

## **Influence of School Location on Environmental Awareness Level among Secondary School Students in Terengganu, Malaysia**

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**Abstract:** *Our environment is our pride. It is our pride and it is what will determine the value of our life. If we have a healthier environment then we have our self. In this paper, being environment/location as one of the agent of socialization, the researcher tried to find the influence of location on environmental awareness among secondary school students. The students were selected using random sampling technique and a total of 590 respondents were selected from 6 selected secondary schools in Terengganu District. Descriptive statistic and independent sample t-test were used in the analysis of this paper. The result shows that, secondary school students in Terengganu have low level of environmental awareness. Location of the school was also found to have no effect on the level environmental awareness of secondary school students. It was concluded that location has no effect on the level of environmental awareness of secondary school students.*

**Key words:** *environmental education; environmental awareness; location*

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### **I. Introduction**

Throughout human existence, man has found himself in one way or the other in a relationship with his environment in an effort to find shelter, food, medicine, and other necessities of life. These human activities do more in destroying the environment because, as the population is increasing, the more risk to environmental degradation and more pressure will be exerted on the resources, hence the need to educate people to be aware of environment related issues and their consequences through environmental education.

Environmental education is an organized effort being made to teach individuals about environment related issues so as to engage in problem solving and take appropriate actions to improve the quality of the environment. As a result, individuals can be able to translate the acquired knowledge to fix the environmental issues such as oil drilling, deforestation, production of plastic goods among others.

Environmental education in Malaysia was long being since 1980s by Ministry of Education Malaysia (MOE). Since 1986, MOE has embarked on several commendable initiatives. Undeniably, within the existing curriculum, Environmental Education (EE) has been advocated by MOE. However, there still seems to be a gap between what has been advocated and the actual practice in schools and other educational institution (WWF-Malaysia).

The main aim of environmental education is to change environmental behavior through increasing environmental knowledge. Many researchers have been into cognition, yet failed to achieve the aims of environmental education. Julie (2000) in his study 'environmental education and attitudes emotions and beliefs are what is needed' suggest that for environmental educators interested in changing environmental attitudes, emotions and beliefs need to be targeted a source of information on which to base their environmental knowledge, rather than knowledge.

When environmental education is thought by students, it creates awareness for individual to understand himself and his immediate environment. This environmental awareness is not only implies knowledge about environment but also attitudes, values and necessary skills to solve environment related problems, Madhumala et al (2010). Many researchers have done a lot to find the influence of gender, family background, parents' educational qualification and many variables to weight the steadiness of environmental awareness among students.

A countless number of research work have been taken up in this respect in Malaysia, but being a location specific issue, research on environmental education can best be understand when it is carried out in different parts of the country for developing a clear understanding and perspectives of the issues involved. Rajput, et al (1980) made an attempt to identify the awareness of primary school children towards the specific and social environment. The study revealed that only one of the four groups (2 schools x classes) were significantly different on environmental awareness at pretest stage, whereas at the post test stage, two experimental group were significantly better than the control group.

Abraham and Arjunan (2005) made a survey to study the environmental interest of secondary school students in relation to their environmental attitude. They found that secondary school students did not have a

high level of environmental interest. A differential effect of gender and locale were observed in their environmental interest. The boys and urban students were found to have more interest compared to their girls and rural counterparts respectively.

Hannah (2002) in his survey 'a comparative study on environmental awareness and environmentally beneficial behavior in India', he found that the role of media in creating environmental awareness is definitively a diamond one. This shows that media has a lot to contribute in creating environmental awareness. Sebastian and Nima (2005) study shows that science students have more awareness of biodiversity and its conservative than other students. Fishman (2005) found that the local environmental awareness found only among students living in high socio-economic neighborhood.

Taruna (2014) study showed that urban teacher trainees have better level of responsible environmental behavior than their local counterparts. They added that rural students have generally low level of environmental awareness. This may be due to improper guidance from the teachers because knowledge of a teacher must reflects in child behavior. However, Sarala (2008) reported that students from rural areas had more environmental awareness than students from urban areas. The results of Sahaya (2005) say that the localities of the school do influence the environmental awareness and responsibilities among students. Neelem (2013) in their study "environmental awareness and attitude towards environmental degradation of senior secondary school students", they found that environmental awareness of urban senior secondary school students is better than the environmental awareness of rural senior secondary school students.

