the English classroom' was used to collect data from four EFL lecturers who are currently teaching at Kandahar and Balkh public Universities in Afghanistan. The questionnaire consisted of 18 questions that were divided into two main parts: demographic information and open-ended questions regarding code switching. Two types of questions, close-ended and open-ended, were included in the interview. In this study, purposive sampling was used because the researchers were particularly interested in language teachers who switch codes in their EFL classes in the context of Afghanistan. Prior to the interview, the researchers sought the consent of the respondents and they were informed regarding the objectives of the study. A Skype interview was done with the respondents and their responses were transcribed and the themes were developed based on their responses.

RESULTS AND FINDING

Based on three research questions the finding of this study is divided into three parts. The first part is on situations and context which trigger code-switching, second part focuses on the perception of Afghan EFL lecturers towards code-switching and the last part is on effectiveness of code switching as a teaching strategy for EFL students.

Situations Which Trigger Code Switching

According to Shartiely (2016), code-switching is used in the class to facilitate learning and it is a crucial part in the teaching process in Tanzania. In this study, the participants who were EFL lecturers at Balkh University stated that they switch codes for better understanding and learning of students in the following situations: when students do not understand the instruction which is given in English, when the lecturer is talking about cultural aspect of an issue, and when the lecturers want to clarify some vague points, grammar, idiomatic expression and vocabulary in the target language. According to Malik (2014), 68.8% of the students in his study stated that code-switching facilitates better understanding of grammar and 72.4% agreed that code-switching assisted them in learning vocabulary. Mainly, Balkh University lecturers switch codes in order to ease and assist learning as one of the lecturers declared, "I switch from English to Persian,

the native language of students to make sure that my instructions are clear and understandable.” These lecturers also pointed out that there were no instances or situation when they always spoke in the students’ native language while in some certain situations they need to shift from English to students’ native language. Moreover, as Bista (2010) identified low level of students’ proficiency in target language as one reason for code-switching. The respondents in this study also highlighted that the main functions of code-switching in their classes was to provide an effective learning and teaching environment, and in consideration of the low proficiency level of their students. This way instructors can save time and convey their message effectively.

The EFL lecturers of Kandahar University have also pointed out similar circumstances in which they code switch while teaching. They code-switch more often while dealing with low proficiency level classes. Additionally, they code switch when explaining difficult and complex topics, subject or content and when talking about social and cultural issues. Macaro (2005) has also pointed out that speakers find themselves at ease by code switching while discussing topics related to linguistic and cultural context. One of the lectures also mentioned that he uses code switching strategy to reduce classroom anxiety as he said, “I shift to Pashto when I tell a joke related to the issue.” The results of a study by Horasan (2014) also confirmed that code-switching can be a useful tool for language learning in lower classes and it can be used for attracting the attention of students or for telling jokes. Another lecturer pointed out yet another situation that triggers code-switching in his class as he said, “When I feel so tired and exhausted, I conduct the whole session in the Pashto language.”

Perception of Afghan EFL Lecturers towards Code-Switching

When Balkh University lecturers were asked regarding their perception towards code-switching, they mentioned that code-switching should be used appropriately, knowingly, carefully and only as a last resort. However, they asserted that it also depends on the level of the students. Most of the time when students’ level is low, teachers need to switch codes to explain the lesson as one of the respondents stated, “I look at the nature of code-switching as a strength where there are cases that you feel the need to use the native language of students.” Another optimistic perspective regarding

code-switching was that it decreases anxiety in students. These points were also supported by Selamat (2014) and Malik (2014) who also found that all the teachers in their study noted that code-switching lessens students' anxiety while learning English. Additionally, 88.3% of students reported that when their instructor switches code they feel more confident in learning English. Furthermore, these EFL lecturers believe that code-switching has its own advantages and disadvantages. Increasing learners' understanding especially lower level students, creating a meaningful learning environment, and enhancing students' engagement are the advantages of code-switching. However, code-switching can influence students learning negatively because it does not provide them with much needed practice and exposure to the target language. This disadvantage of code-switching was also pinpointed by Cook (2001) who found that the use of native language decreases the use of target language in the class. Moreover, one of the respondents in the present study pointed out that there are circumstances in Afghanistan when the teachers themselves have language deficiency, so they use students' first language because they themselves are not capable of conveying the lesson in English. As a result, students get used to using their first language and this makes them stop challenging themselves in learning the target language. According to EFL department guidelines teaching should be as far as possible in English. Balkh University lectures also agreed with the mentioned statement; however, all the respondents also mentioned that there would be circumstances when you have no option other than to utilise the power of multi-lingualism and code-switching.

