



**INTERPRETIVE ENVIRONMENTAL EDUCATION PROGRAM IN
INFLUENCING SECONDARY SCHOOL STUDENTS' INTENTION TO
VOLUNTEER AS PROGRAM ORGANIZERS**

By

RAHMAH BINTI MOHAMED RAZALI

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
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Science**

March 2017

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in
fulfilment of the requirement for the degree of Master of Science

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Chair : Assoc. Prof. Manohar Mariapan, PhD
Faculty : Forestry and Environment

Many environmental education (EE) programs are still targeted at the level of raising school students' awareness on the environment but it lack in influencing behavior. The main objective of this study is to determine the effectiveness of interpretive EE program in influencing secondary school students' environmental volunteerism behavior, specifically involvement as an organizer of an Orangutan education program in school. The study also determines the Theory of Planned Behavior (TPB) model fitness.

The study utilizes a quantitative approach by utilizing the pre-test and post-test research design. Two hundred forty-seven secondary school students from Sabah and Sarawak participated in the study. The TPB and EROT interpretive model were used to design and determined the effectiveness of an interpretive program in influencing secondary school students' behavior

Result of this study showed that the interpretive EE program is capable of influencing student's behavioral intention towards the Orangutan and their involvement as an organizer of Orangutan education program in school. In TPB questionnaire results, significant differences were observed between pre-test and post-test for students' behavior belief construct for both Sabah ($p=0.028$) and Sarawak ($p=0.005$). Significant difference was only observed for the behavioral intention (BI) for the Sarawak ($p=0.001$). In the EROT model, significant difference was observed for all construct except for students' emotion in Sarawak while there is no significant different at all constructs in Sabah. The TPB model fitness test showed that the model fit the data and there is positive coefficient between all construct in both Sabah and Sarawak.

Interpretive environmental education program is effective in influencing secondary school students to involve as an organizer of Orangutan education program in school and the model fit the data.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**PROGRAM INTERPRETASI PENDIDIKAN ALAM SEKITAR DALAM
MEMPENGARUHI MINAT PELAJAR SEKOLAH MENENGAH DALAM
MENJADI SUKARELAWAN PROGRAM**

Oleh

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Pengerusi : Prof. Madya Manohar Mariapan, PhD
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Kebanyakan program Pendidikan Alam Sekitar masih menasarkankan pada meningkatkan tahap kesedaran pelajar sekolah tetapi masih kekurangan dari sudut mempengaruhi tingkah laku. Tujuan utama kajian ini adalah mengkaji keberkesanan program Pendidikan Alam Sekitar dengan menggunakan kaedah Interpretasi dalam mempengaruhi tingkah laku kesukarelawan pelajar sekolah menengah khususnya pada penglibatan para pelajar di dalam menganjurkan program Pendidikan Orangutan di sekolah. Kajian ini juga bertujuan menentukan kesesuaian model *Theory of Planned Behavior* (TPB).

Kajian ini menggunakan pendekatan eksperimen pra dan pos. Dua ratus empat puluh tujuh pelajar sekolah menengah dari Sabah dan Sarawak terlibat di dalam kajian ini. Model interpretasi TPB dan EROT (*enjoy, relevant, organized and thematic*) digunakan dalam mereka bentuk kajian dan mengkaji keberkesannya dalam mempengaruhi tingkah laku kesukarelawan pelajar sekolah menengah.

Hasil dapatan kajian ini menunjukkan kaedah interpretasi mampu mempengaruhi niat pelajar dalam menjayakan program Pendidikan Orangutan dan terlibat sebagai pengajur program Pendidikan Orangutan di sekolah. Dapatan kaji selidik menunjukkan terdapat perbezaan ketara pada kontrak *behavioral belief* (BB) pelajar sebelum dan selepas program pada kedua-dua Sabah ($p=0.028$) dan Sarawak ($p=0.005$). Perbezaan ketara juga dapat dilihat pada kontrak *behavioral intention* (BI) di Sarawak ($p=0.001$). Di dalam model EROT, perbezaan ketara boleh dilihat pada semua kontrak kecuali kontrak emosi pelajar bagi program di Sarawak manakala tiada perbezaan ketara yang dapat dilihat pada semua kontrak bagi program di Sabah.

