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Environmentalism among Primary's Students Based on Awareness, Knowledge, and Attitude Study

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Abstract

Environmental awareness is one perception to know the level of awareness toward environmental pollution that occurs in Malaysian society. The growing political and demographic dimensions of the environment have led to environmental pollution. Therefore, education is one of the best ways to build a high level of environmental knowledge and awareness to the next generation. Environmental education is an essential element in delivering knowledge. The purpose of this study is to identify the level of knowledge of primary school students towards environmental awareness. Mostly, assessments taken from journals are studied using the questionnaire method quantitative method to collect information about the level of environmental education among school students and the level of community knowledge of the environment. The results of this study show that education is very important to produce individuals with higher knowledge, attitudes and practices to implement environmental protection in daily life. The society needs awareness to improve knowledge towards environmental preservation. Environmental awareness among students also can be measured through the outdoor activities. However, to change the attitude of the student towards more positive can be includes in the various factors.

Keywords: Environmentalism, Environmental Awareness, Education, Student's Awareness, Knowledge and Attitude

Introduction

Pollution is one of environmental issue in the modern world today. Air, water and noise are the types of pollution that's always happen. But nowadays, the environment is getting treated by irresponsible people such as doing waste disposal in rivers, the use of chemical fertilizers, and many more. Most of the problem involving environmental pollution is attributed to human deeds (Gardner & Stern, 2002). Humans need to be more aware to take care of the environment in various ways. According to Aziz (2008) natural treasures have been wiped out caused by human greed and profits solely by certain groups. Economic growth and population density have also affected the environmental damage. As a result, awareness does not give any changes in terms of behavioural in human attitude towards the environment. The involvement of an individual is very important and it is a great step in environmental conservation efforts in order to preserve it. Hence, many researchers thought the best way to take care of the environment is by changing the attitudes and self-interest to focus on environmental (Knapp, 1999; Callicott, 2000).

In addition, environmental issues have become a social problem that has occurred over the last few decades, many changes have occurred in nature and have caused a lot of problems to water and air ecosystems. The changing landscape of the environment was effect from the growing of physical development in industrial, tourism, agricultural, and construction sector in Malaysia which leads to an irresponsible community and will affect the quality of life. Reduction of natural resources, depletion of the ozone layer, reducing mangrove swamps and jungle, acid rain and temperature rise global (Martinsons et al., 1996). Malaysia as a developing country has faced many major challenges in ensuring the preservation of the environment. Unfortunately, the quality of river water, urban air quality, forest destruction, toxic waste is a pollution issue occurring in our country. This is contradicted to western countries, where the green movement is one of the most important issues in society. The government, consumers and traders are increasingly aware of environmental conservation and environmental issues (Martinsons et al., 1996) Therefore, it is important for humans to conserve the environment.

Environmental education has always been declared as a supporter to change society towards a sustainable way of living. The effectiveness of the education gained can be seen through the students' high knowledge and positive attitude towards environmental care. Figure 1 presents a model for holistic environmental education that describes three approaches to education relevant to the theoretical framework of education around, in and for the environment (Reibelt, 2018). The first component explained the environmental education about the environment which observed about awareness and knowledge related to the environment, with an emphasis on cognition. This is most likely the curricular education gained at school. The second component of the framework explained about the education in the environment which related to the activity-based approach with experiential learning opportunities in order to improve the concern regarding to the environmental situation. While the third aspect of the system is the education for the environment, which focuses on real environmental preservation and growth. This three-dimension is very important in generating a holistic development of students which required knowledge, awareness, attitudes, and skills to actively participate in solving environmental issues (Palmer, 1998).

Evaluation based on this model explained the need to encourage clear awareness and concern about ecological, social and economic interdependence. It also encourages every person who required the knowledge, awareness, attitudes and skills needed to preserve and protect the environment (UNESCO, 1978). Education is the best way to build a high level of environmental awareness and knowledge for the next generation. Education is also intended to create a highly concerned and sensitive society towards environmental issues as well as obtaining the skills, knowledge, values and commitment to act independently towards the resolution of environmental issues (Pusat Perkembangan Kurikulum, 1998). It is also the basis to provide awareness in the community towards environmental issues as well as to produce a more ethical Malaysian society (Jamaludin, 2001). According to Burchett (2015), environmental education is a measure of an individual's awareness about the connections of humans and their environments, environmental problem, and the various connections in ecological systems. Therefore, education is an important element to create generation with high of knowledge about the importance of preserving the environment.