Overall, the respondents held a positive perception towards code-switching as a strategy for language teaching, however, they have also highlighted some of the disadvantages as well. Several researchers believe that first language usage in target language class can facilitate target language learning, therefore code-switching should be adopted as a teaching strategy in English language classroom (Ray, 2015). One of the respondents said, "I believe it should be used in English classes because this is particularly effective for students who are under achievers and it can put them at ease in terms of language learning." Similarly another lecturer stated 'code-switching is beneficial because it facilitates both teaching and learning.' The advantages of using code switching according to the respondents includes, better comprehension of the subject matter being discussed or taught, facilitation of long term learning by students, motivation for students to

participate in classroom interaction and a means of building rapport with students. According to Ray (2015), code-switching is a student friendly strategy which helps eliminate learners fear of a subject matter and enables them to express themselves confidently.

One respondent from Kandahar University mentioned that ‘code-switching is useful in making communication easier and enhancing the learning of the target language’. The disadvantages of code-switching in in EFL context as pointed out by the respondents are limited practice in target language which will eventually weaken students’ fluency and competency of the target language, code-switching habit will negatively influence the native language of the students and it will negatively affect teachers’ motivation to learn new vocabulary in the target language. The findings of a study by Ríos and Campos (2013) also indicated that a portion of the respondents believed that code-switching hinders fluency in target language and inhibits vocabulary expansion making them lazy learners.

Effectiveness of Code Switching as a Teaching Strategy for EFL Students from Teachers’ the Perspective

When the EFL lecturers of Balkh University were asked if they can teach a class effectively without code-switching, they mentioned that there are two different situations. For advanced level classes, it is completely possible to teach the class without code-switching, but for beginners and English for Specific Purpose (ESP) classes it difficult to teach the class without code-switching. Basically, they believe that code-switching is an effective teaching strategy for beginner levels and ESP classes. One respondent asserted that, “Yes, in my ESP and beginner classes, I have to codeswitch. I mostly codeswitch to student’s mother tongue to provide definitions for some of the content words related to their discipline and to explain grammar.” Moreover, another respondent from Balkh University emphasized that code-switching is a helpful teaching strategy in building rapport with students and to have good control of the class which refers to classroom management. Ferguson (2009) also claimed that code-switching is used for classroom management purposes and interpersonal relationship. Similarly, the repondents from Kandahar University also perceived code-switching as an effective strategy for low level classes as students in these

classes may benefit from the intermittent use of the mother tongue. The findings of a study by Ahmad and Jusoff (2009) also show that code-switching is a beneficial and effective teaching strategy when teaching low proficiency students. The respondents further asserted that code-switching is useful when explaining complex topics, subject matter and cultural issues. One of the respondents mentioned that, “For the interactive teaching and learning environment, one of the most important technique is code-switching which has the biggest effect.” They also mentioned that code-switching helps them as teachers to build rapport with students which eventually leads to effective teaching.

IMPLICATIONS AND RECOMMENDATIONS

In this study, the respondents who are EFL lecturers from Balkh University and Kandahar University in Afghanistan had a positive view towards code-switching in certain circumstances. However, these lecturers also thought that code-switching can have a negative impact in language classrooms. Therefore, language teachers need to evaluate the role of code switching in their language classes so that they will be able to avoid its negative effects in their classes. On the other hand, there are some language teachers who are not aware of the positive and negative effects of code-switching and therefore, some may avoid it at cost all while others may overuse it. Administrators need to conduct periodic assesment of their instructors to ensure that they are proficient enough to conduct the classes. A lack or proficiency among instructors might lead to excessive use of code switching in the class. In such cases professional development programmes aimed at improving proficiency may be of some help for them.