Analisis bagi menentukan kesesuaian model TPB menunjukkan model ini sesuai untuk digunakan dan terdapat perkaitan positif pada semua konstruk di kedua-dua program di Sabah dan Sarawak. Penggunaan kaedah interpretasi dalam Pendidikan Alam Sekitar adalah berkesan dalam mempengaruhi tingkah laku kesukarekawan pelajar sekolah menengah dan model ini sesuai untuk digunakan dalam mana-mana kajian dan aktiviti.



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I certify that a Thesis Examination Committee has met on 29 August 2016 to conduct the final examination of Rahmah Mohamed Razali on her thesis entitled "Effectiveness of Interpretive Education Program in Influencing Secondary School Students' Volunteerism Behavior" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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LIST OF ABBREVIATIONS

AMOS	Analysis of Moment Structure
BB	Behavioral Belief
BI	Behavioral Intention
EROT	Enjoy, Relevant, Organized And Thematic Interpretive Model
SN	Subjective Norm
PBC	Perceived Behavioral Control
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action

CHAPTER 1

INTRODUCTION

Environmental awareness is common to everyone nowadays as the public is already conscious of the environmental problem, but people do not take action because it is not directly related to their lives, such as the global warming and depletion of world's fisheries (Bowers, 2006). Environmental education is a method that has been introduced and applied long time ago to achieve an environmental awareness goal, but it seems like it had stop at that level. People are well informed, but they do not know how to act on. So, what is the next step?

1.1 General Background

Education is always translated as a formal teaching method where there are the givers and the recipients; sending and receiving direct information towards a certain topics. Education is required to go through formal education systems such as in school, college and university. A teacher as an educator teaches her students what plant cell is all about. Students tend to memorize rather than understand what is actually happening in the plant itself. Marks and grades become so important until knowledge is put aside. At the end of the day the grades and marks reflect on how good you can memorize certain facts rather than understand how plant cell really works and become a very healthy plant.

Students always have limitation in their minds. In school, you have been taught according to the syllabus and only focusing on what will come out in the examination. If there is no examination on certain subject its means that the subject is not important. You can just sit in for the sake of attending the class. Some of the knowledge cannot be explained by teaching. Students must go through and experience by themselves in order to get the whole idea about the knowledge and implementing it throughout their lives. A good student not only excels in examination and has good grades, but he is able to get to know and take part with whatever happens around him. For example, taking part as a volunteer in Wildlife Parks or Zoo, or even participate in any social-enhanced-based event. He is not selfish but take part and give something back to the community.

Environmental education (EE) was introduced to target in producing people that care about the biophysical environment and problems that are related to it, people who are aware of how to help solve these problems and motivated to work toward the solution (Stapp et. al , 1997). Environmental education often delivered using education program, which aims to alter the learner's cognitive, affective and participatory knowledge, skills and behaviour (Annelise, 2010). This will lead

to increasing level of awareness of people towards environment. EE helps students achieve environmental literacy which has attitude and behaviour components in addition to a knowledge component (Athman, 2001).

In Malaysia, EE starts to receive more attention since 1975 after the establishment of The Department of Environment to enforce the Environmental Quality Act, 1974. This department is in charge of environmental management as a whole and has been working hard to promote environmental awareness and have conducted it in various programs (Susan et al, 2005). For instance, the Bornean Biodiversity and Ecosystems Conservation Programme (BBEC) that has been implemented by the Sabah state government and Universiti Malaysia Sabah and assisted by the Japan International Co-operation Agency (JICA) aim towards the conservation of the biodiversity and ecosystems in Sabah. This is achieved through four components, which are:

- Research and Education
- Park Management
- Habitat Management
- Public Awareness

Linking the environmental education with the interpretation is a good way in implementing the environmental knowledge. Interpretation is widely used in various fields. It is an educational activity which aims to reveal meanings and relationship through the use of original objects, by first-hand experience or by illustrative media, rather than simply communicate factual information (Ramlan et al., 2010).