By educating our young generations about the aspects of environmental awareness is like creating awareness that will enable them to face the challenges and carry out the responsibilities of the community. And also, it will help them to understand the complex nature of natural and manmade environment, resulting from the interaction of their biophysical, social and other aspects of the environment. The main aims of environmental education is to input knowledge, attitude and practical skills is students to participate in effective manner in overcoming environmental problems and managing quality of the environment. This paper is aimed at finding the influence of school location on environmental awareness of secondary school students.

### **Objectives of the Study**

The following are the objectives to be achieved at the end of this research:

1. To find out the environmental awareness level of secondary school students.
2. To compare the environmental awareness level between secondary school students reside in urban area and secondary school students residing in rural area.

### **Hypotheses of the Study**

1. The level of environmental awareness of secondary school students is low.
2. There is no significance difference in the environmental awareness of secondary school students residing in urban and rural area.

### **Delimitation of the Study**

The study is only limited to form II and IV students. So, other students are not included. Secondly, majority of the students used in this study were female because, the ratio of male and female secondary school students in Malaysia is almost 1:5.

## **II. Methods**

### **Study location**

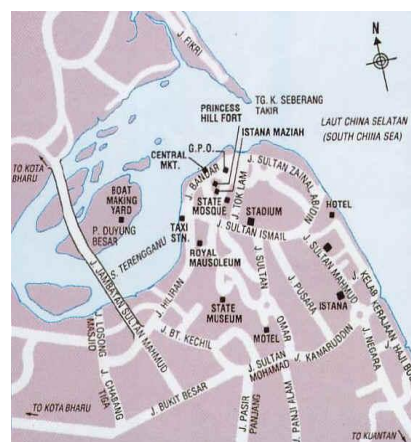
Malaysia is a federal constitutional monarchy located in the south east of Asia, has a geographical coordinate at position 2°30' North and 112°30' East with Kuala Lumpur as its capital city. The weather is tropical, influenced by monsoon climate because of its latitude and longitude. Figure 1, 2, and 3 are the maps of Malaysia, Terengganu and Kuala Terengganu as the study area.



**Figure 1:** Map of Malaysia



**Figure 2:** Map of Terengganu



**Figure 3:** Map of Kuala Terengganu

Terengganu is situated in north-eastern Peninsular Malaysia, and is boarded in the northwest by Kelantan, the southwest by Pahang, and the east by the South China Sea. Several outlying islands, including Pulau Perhentian, Pulau Kapas and Pulau Redang, are also part of the state.

The state has a total area of 13,035km<sup>2</sup> (5,033sq mi), Laporan (2010). It also has a total population of 1,015,776 as of 2010. As of 2010 census the population of Terengganu is 96.9% Muslims, 2.5% Buddhist, 0.2% Christian, and 0.2% follower of other religions or non-religions.

The location of Kuala Terengganu is on latitude 05°20'North and 108°08'East. The South China Sea which is located east coast of Terengganu ensured that it was on trade routes since ancient times. In the early 6<sup>th</sup> century A.D., Chinese merchants and seafarers were the people who did the earliest written reports on the area that is known Terengganu. Terengganu traded extensively with the Majapahit Empire, the Khmer Empire and especially the Chinese under the influence of Srivijaya. Like other Malay states Terengganu practiced a Hindu-Buddhist culture combined with aminist traditional beliefs for hundreds of years before the arrival of Islam. It was the first Malay state to receive Islam, as attested to by a stone monument dated 1303 with Arabic inscriptions found in Kuala Berang, the capital of the district of Hulu Terengganu. It emerge as an independent sultanate in 1724, later it became a member of the Federation of Malay in 1948, and a state of independent Malaya in 1957 (Sofea A. Ghani, 2010).

### Design of the Study

In this study, 600 students were randomly selected from form II and IV from the selected secondary schools. The schools were also selected by using random sampling technique. A total of 6 secondary schools were selected. Three schools from the urban area and the other three are from the rural area. 100 students were drawn from each school selected.

### Selection of the Sample

Among the 6 secondary schools selected, 3 were urban secondary schools and the other 3 were rural secondary schools. The selection of the participants is based on random sampling technique. The schools were selected based on their geographical location to ensure a uniform selection of them without any bias. The selected schools are listed in the Table 1 below.