CONCLUSION

This case study was carried out to explore the function, perception and effectiveness of code-switching as a teaching strategy in EFL classes in the context of Afghanistan universities. The participants who were Afghan EFL lecturers stated that they switch code for various reasons, such as, giving clear instructions, talking about cultural issues, explaining grammar and new vocabular, and instructing ESP classes. They also pointed out to both positive and negative aspects of code-switching when it is used in language classes.

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COMPARATIVE AND TREND ANALYSIS OF FINANCIAL MANAGEMENT PRACTICES IN SOUTHEAST ASIA HIGHER EDUCATION INSTITUTIONS (HEIs)

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ABSTRACT

This paper discusses the modernisation effort in financial management (FM) practices and income diversification strategies of higher education institutions (HEIs) in Southeast Asia. This effort and strategies attempt to enhance human, organisational and technical capacities of HEIs in Southeast Asia through systematisation and promotion of good practices. Furthermore, the modernisation effort of FM is also to promote regional integration through the creation of a network amongst financial managers pursuing modernisation in FM systems and practices. The data related to economic and social indicators, are provided by six HEIs in Southeast Asian countries (Indonesia, Thailand and Malaysia). The gathered data were scrutinised to initiate both macro and micro analyses. The six participated HEIs, filled-up a macro and micro observation template. The macro data was sourced from the World Bank database and Ministry of Higher Education. Meanwhile for the micro data, information on the financial management of a university was sourced by each participated HEI. The collected information, covering the period from 2013-2015 includes several socio-economic indicators such as GDP per capita, population and unemployment rate of a country and the HEI's specific information on financial management



approach. The data matrix is analysed and presented in graphs to illustrate the average behaviour of the collected data for all the countries and HEI. The results were compiled according to social and economic indicators as well as the HEI's approach in sourcing for its institution to constitute a diagnosis of financing mechanisms of the HEI.

Keywords: *financial management, Southeast Asia, higher education institutions*

INTRODUCTION

Higher education institutions (HEIs) are complex with the adoption of several different academic and management practices to achieve the HEIs' objectives. Even though different frameworks are applied, all institutions share a common objective which is to promote sustainability and efficiency of FM. This objective justifies financial management practices as among the most common topics in HEIs as this topic has been given considerable emphasis in nearly every HEI system around the globe. According to Holloway (2006), one of the biggest issues in HEIs is the management of the institutions, financially, as all activities from various aspects such as academics, administrations and institution are financially associated. Hence, every HEI requires a sound financial management practice to achieve its objectives. Some of the HEIs are seen struggling to sustain considering the current unfavourable economic phase and high institutions expenses, although the institutions are partly supported by the funds from the government or special funds from endowment and alumni contribution.

Acknowledging the necessity of HEIs to continuously search for an efficient financial management practice together with the less transparency in information on how the HEIs exercise their financial management practices individually, this study takes an initiative to compare and analyse the trend of six HEIs representing three Southeast Asian countries (i.e., Indonesia, Thailand and Malaysia). The six participated HEIs are Naresuan University and Kasetsart University both from Thailand, Gadjah Mada University and Sumatera Utara University both from Indonesia; and Universiti Teknologi MARA and Universiti Putra Malaysia from Malaysia. These analyses are mainly to comprehend FM practices and income diversification strategies applied in the participated HEI.

The two primary goals on the comparative and trend analyses presented in this study. Firstly is to enhance human, organisational and technical capacities of HEIs in Southeast Asia through the effective and efficient financial management practices and income diversification strategies while promoting for accountability and transparency through systematisation and the promotion of good practices. Secondly, to promote regional integration through the creation of a network amongst financial managers pursuing for modernisation of financial management systems and practices in their institutions.

