

Review Article

REFLECTION ON ENVIRONMENTAL AWARENESS FOR SCHOOL MANAGEMENT

M.M. MOHAMAD^{1*}, B. IBRAHIM¹, C.S. LAI¹, A. AHMAD², A.N. MD NASIR²

¹Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia.

²School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia.

*mimi@uthm.edu.my

Received: 07.02.2020

Revised: 03.03.2020

Accepted: 01.04.2020

ABSTRACT

The purpose of this study is to analyze the perceptions of the administrators in terms of their environmental awareness. This study is based on their knowledge, attitude and behavior. Besides, this study also aimed to determine the differences of environmental awareness based on race and gender, and to identify the relationship between knowledge, attitude and behavior towards environmental awareness among the administrators. This study involved 50 administrators in one of the districts in Johor. The survey method was used in data collection, and the questionnaire developed by other researchers was modified to match with the characteristics of the present research subjects. Data were analyzed using descriptive and inferential statistics. The result showed that the environmental awareness in terms of attitude was at a high level, whereas the awareness from the aspects of knowledge and behavior were at a moderate level. In addition, it has been found that there was no significant difference in environmental awareness between gender-based on knowledge, attitude and behavior. The result also indicated that there was no significant difference in environmental awareness among races in knowledge. Also no significant difference was discovered in terms of attitude and behavior. Apart from that, the correlation analysis revealed that the awareness of attitude and behavior were positively correlated. On the contrary, the awareness of knowledge was negatively correlated with attitude as well as behavior. In conclusion, the present findings demonstrate that the administrator aware of the importance of environmental conservation.

Key words: Environmental Awareness, Knowledge, Attitude, Behavior.

© 2019 by Advance Scientific Research. This is an open-access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>)
DOI: <http://dx.doi.org/10.31838/jcr.07.06.46>

INTRODUCTION

The negative effects of the current lifestyle have negatively impacted the environment and have given greater attention to the analysis of human behavior in the environment and in social interactions [1]. These increasingly serious environmental issues have raised public awareness that it is important to protect the environment from further contamination.

Environmental education is one of the processes of environmental education through the environment for the environment [2]. This process is to understand human interaction with the environment and how humans are taking care of the environment responsibly for the sake of human well-being. Therefore, environmental education is essential in realizing the country's goal of building a sensitive people, having the right knowledge, skills and values in environmental protection and contributing to reducing environmental problems [3].

Environmental education awareness across curriculum needs to be adapted more effectively to ensure that awareness at the school level, mainly primary school, can be applied and practiced. Therefore, the public's perception of environmental conservation through education is one of the most influential changes in society in improving construction and enhancing human capacity in addressing environmental issues and development [4]. Education institutions such as schools are the medium of environmental education to today's society to ensure that knowledge, skills, behavior, and proper actions in addressing ecological issues Ref [4] because this awareness and practice should continue to educate from home. Environmental knowledge currently practices in schools through teaching and learning, co-curricular activities, and the knowledge corners created to create awareness about the importance of safeguarding the environment. Through the environmental education approach, it is capable of improving knowledge and awareness of the public against environmental issues for future generations, as emphasized through the concept of development sustainable [6]. In the formal system of education, teachers can play an important role in educating

their students about environment-related issues [7]. Therefore, environmental education is considered a long-term environmental management tool. In contrast to legislative education, environmental education takes a long time before its outcome as an environmental management tool is truly visible [8]. Only effective environmental education can educate individuals to become good citizens, even as a result of compliance with and compliance with the laws of the country as a whole.

However, in order to achieve the goal, we still need the cooperation of all parties, especially the stakeholders directly involved in student life. Among the stakeholders involved in this writing are school administrators (head teachers and senior assistant teachers). School administration is important in producing students in academic, co-curricular and personal aspects. They also contribute to the efforts of educating positive attitudes towards students. Therefore, students as a group are expected to receive knowledge and education from various parties to ensure environmental awareness as much as possible.

LITERATURE REVIEW

The importance of environmental awareness can see from multiple reasons such as it fosters a sense of connection to the natural world, promotes sustainable development and encourages conservation of irreplaceable natural resources and biodiversity of plant and animal species [9]. Variety of platforms are available to assist environmental awareness such as group learning, media and also talk and informational conference [10]. For example, Ref [11] studied stakeholder's environmental awareness, and the best management practices (BMP) focused on water conservation in North China. They suggested interests and multiple stakeholders' need for designing and applying BMPs and provide implications to policy-makers for introducing adequate incentives to motivate local stakeholders for implementing BPM.