1.2 Need of Study

Ministry of Education (MOE) is giving a lot of effort in implementing and developing EE in formal school curriculum. In Malaysia's education systems, EE is not taught in single subject in secondary schools but EE is integrated in the subjects like Science, Geography, Civic and Citizenship, English and Malay language. The current curriculum is very much exam-oriented and it has been reported that both teachers and students felt burdened to add EE to their workload (Chong et al. 2010). The infusion of EE in the syllabus gives difficulty to the teacher. Although the MOE have supplied the school and teachers with guidebook, there is still a lack of practical implementation. One of the problem is the guidebook is rarely utilised by teachers and some of them are not aware of its existence. The guidebook gives the outline of the activity but is not detailed enough to allow the teachers to implement the activity (Susan, 2005).

The common excuse given by the teachers is that they have difficulty in infusing EE with the core subjects and that they have to finish the syllabus. Based on Chong, 2010, shows that the burdens of teachers and students, expertise in teaching EE, EE training cost, lack of time, lack of teaching aids in EE and facilities are barriers for teachers in teaching EE. However, this study concludes that EE could be infused and integrated in any subject without focusing on certain subjects only. Teachers believe that EE should be taught across schools curriculum when considering the present burdens of students and teachers.

Moreover, in 2006, a group of Survey Task Force Committee had conducted a survey to study the level of environmental Malaysian citizenship. It shows that environmental citizenship is not satisfactory for a nation that is moving towards an industrialized status by 2020. The outcome is summarized below;

- a) Good factual knowledge of environmental problems
- b) Moderate level of understanding of environmental issues
- c) Low level of positive environmental action

The survey was planned and designed to evoke feeling within the respondents to give accurate measure of knowledge, awareness, attitude, skills and behaviour among the targeted groups can be obtained (Esther *et. al* 2006). These findings show that the level of actions taken by Malaysians is still low even though they have good level of environmental knowledge. Thus, a study needs to be done to find the effective way in influencing people to take part and volunteer in environmental activity. By doing this study, the ideal and effective teaching methods in teaching environmental education can be obtained and used as a guidance for teachers in implementing it. The main objective of this study is to determine the effectiveness of the non-interpretive and interpretive environmental education program in influencing secondary school students to be involved as organizers of an Orangutan education program in school.

1.3 Purpose of Study

This study aims to give targeted information to influence the behaviour intention of school students to take part in the volunteering activities. The objectives of this study are:

1. To determine the effectiveness of interpretive environmental education on secondary school behaviours intention towards organizing Orangutan education program in their school.
2. To test the pathway value of environmental education model in the school curriculum.

The students were exposed with various problems that give effects to the Orangutan's population in specific and real condition about our forest. If this information is not pass down to our next generation, we afraid that the future generation does not even know what orangutan is. The habitat loss for orangutan is in critical state due to a lot of forest area had already been cut down for development and for plantation purposes. Few studies were done around Malaysia to see the effectiveness of interpretive approach in various fields. For example the study to see the effectiveness of wetlands interpretive learning experience (Roslina, 2010) and environmental interpretation as an effective learning tool in parks and recreation forest (Aswad, 2010). Previously, a study was carried out by Lim, 2012 by using interpretive tool and measurement in Jerantut, Pahang. The study targeted eighty-one rural secondary school students by using Malayan Tapir as subject matter. The study used interpretive tool to conduct environmental education program. This study becomes the model that is being used in this study which tackles different type of animal which is Orangutan and different state involved, which is Sabah and Sarawak. The study uses the same method as the study that had been done in Jerantut, Pahang.

1.4 Limitation of Study

In this study, the actual behaviour of students were not been measured. This study is to test the behavioural intention only. Students' actual behaviour might give different results due to several factors that affect their behaviour. Students' behavioural intentions are tested right after the program. There are several factors that cannot be controlled throughout the study for instance the basic belief of the students.

Students' basic beliefs were varied since they have different background in terms of family, lifestyle, childhood development, economic status, race and religions.

1.5 Definition of term

Interpretive school program :-

A one day program that was handled outside the school with several activities done by the facilitator using interpretive approach regarding Orang Utan.

Non–interpretive school program :-

A three-hour activity done in school where facilitators give students information using posters regarding on Orang Utan.

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