LITERATURE REVIEW

Financial Management is defined as planning, organising, directing and controlling the financial activities such as procurement and utilisation of funds. Generally, the main objectives of financial management are developed based on the concern in procurement activities, allocation and control of limited resources. Due to limited resources, every institution needs to ensure optimum funds utilisation. When discussing about financial management practices with higher education institutions, lack of studies has been conducted. Most of the previous studies concerned only on the challenges in financing the HEIs particularly during financial crises (Akinkugbe, 2000; Kanaan, Al-Salamat & Hanania, 2011; Moladovan, Moldovan & Alexandra, 2012).

Akinkugbe (2000) described financial resources in higher education institutions as depending on the traditional sources for instance from the government allocation and local communities (e.g., endowment and alumni). Apart of the traditional sources, non-governmental organisations, private enterprises and corporations as well as foreign aid are also sources of additional funds available to the educational system. The study concluded that to ensure the system of financial management in its best practice, each party either from government or non-governmental organisation need to give their support. Meanwhile, the other study by Kannan *et al.* (2011) mentioned that for sustainability of higher education institution system, institutions must be able to effectively manage and allocate their funds contributed from various parties. This includes how the institutions promote the culture of charitable endowments or *waqf* as well as the introduction of innovative

financial mechanisms to tap for private savings, strong connection with university alumni and others.

Mah'd and Buckland (2009) explained based on a management accounting framework, in financial management practices in HEIs, the budgeting process also is one of the key elements to ensure the sustainability of HEIs especially for private education institutions. Meanwhile in another study, relying on a political economy framework, Kanaan *et al.* (2011) presented a critical analysis on patterns of consumption on HEIs system revealed that more spending provided for sustainability of higher education system is significant in increasing number of students.

Besides that, El-Sheikh, Mah'd, Nassar and Al-Khadash (2012), pointed out that the effectiveness and efficiency of financial management practices require the element of competitiveness between private higher education institutions. The study, initiated in Jordan, found that the competitiveness element should encourage the researchers as well as the universities' management team to apply best practices when it comes to financing and management of the higher education institutions. The rationale of comparing with private higher education institutions is due to its dependency on the tuition fees as its main source of income as less funds are provided by the government. As such, private higher education institutions need a sustainable and sound financial management practices for public HEIs to refer to. Certainly, the effective of budget system applied in private HEIs would help public HEIs to increase the effectiveness and efficiency in optimising limited resources.

In addition, Moladovan *et al.* (2012) which presents the European (EU) experiences in managing financial resources of HEI system found that on average the EU countries spent about five percent of the GDP (for public HEIs) and 0.7 percent (for private HEIs) on education system (2004-2008). The study also found that human capital development and innovations are other issues related to financial management practices for HEI in EU countries. Specifically, a good knowledge and high skill of the human will reflect the efficiency and effectiveness in managing financial resources. It is not only skilled human capital; the innovation on the existing system of financial management practices also will have an impact on the financial management efficiency.

Based on the literature discussed above, a good financial management practice is one element for the sustainability of HEIs. Considering limited resources, every institution really need to search for the sound practice to manage its resources. This is not just totally depending on the government subsidies and funds, HEIs also need to generate their own income.

METHODOLOGY

This study analyses several data gathered from six universities represent three countries; Thailand is represented by Kasetsart University and Naresuan University, Indonesia (Gadjah Mada University and Sumatera Utara University) and Malaysia (Universiti Teknologi MARA and Universiti Putra Malaysia). In total, there are six HEIs participated in the study, sharing their experience on financial and institutional management practices of their university. The collected information, specifically on the macro level, covers the period from 2013 to 2015 and includes various socio-economic indicators, such as GDP per capita, population and unemployment rate. For each of the macroeconomic indicators, the study includes a matrix of data for the countries during the analysed years and a graph illustrating the average behaviour of the variables for all the countries. The results were compiled according to social and economic indicators and the HEI's approach in sourcing for its institution to constitute a diagnosis of the financing mechanisms of the HEIs.

FINDINGS

The empirical analysis in this study was conducted through descriptive statistics. Based on data gathered from the six universities, comparative and trend analysis were divided into two findings' dimensions which are macro and micro.

