

Environment Education for Sustainable Development (SD) Among Primary School Teachers

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ABSTRACT

Environment Education is a priority for sustainable development at primary school level in line with UNESCO to produce citizens with sustainable lifestyles. This study aims to identify the level of knowledge, attitude and practice/behaviour among primary school teachers regarding the environmental education for sustainable development. It then also analysed the relationship between the level of knowledge, attitude and practice/behavior of sustainable development. Data were obtained quantitatively through a questionnaire survey where 300 teachers were randomly selected to be involved in this survey. The result showed that the level of knowledge of sustainable development among primary school teachers is high with the mean value of 3.80. The level of attitude sustainable development is also at a high level with the mean at 3.70 meanwhile the level of practice/behavior, sustainable development at moderate level with the mean of 3.25. This study also revealed that there is a strong and significant relationship between the level of knowledge and attitude of sustainable development primary school teachers with r -value at 0.765. There is a weak correlation between the level of teacher's attitude and their practice/behavior with r -value at 0.455. It clearly showed that higher knowledge influences the attitudes of primary school teachers for sustainable development. At the other point, higher knowledge and attitude is not a guarantee towards positive practice/behavior for sustainable development among primary school teachers. This situation needs improvement and an effective way to produce today's generation that loves their environment and nature. Teachers as an educator became a front liner group for making sure environment education is successful at primary school level.

Keywords Environment Education, Sustainable, Development, Primary School Teachers, Knowledge, Attitude, Practice/Behavior

INTRODUCTION

The 2030 Agenda for Sustainable Development Goals (SDGs) is now widely regarded as a blueprint for a more peaceful world meanwhile Malaysia has included the SDGs into the 11th Malaysia Plan, which includes education. There are two main streams of environmental education worldwide: Environmental Education (EE) and Education for Sustainable Development (ESD). ESD is a formal obligation and as such is promoted by the United Nations to ensure sustainable development in countries. In contrast, EE is the first educational trend to adopt an environmentally friendly approach (Pedro, 2021). Since the concept of sustainable development was put forward, it has gone through different stages of development. Various organizations and institutions have been involved in the historical development of the concept and are now focusing on implementing its principles and objectives (Tomislav, 2018). Knowledge about how to implement sustainable activities helps

individuals acquire diverse experiences and fundamental understandings to ensure environmental sustainability. Even increased environmental knowledge can generate positive attitudes towards the environment (Hanifah et al., 2016).

Educators play a critical role in educating and developing students' understanding, attitude, and actions toward sustainable development (Florianna et al., 2020). Education is a fundamental necessity that must be met at all levels of society so multifaceted crises might result from an educational crisis. Humans are born with three psychological capacities: creativity, taste, and intention (Dwi et al., 2019).

The SDGs define a wide variety of sustainability features, including environmental, social, and economic goals for both developed and developing countries (Sivaraman et al., 2019). Sustainable development is viewed as a modern development concept that is most proactive and realistic in resolving development demand and environmental conservation challenges (Hanifah et al., 2016).

PROBLEM STATEMENTS

Malaysia now has a bigger need than ever for education for sustainable development (ESD), as the country faces growing environmental issues. However, ESD has yet to be adequately defined in the educational scene (Pravindharan, 2021). Despite the fact that these issues are visible, people continue to engage in environmentally unfriendly behaviour at the individual, governmental, and society levels. The fast expansion of environmental problems causes the extinction of numerous species, causing the ecological balance to deteriorate. Despite the fact that a human being is not independent of its habitat and ecosystem, individuals continue to pollute the environment as if they were living outside of it (Evrin Ural & Guzide Dadli, 2020).

The existing educational system does not address the global environmental problem, and the current environmental catastrophe reflects the contemporary environmental education dilemma (Sivaraman et al., 2019). Ecological sustainability has become an integral part of societies and organisations. In response, many organizations have tended to ensure that their day-to-day operations are less harmful to the environment by implementing environmental management systems (EMS) or green initiatives. These initiatives include reducing carbon emissions such as B. reducing consumption of electricity and office supplies; and consciously recycling materials appropriately (Olawole et al., 2019).