**Table 1:** Description of the schools selected and the questionnaire allocation for each school

School location		Schools selected	Questionnaire allocated
Urban area	1	SM Sultan Mahmud	100
	2	SM Chung Hwa	100
	3	SM Teknik Terengganu	100
Rural area	1	SBP Intergrasi Batu Rakit	100
	2	SMK Tembila	100
	3	SMK Belara	100
Total	6		600

After that, a lottery method was applied to select the participants from their respective schools. One hundred students were selected from each school to participate in the study. A total of six hundred (600) respondents were drawn for the study. The sample size can be calculated using the derived formula below.

$$n = \frac{Z^2 p(1 - p)}{d^2}$$

Where;

n= sample size

Z= critical value (reliability coefficient)

p= power = 90%

d= acceptable error (0.05%)

### Selection of the Tools

Questionnaire was used for the purpose of this research. It is prepared by the researcher to collect responses from respondents. The questionnaire contained two sections. The first section collects information about the respondent's bio data. The last part aimed at collecting information about environmental awareness level of the students. Research instrument used in this study is principally the questionnaire, it is used with the aim that it will permit a wide range of coverage and elicit objective responses. Questionnaires also give way for good time allocation to the respondents for rationally think before responds. Questionnaire technique is also

relied upon because it does not often permit establishing rapport with the respondents. To make the instrument more functional, the researcher made the question easier and clear as possible. The questionnaire also provides a broad range of response opinion on the problem under investigation. At first, 50 multiple choice items were chosen applied to 100 samples. After reliability analyses, only 10 items were placed in the final draft. A Cronbach's Alpha of 0.81 was found for the group of item respectively. To simply respond to the questions, the instrument was divided alphabetically in to section A-respondent's profile, section B-Environmental Awareness Test where 4 options were given to the respondents to choose the correct answer. Likert Scale was used throughout the instrument. The least on the scale is 1 while the highest is 4 hence a range of 1-4 scale was used with the following translations in Table 2 below:

**Table 2:** Showing description of the Likert scale

Scale	Translation	Abbreviation
1	Strongly Agree	SA
2	Agree	A
4	Disagree	D
5	Strongly Disagree	SD

**Ethical Approval**

The study will be conducted after obtaining ethical clearance from the ethical committees from the selected schools.

**Informed Consent and Exclusion Criteria**

The selected students from the selected secondary schools in Terengganu will be given information containing detail explanation of the research and consent form to get their informed consent. The secondary school students in form 2 and 4 are included in the study while other students not in these levels were excluded; however, secondary school students in these levels who are not willing to participate were also excluded from the study.

**Statistical Treatment**

Due to the nature of the research objectives and the formulated hypotheses, a descriptive statistic and independent sample t-test were used to analyze the data using SPSS computer software version 16.

**Data Analysis**

After collection of the data from the school sampled in Kuala Terengganu, mean, total percentages, and t-value were calculated and represented in tables below for the analyses of the data and the following results were also obtained.

**III. Results**

**Environmental Awareness Level among Students**

The students' environmental awareness level was measured in this section using a descriptive statistics method. There were ten (10) items used to measure the awareness level. The awareness level was indicated by a "Level Indicator Mean of 0.10-0.49 as low awareness and 0.50-1.00 as higher awareness level". The result of descriptive statistics as shown in the Table 3 below shows that the level of students' environmental awareness of secondary school students is low with a mean value of .40 which is not up to average level. Hence hypothesis 1 (Ho1) is accepted.

**Table 3:** Environmental awareness means scores and total percentage base on "correct answer (CA)" and "wrong answer (RA)"

Item	Statement	Mean	Total percentages (%)	
			CA	RA
1	In order to conserve natural resources, we should...	.09	8.8	91.2
2	Natural resources are exhausted faster because of...	.16	15.9	84.1
3	Fuels should not be wasted because they are...	.75	74.9	25.1
4	World Environmental Day is celebrated every year on...	.41	40.7	59.3
5	The best way of disposing the domestic waste would be to...	.46	45.8	54.2
6	Oil spills are highly dangerous because...	.82	82.0	18.0
7	Excessive use of pesticides will...	.15	15.4	84.6
8	Which of the following is the non-renewable source of energy?	.71	71.0	29.0
9	Loss of biodiversity may be due to...	.46	46.1	53.9
10	Which of the following is true statement related to pollution?	.03	2.9	97.1
<b>Overall level of awareness</b>		<b>0.40</b>		

**Environmental Awareness Level of Secondary School Students Base on School Location**

The result of the t-test in Table 4 below explains the significance difference in the environmental awareness among secondary school students with respect to their different school location. The mean score of secondary school students residing in the urban area (N=293) is found to be .4058 with a SD of .1423 while that of students residing in the rural area (N=297) is .4013 with SD of .1489. The calculated t-value is found to be 0.372 ( $p=0.710>0.05$ ). Therefore, the null hypothesis Ho2 is accepted which says there is no significant difference in the environmental awareness among students residing in the urban and rural area.