Macro Analysis

The findings for macro analysis are divided into several dimensions such as analysis on population, gross domestic product (GDP), total spending for higher education system and number of public and private

higher education institutions in the participated SEA countries. Figure 1 shows the data of the population among the three countries from 2013 to 2015. The trend shows that Indonesia has the biggest population as compared to Thailand and Malaysia.

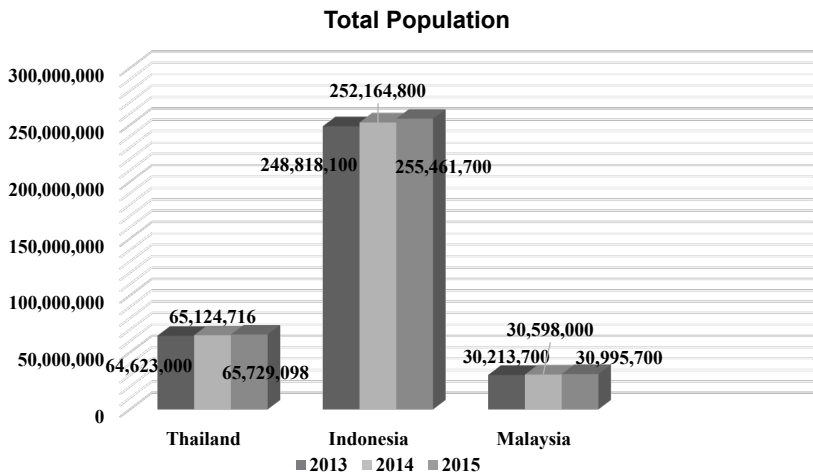


Figure 1: Population of Each Participated Country

Result for gross domestic product (GDP) of each country involved in this study shows that values of the index for Southeast Asia (Indonesia, Thailand and Malaysia) varies between 3.5 and 10.6 thousand USD. Table 1 shows that Malaysia GDP is stated at the average of 10,638.15 USD which is the highest GDP as compared to Thailand and Indonesia at average of 5,955.03 and 3,575.02 respectively.

Table 1: Gross Domestic Product (GDP)

Country / Year	2013	2014	2015	Average
Thailand	5,846.28	5,932.29	6,056.54	5,955.03
Indonesia	3,680.13	3,533.53	3,511.40	3,575.02
Malaysia	10,456.89	10,803.53	10,654.04	10,638.15

Based on the GDP stated above, this study also presents the total spending on higher education in percentage of GDP for the three Asia countries. Figure 2 exhibits that among the three selected Asia countries,

Malaysia is reported to have the highest total spending on higher education as compared to Thailand and Indonesia. In 2013, the total spending for Malaysia is 5.90 percentage as compared to Indonesia and Thailand which are around 0.35 percent and 4.20 percent, respectively. The total spending for Malaysia and Indonesia increased to 7.20 percent and 0.39 percent in 2014. However, total spending for Thailand is consistent with previous year. The graph also shows that Indonesia is the country that spends the lowest amount on higher education among the three Asian countries.