Furthermore, the importance of spreading environmental awareness is enormous in the context to successfully address environmental problems. It is linked to environmental

education and organization practices. In the context of company practice. Ref [12] have discovered the impact of environmental knowledge, and awareness on green behavior focused on the manager's behavioral intentions, environmental attitude and green commitment. The findings of the study showed that environmental education and awareness has a significant direct effect on managers' green behavior. Also, environmental knowledge and awareness have a significant indirect impact on managers' green behavior through behavioral intentions, environmental attitude and green commitment. Besides, Ref [13] have analyzed corporate environmental awareness in an international cross-section and to explore whether attitudes towards environmental issues.

Moreover, an educational program is one of the mediums to improve environmental awareness, especially among students, teachers and administrators. Ref [14] have studied ways of environmental awareness-raising through the cooperation between universities and city authorities in practice. The findings show the program for environmental volunteers' tuition was created due to mutual agreement between universities and state authorities. It is supported by Ref [4] that studied a practice-oriented approach of education for sustainable development. The findings have indicated that environmental and sustainable awareness should be taught at an early age (i.e. primary school) to promote a positive attitude towards the environment. On the other hand, teachers play a vital role in encouraging students to be aware of environmental issues. As for finding, Ref [6] that the level of sustainable consumption practices among teachers in Puchong, Selangor was at a high level. This is great in a case where teachers are a motivating factor in increasing the students' sustainable consumption level.

MATERIALS AND METHODS

1) Research design

This study applied a survey research design with a quantitative approach.

2) Study location

Kluang is a district located in Johor state, and Kluang is selected based on Knowledge Transfer Program (KTP) among Universiti Tun Hussein Onn Malaysia (UTHM) and Pejabat

Pendidikan Kluang, Johor. KTP is a one-year project, and this finding is a part of this project. Twenty-five primary schools involved as participants in this program.

3) Respondents

Fifty administrators from 25 primary schools participate in survey research. The respondents are 22 males and 28 females.

4) Copyright Form

The research carried out using a questionnaire as a data collection instrument. The items consist of three main, which are knowledge, attitude and behavior in administrators' perception towards environmental awareness. It was included administrators' demography and 30 closed-ended questions covering the perception of various issues from administrators' perspectives. The instruments developed using a four-point likert scale; strongly disagree, disagree, agree and strongly agree adapt and adopt from previous research. Table 1 shows the example of item in each section.

Table 1: Instruments structure and example of item

Section	Items
A: Demography	Gender Race
B: Knowledge	10 items Example: • Open burning will cause haze
C: Attitude	10 items Example: • I am sharing the environment information with my friend.
D: Behavior	10 items • I am working to reduce the use of electricity to protect the environment.

5) Data analysis

The statistical analysis applied is descriptive, mean, differences and correlation to achieve research objectives.

RESULTS AND DISCUSSIONS

1) Demography analysis

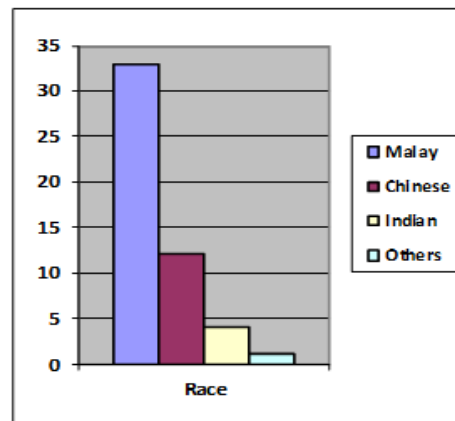
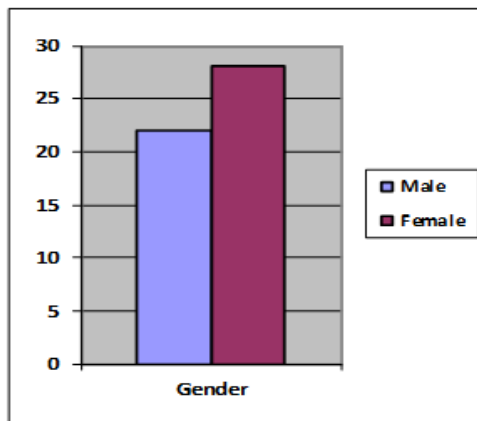


Figure 1: Gender and Race

2) Level of environmental conservation awareness

The level of environmental conservation included three primary constructs; knowledge, attitude, and behavior. Table 1 illustrates the overall mean in three construct analysis. The result indicates the level of knowledge with mean 3.00, which is a high level of knowledge perception. For example, item number 9, "manufacturing clothing processes in factories have nothing to do with environmental pollution" (10% strongly agree) and item number 6, "generating electricity from non-renewable sources will have no adverse effect on the environment" (24% strongly agree). Attitude construct shows mean 3.74, and majority respondents score high mean in all

items. For example, item number 12, 80.0% of respondents strongly agree they are ready to support the environmental issues at school, and item number 11, 70.0% of teachers strongly agree that they will support the recycling program. Behavior analysis shows that majority of respondents have high-level responses. The majority of respondents strongly agree (48.0%) with item number 27 that 'I tend to buy products that are environmentally friendly'. They were also trying to reduce the use of electricity to protect the environment in item number 26 (34.0%). The low mean of teachers' response in item 29 stated that 'I brought my own shopping bag to the store.