One of the objectives of environmental education is to shape environmental values. This also raises issues regarding the distinction between education and indoctrination. Although values education has received a lot of attention from a variety of theoretical angles, there is research that has examined how it is actually implemented (Jan et al., 2020). Current environmental issues require a shift in educational focus to develop students' environmental awareness and positive attitudes towards the environment. There is evidence that education has a positive impact on students' environmental awareness (Pauline et al., 2018).

OBJECTIVE

The purpose of this study has been following specific research objectives, which are:

1. To identify the level of knowledge, attitude and practice/behaviour sustainable development among primary school teachers.
2. To investigate the relationship between knowledge, attitude and practice/behaviour sustainable development among primary school teachers.

METHODOLOGY

This study applied a survey research design with a quantitative approach. The method for collecting the data by distributing questionnaires using form and google form. This study focuses on primary school

teachers in Bentong Pahang Malaysia. Based on Education Statistics of Malaysia (MOE2018) the total number of primary school teachers in Bentong, Pahang is 1997. The sample size has been stipulated based on the Krejcie and Morgan sample size determination table. Based on the table, the teacher sample size needed in this study is approximately 322. However, this study had been conducted with a sample size of 300 respondents, while the selection of respondents using a simple random sampling technique involving 150 teachers from urban schools and 150 teachers from rural schools.

The questionnaires are divided into 4 sections, section A presents on the demographic background information of the teacher while section B contains questions Sustainable Development Knowledge 12 items, section C contains questions Sustainable Development Attitude 14 items and section D contains questions Sustainable Development Behaviour/Practice 27 items which used a 5-point Likert scale. The scales range from 1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree and 5 = strongly agree. The questionnaires were adapted from previous studies.

Data analysis using Statistical Package for Social Science (SPSS) version 23. The statistical analysis applied are descriptive statistics which are frequency, mean, standard deviation and inferential statistics and correlation to achieve research objectives.

RESULTS

Findings for Demographic Background Information

Section A is teachers' demographic background information. The items focus on two demographic aspects: school location and gender. The results are tabulated in Table 1. Table 1 shows the frequency distribution of respondents' demographic. The total number of respondent teachers from urban and rural schools is equal. In terms of gender, there are 131 male teachers (43.7 percent) and 169 female teachers (56.3 percent). The teachers in the primary school of MOE district found teaching in two different locations, namely urban primary school (150 respondents) (50%) and rural primary school (150 respondents) (50%) and sampling techniques were used.

Table 1 Demographic Background Information

Item	Sub Item	Frequency	Percentage (%)
School location	Urban	150	50
	Rural	150	50
Gender	Male	131	43.7
	Female	169	56.3

Table 2 shows reliability of sustainable development knowledge, sustainable development attitude and sustainable development practice with Cronbach's Alpha value. According to Sekaran (2003), reliability is used to measure the consistency and stability of the variables. The closer reliability coefficient close to 1.00, the better instruments in general, where reliability less than 0.60 are considered poor, those over 0.80 are good while 0.90 are excellent (Sekaran, 2003). The result of the analysis showed the Cronbach Alpha values are excellent and suitable as a research instrument.

Table 2 The Reliability Values

Variables	Number of Item	Alpha Cronbach Values
Sustainable Development Knowledge	12	0.934
Sustainable Development Attitude	14	0.912
Sustainable Development Behaviour/Practice	27	0.915

To facilitate interpretation of the level of teachers' knowledge, attitude and practice, the cut-off points by Landell (1997) show at Table 3.