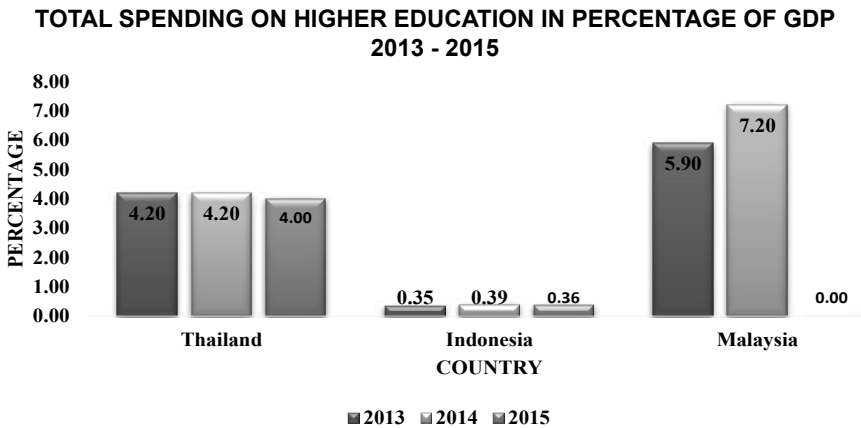


Figure 2: Total Spending on Higher Education in Percentage of GDP 2013 - 2015

Besides, the data on the number of HEIs also shows that there is no specific trend among the three selected countries. In Figure 3, Malaysia shows the lowest number of HEIs compared to Indonesia and Thailand. From 2013 to 2015, Indonesia is reported to have a high number of HEIs. In specific, in 2015, Indonesia has 3,223 institutions as compared to Thailand with only 171 institutions and Malaysia with 93 institutions. The difference could be due to the total population and size of the country itself.

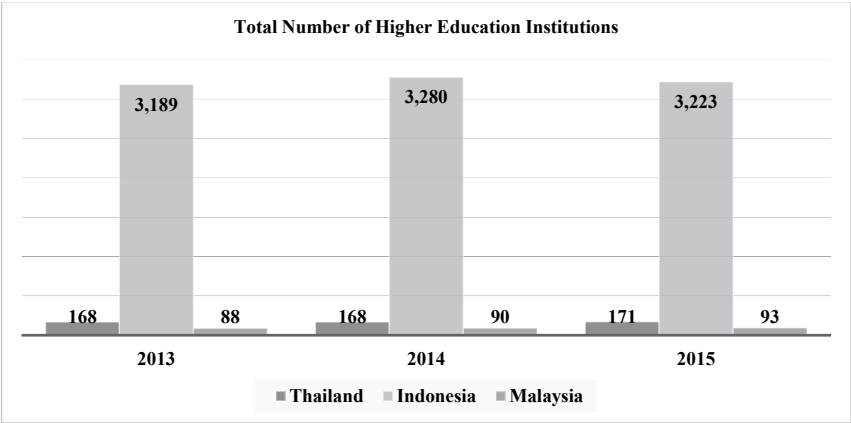


Figure 3: Total Number of Higher Education Institutions

Referring to Figure 4, though having the highest number of HEIs, Indonesia has only four percent of public higher educations compared to Thailand with 56 percent and Malaysia 22 percent in 2015. Due to that, it can be seen that HEIs system in Indonesia and Malaysia are more to private higher education because Indonesia has almost 97 percent of private HEIs that is 20 percent higher than the ones in Malaysia, which in turn can influence tuition fees for private institutions, as they have high competition.

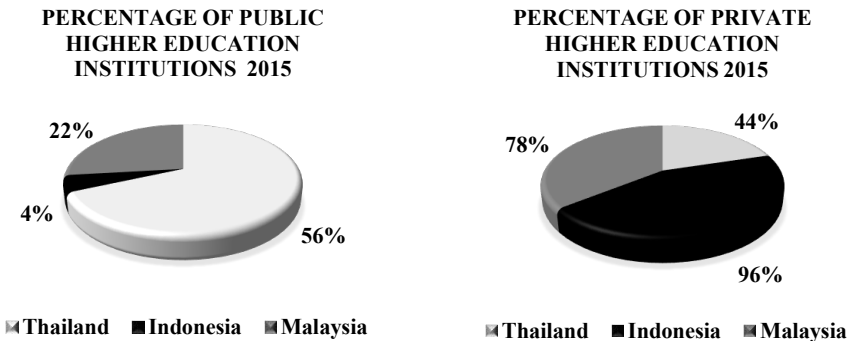


Figure 4: Percentage of Public and Private Higher Education Institutions 2015

Based on the macro analyses, the key finding at a glance shows that Indonesia has the highest population with the average of GDP of 3,575.02 USD. Due to that, they just spend for HEIs less than five percent during 2013

until 2015. The implication is that education institutions system in Indonesia focus more on private higher education institutions compared to public. This can be seen when 96 percent education institutions in Indonesia are presented based on private higher education institutions compared to public higher education institutions. Thailand with the average of population and GDP at 65,158,938 and 5,955.03 USD respectively, they spend on public higher educations at 56 percent compared to private higher education's institutions at 44 percent. This shows that Thailand focuses on the public higher education institutions rather than private. However, Malaysia scenario is totally different compared between the two Asian countries because even though average total population from 2013 to 2015 at 30,602,467 which is stated at lowest rank, Malaysia has highest average of GDP at 10,638.15 USD. This shows that Malaysia has a good economic environment compared to Thailand and Indonesia. From the perspective of total spending on higher education in percentage of GDP, average that was spent by Malaysia was at 6.55 percent only while the private HEIs become dominant compared to public HEIs.