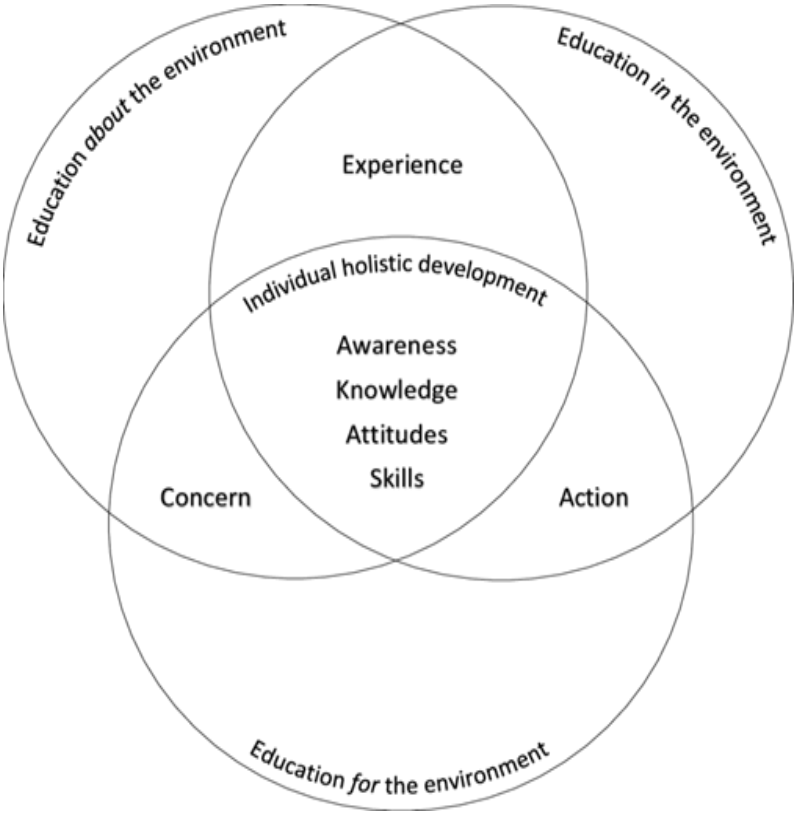

Figure. 1. A model for holistic environmental education teaching and learning (Reibelt, 2018).

Results and Discussion

Environmental Education among students in Malaysia

Environmental awareness among school students can be seen through the learning process of environmental education. Environmental education subjects have been introduced to the student's level 2 (standard 4, 5 and 6) in primary schools in Malaysia. According to the Ministry

of Education, KPM (2001), environmental education subject is a study that examines the relationship between human and environmental. This study measures how people manage the environment with a sense of responsibility for human well-being. Environmental education is the main sector, which delivers environmental knowledge to the students and community. Education is the most influential source which can bring positive changes to the community (Shafii, 2011). Therefore, environmental education among school students can play an important role in creating a society full of knowledge, skills and proper action towards the environment. In promoting environmental education in schools, teachers play the most important role in delivering the knowledge to the student. This is because the interaction process between teacher and student is happening almost all the time at school.

However, based on the previous study by Aminrad et al., (2012) students' level of knowledge about environmental protection is independent of students' attitude towards the course of study. The student from the science stream students has a high environmental knowledge compared to non-science stream students. Besides, both science and non-science student also indicate to have the same level of attitude towards the environment. This is because the survey reported that the relationship between attitude and knowledge of environmental education among students in Malaysia is weak. Therefore, the information that the students possess does not influence their behaviour towards the environment, even if a little or no relationship observed. The environmental education presented at the school will provide the student a high knowledge about the preserving environment but it is unable to change student attitude to act positively towards environmental protection. This is because the predictions of an individual's attitude towards environmental care will take a long time and a complex task that influenced by various factors (Cottrell & Graefe, 1997).

According to previous studies, the level of environmental knowledge of primary school students can be compared through the results of the science subject examination in standard 6. Based on Table 1 used in the previous study, the sample was obtained from the level of knowledge of standard 6 students through environmental education (Chin, 1994; Baba, 2004; Chong, 2005 and Mutalib, 2008). According to a descriptive statistical analysis in Table 2, this study found that the mean value was 84.86 with a minimum value of 45 percent and a maximum of 100 percent. This study also explains that the level of knowledge among students in standard 6 at (n = 31) is high on environmental knowledge. The research was also similar to the study conducted by Aini et al., (2011) which related to the level of knowledge of 11-year-old students. Hence, environmental knowledge delivered by teachers is still inadequate and requires help from others. If teachers are able to educate environmental lessons perfectly, the behaviour and knowledge of the students towards the environment will improve. According to Abdullah (2012), stated that teachers have close relationships with students, student activities and curriculum.