Table 3 Cut-Off Points of the Level of Each Study Variable

Scale	Level
Score 1.00-2.33	Low
Score 2.34-3.66	Medium
Score 3.67-5.00	High

Table 4 Cohens' Classification of Relationship/Correlation Strength (1988)

r value	Classification of relationship/correlation strength
0.10 until 0.29	Weak
0.30 until 0.49	Moderate
0.50 until 1.0	Strong

Findings for Teacher Sustainable Development Knowledge, Attitude and Practice

Table 5 Teacher Sustainable Development Knowledge

Item	Construct (Sustainable Development Knowledge)	Mean	Mean Score	Standard Deviation
1	Education is necessary for sustainable development (SD)	3.80	High	1.07
2	SD requires access to good-quality education for everyone	3.78	High	0.98
3	Protecting the environment is necessary for SD	3.76	High	1.00
4	Environmental education is necessary for SD	4.11	High	1.02
5	Human actions are contributing to changes in our atmosphere and climate systems	3.69	High	0.97
6	SD requires individuals to reduce all kinds of waste	4.07	High	1.01
7	Good citizenship is necessary for SD	3.68	High	1.01
8	In school, I learned how to protect the environment	4.07	High	0.93
9	“Maintaining biodiversity” means maintaining the number and variety of living organisms. This is necessary for SD	3.78	High	0.95
10	Respect for cultural diversity is necessary for SD	3.61	High	0.96
11	SD requires shifting to the use of renewable resources as much as possible	3.80	High	0.97
12	I have read a book in which SD was discussed	3.53	Moderate	1.01
Overall		3.80	High	

Table 6 Teacher Sustainable Development Attitude

Item	Construct (Sustainable Development Attitude)	Mean	Mean Score	Standard Deviation
1	Every person should receive education that teaches the knowledge necessary for sustainable living in a community	3.80	High	1.00
2	Every person should receive education that teaches the values necessary for sustainable living in a community	3.78	High	1.01
3	Every person should receive education that teaches the skills necessary for sustainable living in a community	3.78	High	1.01
4	The present generation should make sure that the next generation can live in communities that are at least as healthy as those that exist today	3.56	Moderate	0.97
5	As long as resources are available, using more than we need now does not threaten the health and welfare of future generations	3.16	Moderate	1.02
6	We do not need stricter laws and regulations to protect the environment	3.61	High	1.06

7	Understanding and addressing the problems of climate change are not important	4.07	High	0.92
8	Use of fuel-efficient vehicles should be encouraged by communities	4.07	High	0.92
9	Use of environment-friendly cars should be encouraged by communities	3.68	High	0.83
10	Communities should adopt SD as a national priority	3.23	Moderate	1.01
11	Schools should adopt SD as a national priority	4.11	High	0.83
12	People who pollute our land, air or water should pay for damage done to communities and the environment	3.53	High	1.01
13	Males and females should have equal access to all kinds of education and employment	3.68	High	0.83
14	It is our right to use as much water as we want, as long as it is available	3.78	High	1.01
Overall		3.70	High	

Table 7 Sustainable Development Practice

Item	Construct (Sustainable Development Practice)	Mean	Mean Score	Standard Deviation
1	Every person should receive education that teaches the knowledge necessary for sustainable living in a community	3.80	High	1.00
2	Every person should receive education that teaches the values necessary for sustainable living in a community	3.78	High	1.01
3	Every person should receive education that teaches the skills necessary for sustainable living in a community	3.78	High	1.01
4	The present generation should make sure that the next generation can live in communities that are at least as healthy as those that exist today	3.56	Moderate	0.97
5	As long as resources are available, using more than we need now does not threaten the health and welfare of future generations	3.16	Moderate	1.02
6	We do not need stricter laws and regulations to protect the environment	3.61	High	1.06
7	Understanding and addressing the problems of climate change are not important	4.07	High	0.92
8	Use of fuel-efficient vehicles should be encouraged by communities	4.07	High	0.92
9	Use of environment-friendly cars should be encouraged by communities	3.68	High	0.83
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12	People who pollute our land, air or water should pay for damage done to communities and the environment	3.53	High	1.01
13	Males and females should have equal access to all kinds of education and employment	3.68	High	0.83
14	It is our right to use as much water as we want, as long as it is available	3.78	High	1.01
Overall		3.70	High	