Micro Analysis

From the perspective of micro analysis, it is to understand institutional capacity, human, technical and current practices in financial management among selected HEIs in Southeast Asia. Thailand is represented by Kasetsart University and Naresuan University, Indonesia by Gadjah Mada University and Sumatera Utara University and Malaysia by Universiti Teknologi MARA and Universiti Putra Malaysia. First micro analysis in this study is regarding the financing resources. This study found that the financing resources for each university depends either from private or public funds. From the view of private funding, Gadjah Mada University shows the highest percentage of private funding with 69 percent compared to other universities. Meanwhile, Universiti Teknologi MARA is financed with 95 percent public funds which is the highest percentage in the partnership. However, at the same time the university also raises its funds from other mechanisms such as from Trust Funds, UiTM Holdings and Investment (Fixed Deposit) (Universiti Teknologi MARA) and Asset Leasing (Gadjah Mada University). Regardless of financial resources and mechanism, each university need to manage their financial wisely for university's sustainability. This is because,

the selected HEIs in this study need financial resources for three main activities which are teaching and learning, administration and research. As shown in Figure 5, the spending on teaching and learning becomes the major spending for all universities as compared to the spending on research and administration. However, there is no concrete conclusion on the average percentage of spending to teaching and learning can be drawn as data for UiTM is not made available for comparison.

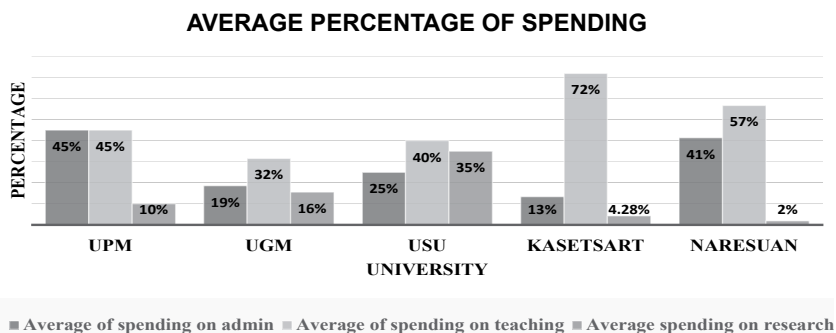


Figure 5: Average Percentage of Spending

For university sustainability, it does not just totally depend on where the HEIs get the financial resources but also include the connection with industries and alumni. Among the selected universities in this study, Universiti Putra Malaysia has the largest number of industrial partners (581) as compared to other universities. This implies that, Universiti Putra Malaysia has a good reputation in terms of industry linkages.

FURTHER RESULTS AND DISCUSSION

Referring to the descriptive statistics presented in previous section, it indicates that Asian countries included in this study have their own and unique model in assigning state resources to HEIs. Various methods and models are applied to produce a sound financial management practices output. For example, in Thailand, each of the universities will need to establish a budget for each fiscal year (1 Oct to 30 Sep) through their Divisions of Planning and propose it to the Bureau of the Budget for screening and adjusting. Representatives from universities may be summoned to defend the proposed budget by the Cabinet.

The main consent in financial management practices is how the university manages their limited financial resources. Allocation of federal government budget to public universities is supposed to cover the gap (budget deficit) between a university's revenues and its expenses. However, the calculation of budget allocation is done based on universities' performance target decided by the Minister of Education and Research. Performance targets cover the number of students, awards of students' performance, number of Ph.D. degrees among lecturers, accredited study programmes, publications, innovation/patents, and the university's level within the world university rank.