Table 2: Overall Mean of Construct

	N	Mean	Std. Deviation
Knowledge	50	3.00	.337
Attitude	50	3.74	.374
Behavior	50	3.31	.331
Valid N (listwise)	50		

Knowledge level shows that the teachers had a moderate level of environmental conservation awareness. This result relates to the factors environmental programs stated in [15]. The attitude result shows the high mean score of respondents agrees in their attitude towards environment conservation. In general, teachers' attitude was positive about what they tend to do in protecting the environment. Behavior mean score also indicates an almost equal mean score with other variables. This aligns with Ref [16] the relationship between knowledge, awareness, attitude and behavior are linear.

3) Level of awareness differences between gender and race

Table 4 and 5 shows the level of awareness between gender towards knowledge, attitude and behavior. An independent samples t-test was conducted to compare the level of awareness between male and female teachers. There was no significant difference in the scores of knowledge, attitude, and behavior.

Table 3: Mean Construct based on gender

	Gender	N	Mean	Std. Deviation
Knowledge	Male	22	3.06	.370
	Female	28	2.95	.308
Attitude	Male	22	3.75	.322
	Female	28	3.72	.610
Behavior	Male	22	3.24	.523
	Female	28	3.36	.603

Table 4: Independent Sample t-test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
KNOWLEDGE	Equal variances assumed	1.100	48	.277	.106
	Equal variances not assumed	1.076	40.759	.288	.106
ATTITUDE	Equal variances assumed	.206	48	.838	.030
	Equal variances not assumed	.220	42.651	.827	.030
Behavior	Equal variances assumed	-.739	48	.464	-.120
	Equal variances not assumed	-.752	47.500	.456	-.120

The result shows that no significant difference between these three perceptions. The score of males is a little bit high compared to females. Few previous studies have supported the hypothesis of gender effect on environmental awareness, awareness results favoring the females. However, Ref [16] stated strong evidence that there is an effect of gender on environmental awareness. Table 5 presents the analysis of comparison responses between races. A one-way ANOVA was conducted to compare the responses between races towards environmental conservation. There also shows no significant difference between these three perceptions.

Table 6: Correlation analysis for environmental conservation factors

		Knowledge	Attitude	Behaviour
Knowledge	Pearson Correlation	1	.300**	.365**
	Sig. (2-tailed)		.034	.009
	N	50	50	50
Attitude	Pearson Correlation	.300*	1	.707**
	Sig. (2-tailed)	.034		.000
	N	50	50	50
Behaviour	Pearson Correlation	.365**	.707**	1
	Sig. (2-tailed)	.009	.000	
	N	50	50	50

Table 5: Comparison responses between races

Criteria		Sum of Sq	Df	Mean Sq	F	Sig.
Knowledge	Between group	0.076	3	0.025	0.212	0.076
	Within group	5.504	46	0.120		5.504
Attitude	Between group	0.494	3	0.165	0.646	0.590
	Within group	11.724	46	.255		
Behaviour	Between group	0.681	3	0.227	0.694	0.560
	Within group	15.055	46	0.327		

4) Relationship of environmental conservation factors

Table 6 displays the correlation analysis for the knowledge, attitude and behavior. A Pearson correlation coefficient was computed to assess the relationship between environmental conservation awareness factors. There was a positive correlation between knowledge and behavior and attitude, $r=.707, n=50, p=.000$.

The show that there was a positive correlation between knowledge and behavior. Several studies focus on these factors to predict people's pro-environmental behavior and attitude, as mentioned in [17] in their study conducted to identify the perceived behavioral control and attitude in environmentally friendly. Besides, Ref [18] show that there is a linear relationship between attitudes and behavior towards the environment.

CONCLUSIONS

Administrators at the head of a school view that schools are the most influential medium and medium to increase student awareness of the environment. This has to do with accountability and the willingness of the administrator to take responsibility. However, administrators argue that parents and the community should play a part in ensuring that the government and the humanities are met. While teachers 'perceptions indicate that all parties need to work together to ensure that students' awareness of the environment can be improved from time to time. Among the parties mentioned are parents, community, government agencies, private agencies, non-governmental organizations and others. Preliminary studies show that the knowledge conveyed by Science teachers in Year 6 alone is inadequate and requires the cooperation of others [6]. Good collaboration is believed to produce more accurate and beneficial outcomes for all. Moreover, parental perceptions show that parents are the responsible party in raising student awareness of the environment. This is due to the early education of the home and exemplary learning to achieve this desire. However, parents still choose the most appropriate school for raising students' awareness of the

environment. This is probably because the school has a more organized and effective formal learning system. Students also believe that teachers are more knowledgeable about the environment than others, like the parents of other agencies. While Science textbooks are a second and third choice, which means that students are still relying on teachers and textbooks to gain knowledge on the environment.