Table 1
Percentage of range of students' knowledge and level of knowledge on environmental education

Percentage of students' knowledge (100%)	The level of knowledge toward environmental education
75-100	High
50-74	Moderate
25-49	Weak
0-24	Very Weak

Source: Chin (1994), Baba (2004), Chong (2005) and Mutalib (2008)

Robinson (2013) states that environmental education which is taught in schools into existing subjects in the primary schools in the country works as an infusion of several environmental education themes. Although there is no specific subject for environmental education in school education in Malaysia but the classes are conducted with an environmental viewpoint in the entire curriculum such as geography, social studies and agricultural science and many more. Besides, the school learning process conducted by the teachers also plays an important role in providing the student a valuable knowledge and expose the student with positive behaviour towards environmental protection. This important role is based on the quality of instruction, experience, and the competence of the team of teachers, and the curricular offering (Gamoran & Nystrand, 1994). Hence, the instructor or the teachers need to create a useful learning process such as the outdoor project to raise the knowledge and awareness in children about regional values and challenges through hands-on learning.

Environmental Education in Other Countries

The development of environmental education, the clarification of its aim and purpose are caused by the increased concern about the environment in recent decades (Sterling, 1995). Environmental education is essential to build student knowledge of environmental protection. The dilemma of preservation and development in developing countries reconciling the important mechanism of environmental education (Gurung & Hum, 1992). Every country has a different technique and method to deliver environmental education based on the benefit of this education towards their landscape of the environment and population. The effectiveness of the education gained will positively produce a responsible community with a positive attitude towards the well-being of the country. However, according to Ham and Castillo (1990), most of the school's lack organized local teaching materials, hence most of the school-based education models in developing countries are imported from other developed countries.

In the United State, environmental education and outdoor education are often linked to each other and able to exchange or combined (Knapp, 1999). Environmental education considers human beings to be part of the environment along with physical phenomena, environmental education recognizes the economic, moral, political and social dimensions of environmental issues. The outdoor education will emphasis on learning through observation and discovery which focus on the current environmental issues and the wise use of natural resources. By handling the outdoor activities as the learning setting, the progressive and effective education movement comes an emphasis on lifelong learning. Similarly, with the environmental education system in New Zealand which often equated with outdoor education (Dowling,

1979). Some of the environmental issues cannot be perceived first-hand, but most of them can be detected by the senses. Hence, outdoor activities are one of the most effective ways to educate the student at school about environmental preservation and issues.

However, there were several countries faced a constraint of educational resources needed and lack of adequate teacher training to integrate environmental education to the students. For example, in Africa, the study regarding the policy implementation to integrate environmental education in school curricula experienced constraint in most of the African countries (Velempini et al., 2018). The education system in Africa school curricula is primarily limited with the textbook related to social studies and science provided for the students.

Besides, they also lack practice towards place-based education which could emphasis students to engage with environmental resources. This is because most of the African countries do not have a specific place which is suitable for the students to run appropriate environmental activities. The teachers who are not specialized in science or social studies also have been precluded from learning and integrate the knowledge about environmental education to the students in school curricular (Ketlhoilwe, 2010). Moreover, the African community also often overlooked about the environmental issues which occur in their country. Hence, societies will have less information and knowledge regarding the environmental issue which will lead to the irresponsible community towards preserving the environment.
According to the study by Choudhary et al., (2019) in the University of Delhi, India, the students believed that the primarily responsible for preserving environmental is individual, while the secondarily responsible lies to the government, environmental groups, and industry. This is similar to the previous study in Singapore, stated that everybody is responsible for preserving the environment. Table 2 shows the students' perception of environmental responsibility which provides rank and percentage of students' responses (Ivy et al., 1998).

The first rank of the students' response collected 90% of the student believed that the responsibility to take care of the environment is an individual's responsibility, everybody must take part in order to preserve the environment. Followed 4.2% selected the government which is solely responsible for the environmental protection and the third responsibility lies to the National Council on the environment. The result revealed that everybody should be responsible for the environment and the school curricular is the best medium to deliver and educate students to be more aware of the importance to preserve the environment. Consciousness should not only include schools, but also environmental organizations, government, and businesses.