Private universities, however, have different models for assigning resources. The allocation of federal government budget to private universities in Indonesia is very limited. In general, there is no direct allocation of government budget to private universities. The government budget usually only covers a small part of the private universities' employees (lecturers and administrative staff) with the status of government officers. Additionally, the federal budget always allocates research grants for private universities based on research proposal competition. Additionally, the government can allocate subsidies to private universities depending on their accreditation status by the Ministry of Research and Higher Education. In Malaysia, however, each university has its own business model as they are based on self-reliance.

The higher education system needs to adjust with the current scenario. This is important to get a better system. As evidence in Thailand, a reform of a higher education system was introduced that resulted in an increase of efficiency in administration, improvement of the educational standard, more creativity and innovation, which in turn led to flexibility in an uncertain environment, and later to the establishment of university governance. While in Indonesia there were no significant changes or reforms in the higher education systems over the last ten to 15 years. However, in 2014 the new President restructured two ministries: the Minister of Education and Culture became responsible for the basic and middle level of education and culture, and the Minister of Research and Higher Education is responsible for higher level education and research. This policy has increased the proportion of budget allocated to human resource development (lecturers and administrative staff) and research in higher education.

Additionally, from the years of 2013-2016, the government has given more autonomy for academic and administrative affairs for the 11 most prominent public universities. It is likely that in the coming years this policy will also apply to other public universities. Finally, during the last three years the government has acquired some private universities as public universities through the Ministry of Research and Higher Education. These changes encouraged universities to seek funding besides government sources through cooperation in teaching, research and community services. Public universities are also encouraged to develop cooperation with private companies and industry in research and development programmes. This led universities to strive towards improving the quality of teaching, research and community service.

Furthermore, Malaysia introduced some changes like PSPTN, which is an abbreviation used for *Pelan Strategik Pengajian Tinggi Negara* or National Higher Education Strategic Plan (NHESP). PSPTN was created with the aim to produce human capital that supports the endeavours of the National Mission in order to improve knowledge, capability and innovation, as well as inspire first-class mentality. PSPTN encompasses four phases:

1. Phase 1 (2007 - 2010): Laying the Foundation
2. Phase 2 (2011 - 2015): Strengthening and Enhancement
3. Phase 3 (2016 - 2020): Excellence
4. Phase 4 (Beyond 2020): Glory and Sustainability

There are four institutional pillars that are emphasized in the PSPTN: Governance, academic leadership, learning and teaching, and research and development. All HEIs need to execute certain initiatives for all CAP (Community Action Plan) that have been identified to be implemented at institutional level. Nevertheless, targets set for each HEI are closely related to factors like the maturity of the university, availability of resources and the capability of its human capability, infrastructure and etc. The finished reform is supposed to increase the visibility of Malaysia Higher Education (e.g. QS Ranking and number of international student's enrolment).

CONCLUSION

The identified differences in financing system and practices of higher education imply favourable opportunities in every university. The universities in Thailand have their own authorities to collect tuition fee and study related fees than financial support from the government. Commercialisation of research, innovation and patented products, particularly done under the Public Private Partnership (PPP), are also responsible for the financial support of universities.

Indonesian public universities, on the other hand, especially the Public University Legal Entity, now have opportunities to develop business units, to build up entrepreneurship, to speed up the agenda of higher education management reform, to develop and extend collaboration with foreign institution in joint teaching and research activities, and to develop international joint and/or double degree programmes. Furthermore, the Malaysian strategies implemented by universities for revenue generation include different types of opportunities, both for university staff and students: international student's fee, rental of space, facilities and equipment, sale of research products, organising of seminars, workshops and conferences, consultancy services, grants from industries/agencies within and outside Malaysia and establishment of endowment funds.

Together with opportunities that arise with the developing of financial systems of universities, there are threats that must be taken into account. For instance, in Indonesia as well as in other countries threats to the financing system of public universities can appear when the implementation of financial management contradicts government regulations due to lack of control system. Another threat might be the university management concentrating more on finding grants rather than on raising academic and research quality of the university's work.

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