**Table 4:** Significance difference in the environmental awareness of secondary students with respect to location of school

Variables	Location of school	Sample (N)	Mean	SD	t	p-value	CI	
							Lower	Upper
Environmental awareness	Urban area	293	.4058	.1423	.372	.710	-.0191	.0280
	Rural area	297	.4013	.1489				

**IV. Discussion Of The Results**

From the far going analysis of the result, it can be observed from Table 4.1 above that the level of environmental awareness among secondary school students is low. Four options were given for this category to measure the awareness level were 8.8% of students responds correctly on the right way to conserve natural resources because 15.9% of them knows that these natural resources can be exhausted faster though 74.9% agreed that the fuel should not be wasted. This shows a low achievement in the level of awareness of students. Furthermore, majority of the respondents (84.6%) did not know the effect of excessive use pesticides. The students (97.1%) were also reported to have poor knowledge about pollution. This is disappointing and signifies a low level of awareness among secondary students. The result is contradicted with the result of Aminrad et al., (2010) in his study on Environmental awareness of Iranian students in Malaysian universities. He found that environmental awareness of students is moderate. Mathivanan and Pazhanivelu (2013) found that secondary school students have high environmental awareness. Romana (2013) suggested that environmental education should be incorporated as a subject in the B.Ed. curriculum, so that future teachers can instill in their students environmental sensibilities.

It was also found in this research that location of the school has no effect on the level of environmental awareness among secondary school students. According to Arba'at et al (2010) students residing in the urban area have more environmental awareness than compared with their suburban counterparts. Thomas and Ikuero (2013) in their study on the influence of school location and achievement level on integrated science students' perception of their classroom environment. They found that location of the school did not significantly influence the students' perception of their classroom environment but achievement level do significantly affects their perception. Moreover, some researches have revealed a different result with the above finding. Bhim and Jayanta (2010) in their study 'a comparative study of environmental awareness among secondary school students in relation to gender and residential background', part of their findings is that urban boys have higher environmental awareness than that of their rural counter parts. Nagra and Dhillon (2006) conducted a study on environmental education awareness among secondary school teachers in relation to gender and residential background. They found that rural school teacher has low awareness level than their urban counterparts. In another finding, the boys and urban students has more interest compared to girls and their rural counterparts respectively, (Abraham and Arjunan, 2005).

**V. Conclusion**

From the results and discussion of the result above, it was observed that the level of environmental awareness of secondary school students is low. This might either be due to incompetence of the teachers to teach the students about the related issues concerning the environment or the students has less concern to learn about the environment. And it is may be due to the fact that the students are not expose to environmental treats either by excursions or otherwise such as flooding. It was also observed that location of the school has nothing to do with the level of environmental awareness among secondary school students.

Furthermore, this work is a case study conducted in some part of Malaysia. It is extracted from my master thesis. The outcome of this study can be applied to other part of the world to make it worldwide. Other variables such as gender, age, parents' income, race, education level of the students, parents' occupation, parents' educational qualification and so on can be tested to access the level of environmental awareness of secondary school students in the other parts of Malaysia and other countries in the world.

## **VI. Recommendations**

Environment is a gift of almighty upon mankind and creatures in general. We have to find ways to protect it. It is recommended in this paper that environmental awareness can better be achieved if Environmental Education is taught as a separate and independent subject in our secondary schools. Qualified teachers are also encouraged to be employed in our secondary schools to teach Environmental Education well. School garden, environmental trip, environmental science clubs, essay writing on issues related to environment, and in all, environmental education programs are some of the issues that need to be given due considerations among our secondary schools students. Students are encouraged to attending lifesaving programs to help in rescuing lives of the affected people in the affected area. Just of recent, there was a flooding at Kemaman and Kelantan (Malaysia), so if students are attending such events together with their teachers or instructors, they will become aware of the environment and they will also learn quickly about environmental awareness. It is a human nature that what he hear he forget, what he see he remember. The researcher will conclude by saying that a picture is more than a thousand words, what about a real object?

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