Table 2
Students' responses to perception of environmental responsibility

	Total Sample		Secondary Three		JC1	
	%	Rank	%	Rank	%	rank
Everybody	90.0	1	90.1	1	89.8	1
Government	4.2	2	3.8	3	5.4	2
National Council on the environment	3.9	3	4.3	2	2.8	3

Source: (Ivy et al., 1998)

Level of Malaysia Community Knowledge towards the Environment

Based on Kollmuss & Agyeman (2002) previous study, the attitude of the community towards environmental protection has been discussed in the pro-environmental preliminary model related to knowledge and how conservation plays an important role to determine the pattern of community behaviour towards the environment protection. Based on Table 3, discussions have been made through community attitude towards environmental issues. Overall, the behaviour of the respondent is not encouraging. It has clearly shown that respondents need more information and exposure in order to improve knowledge, attitude and practice towards the environment (Ahmad et al., 2011). Malaysia societies are less exposed to recycling culture and are still at a less satisfactory level. Most respondents are still confused about four types of garbage cans, which classify of glass, plastic, paper and aluminium waste. According to Loh (2008), plastic materials are non-environmentally friendly materials that are still used by the community.

Table 3 explained that respondents still have no environmental awareness in terms of air pollution, especially in Kuala Lumpur. Therefore, they will face difficulty in predicting the effects and consequences of environmental pollution. Environmental awareness will improve through the experiences of individuals. Another study conducted by Ahmad et al., (2011) reported that the level of knowledge on the issue of efficient use of energy resources in Malaysian society is very limited. Consequently, public awareness of the environment is still at an alarming rate. The study has found that respondents in both states argue that environmental care is the responsibility of the government. The awareness and attitude of people in Penang Island are still low despite the various efforts have been made. The result is similar to this study which stated that the awareness to involve themselves in addressing the environmental problems that are close to them is too minimal (Zurina & Norjan, 2003).

Table 3
Public Information Channel on the Environment

	Source	Pulau Pinang %	Kuala Lumpur%
1	Internet	25 (21.0)	28 (56.0)
2	Blog	9 (7.6)	13 (26.0)
3	Radio	14 (11.8)	15 (30.0)
4	Television	43 (36.1)	46 (93.0)
5	Discussions with friends and neighbors	29(24.4)	17 (34.0)
6	Newspaper	43 (36.1)	45 (90.0)
7	Article	35 (29.4)	33 (66.0)
8	Book	18 (15.1)	12 (24.0)
9	Magazines	35 (29.4)	32 (64.0)
10	Authorities	15 (12.6)	10 (20.0)
11	Non-government organization	12 (18.5)	20 (40.0)

Source: (Ahmad et al., 2011)

Walker and Loughland (2003) explained that television is the mainstream media in society to get information on the environment compared to other websites such as newspapers, magazines, and radio. This is similar to the results study showed in Table 3. Similar to the studies conducted by Bonnet and Williams (1998), which shows that more environmental-related programs are featured on television than from other sources. According to Jamaluddin (2002), media campaigns and seminars in discussing environmental issues throughout the country can improve society's awareness and improve the environmental pollution problems. This suggestion is supported by Bonnet and Williams (1998), which stated that television and documentary campaigns are important. Hence, Malaysian societies believe that television was the main source of their environmental knowledge. Therefore, the community will gain less exposure related to the environmental activities which can build a sense of responsibility towards preserving the environment.

Besides, electronic communication for teaching and learning from a distance also works as the common usage of the social networks utilized such as e-learning (Oztekin et al., 2013). E-learning is a medium to distribute information for the educators to deliver the content to the learner community in any place and any time (Sandanayake & Madurapperuma, 2013). This is very useful in order to deliver environmental education to the community since the media plays an important role to spread the information related to environmental issues. Therefore, society needs knowledge and information from e-learning which can build the wide-ranging use of communication technologies and advanced information to deliver knowledge and instruction (Navimipour, et al., 2015). In general, e-learning is very helping to convey the content of environmental education to whom are not physically present in a traditional setting such as classroom, meeting hall or conference hall by giving a distance education to the online students.

Conclusion

According to the study conducted, it can be concluded that the level of environmental awareness among Malaysian school students still in unsatisfying level. Similarly, to the study conducted by Hashim & Ngah, (2005) application of environmental value is not fully implemented in education by the teacher and it still could not be delivered to the target group which is students. External education and environmental education in the United States are often linked to each other and can be exchanged or combined. Therefore, external education

is a learning through observation and use of a sophisticated natural resource and discovery of environmental issues. Environmental awareness among students could not be measured only through the learning process in the classroom. This is because there are several factors that influence the effectiveness of these elements such as attitude, behaviour, demographics and perception. Overall, education is essential in creating the knowledge, attitude, behaviour and practice among communities to move forward in order to protect the environment.

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