ACKNOWLEDGMENT

This study was supported by Knowledge Transfer Program (KTP) Grant A158 collaboration between Universiti Tun Hussein Onn Malaysia and Pejabat Pendidikan Daerah Kluang, Johor. Authors also appreciate to Research Management Center (RMC) Universiti Tun Hussien Onn Malaysia for kind support.

REFERENCES

1. I. M. Herremans and J. A. Nazari, "Sustainability reporting driving forces and management control systems," *Journal of Management Accounting Research*, vol. 28, pp. 103-124, 2016.
2. A. Reid, *Curriculum and Environmental Education: Perspectives, Priorities and Challenges*: Routledge, 2019.
3. R. A. Madani, "Analysis of Educational Quality, a Goal of Education for All Policy," *Higher Education Studies*, vol. 9, pp. 100-109, 2019.
4. H. Mahat, M. Hashim, N. Nayan, Y. Saleh, and S. M. S. Haron, "Sustainable consumption practices of students through practice oriented approach of education for sustainable development," *International Journal of Academic Research in Business and Social Sciences*, vol. 7, pp. 2222-6990, 2017.
5. H. A. Rahman, "Usaha Dan Cabaran Dalam Mengaplikasikan Pendidikan Alam Sekitar Dalam Sistem Persekolahan Di Malaysia (Efforts And Challenges In The Application Of Environmental Education In Malaysian School System)," *Asian Journal Of Environment, History And Heritage*, Vol. 1, 2018.
6. H. Mahat, S. Ahmad, M. S. Y. C. Ngah, and N. Ali, "Pendidikan Pembangunan Lestari-Hubungan kesedaran antara ibu bapa dengan pelajar (Education for Sustainable Development (ESD)-The awareness connection between parents and students)," *Geografia-Malaysian Journal of Society and Space*, vol. 10, 2017.
7. C. E. Teaching and L. Environments, "First Results from TALIS, 2009," *Retrieved on January*, vol. 26, 2017.
8. D. L. Thompson and S. Thompson, "Educational Equity and Quality in K-12 Schools: Meeting the Needs of All Students," *Journal for the Advancement of Educational Research International*, vol. 12, pp. 34-46, 2018.
9. L. Fu, Z. Sun, L. Zha, F. Liu, L. He, X. Sun, *et al*, "Environmental awareness and pro-environmental behavior within China's road freight transportation industry: Moderating role of perceived policy effectiveness," *Journal of Cleaner Production*, vol. 252, p. 119796, 2020.
10. R. Mallick and S. P. Bajpai, "Impact of Social Media on Environmental Awareness," in *Environmental Awareness and the Role of Social Media*, ed: IGI Global, 2019, pp. 140-149.
11. Y. Du, X. Wang, L. Zhang, K.-H. Feger, J. Popp, and A. Sharpley, "Multi-stakeholders' preference for best management practices based on environmental awareness," *Journal of Cleaner Production*, vol. 236, p. 117682, 2019.
12. A. Safari, R. Salehzadeh, R. Panahi, and S. Abolghasemian, "Multiple pathways linking environmental knowledge and awareness to employees' green behavior," *Corporate Governance: The international journal of business in society*, 2018.
13. R. Wesselink, V. Blok, and J. Ringersma, "Pro-environmental behaviour in the workplace and the role of managers and organisation," *Journal of Cleaner Production*, vol. 168, pp. 1679-1687, 2017.
14. K. D. Shelest, V. V. Ionov, and L. Y. Tikhomirov, "Environmental awareness raising through universities-city authorities' cooperation," *International Journal of Sustainability in Higher Education*, 2017.
15. O. Akman, "Teacher Candidates' Attitudes, Knowledge Levels and Sensitivities towards Environmental Problems," *Journal of Education and Practice*, vol. 8, pp. 1-16, 2017.
16. E. P. Barloa, L. P. Lapie, and C. P. P. de la Cruz, "Knowledge, attitudes, and practices on solid waste management among undergraduate students in a Philippine State University," *Journal of Environment and Earth Science*, vol. 6, pp. 146-153, 2016.
17. B. Defloor and B. Bleys, "Understanding pro-environmental behavior using the theory of planned behavior," in *12th International Conference of the European Society for Ecological Economics*, 2017.
18. R. R. Kelani, "Teachers Candidates' Knowledge, Attitudes and Behaviors Within the Context of Environmental Education," *International Journal of Progressive Sciences and Technologies (IJPSAT) Vol*, vol. 5, pp. 76-87, 2017.