Findings for Relationship Between Knowledge, Attitude, and Practice/Behaviour Sustainable Development

Table 8 Relationship Between Knowledge, Attitude and Practice/Behaviour Sustainable, Attitude and Practice/Behaviour Sustainable Development

Variables	Teacher Sustainable, Knowledge, Attitude and Practice		Classification of Correlation Strength
	r	p	
Sustainable Development Knowledge	.765**	.000	Strong
Sustainable Development Attitude	.765**	.000	Strong
Sustainable Development Practice	.455**	.010	Weak

DISCUSSIONS

The level of the teacher's sustainable development knowledge and the result show that the overall level of all variables was high with the value mean 3.79. This indicates that the level of teachers' sustainable development knowledge at primary school was good and satisfactory. This finding in line with Ozkan and Bulent (2017), high knowledge about environmental education among teachers is really important, from their knowledge to produce positive environmental behaviour.

The level of teachers' sustainable development attitude, the finding shows that the overall variables were high with mean values within the range of 3.699 to 3.705. This result shows that primary school teachers' attitude towards sustainable development was at a satisfactory level. These results in line with Ajaz (2017) stated that the majority of the teachers have a positive attitude towards environmental education and a sustainable development attitude really needed for educators.

The result of the teachers' level of sustainable development practices at medium level with mean 3.25. The finding, in line with Farah and Kamariah (2019), stated the teachers' sustainable practices still not at a satisfactory level, so effort for sustainable practices through education needed to be consistent and continuous.

The analysis correlation between teachers' sustainable development knowledge, attitude and practice. This study also revealed that there is a strong and significant relationship between the level of knowledge and attitude of sustainable development primary school teachers with r -value at 0.765. There is a weak correlation between the level of teacher attitude and their practice/behavior with r -value at 0.455.

First correlation between sustainable development knowledge and sustainable development attitude, the findings show a strong relationship that values $r(300) = .765$, $p < .01$. Lastly, correlation between sustainable development attitude to sustainable development practice showed a weak relationship with value $r(300) = .455$, $p > .01$. This finding is in line with Zheng, Xu, Deng and Lin (2017), that positive correlation between knowledge and attitude is really needed so that environment quality can be improved and increased.

The research respondents come from primary school teachers from Bentong, Pahang. This study's finding shows that environmental education is a priority to all teachers so that teachers can apply the education well to pupils. This study's findings may impact the real scenario in the teaching and learning process among teachers and pupils in the classroom. Teachers have high scores on knowledge and attitude so this finding is a milestone from the start. This study's findings also show disappointment at teacher's development of sustainable practice where the result is a moderate score. The practice is important to make sure that we can control the environmental problem.

Moreover, teachers can improve their practice skills at the school with their pupils, so in the meantime the dream of successful implementation of environment education at primary school can be realized. This focus is in line with UNESCO and the Ministry of Education that environment education must be taught in all subjects at primary level.

CONCLUSION

The results of this study show that for general sustainability knowledge, energy saving and sustainability environment attitudes were at high levels, while sustainability practices energy saving were still at medium levels. This means that the teachers' needed to know well their responsibility as educators being main components towards acceptance and implementation of environmental education at primary school.

Direct education is the most effective method across many parties' efforts to improve the quality of the environment. Long-term knowledge of environmental preservation will be more acceptable when a systematic and continuous method is implemented. Teachers in reality play a significant role as change agents and their actions and attitudes have a major effect on learners. Through use of competition to implement education for sustainable development is a form of encouragement for the school community to keep up the good work on education for sustainable development. Education field must be an effective way to produce a new generation full of positive knowledge, attitude, values, awareness, behaviour and practice for concern about our environment. Healthy environment gives a healthy life for humankind. So, let's love our environment together.

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