The Social Sciences 11 (24): 5901-5905, 2016
ISSN: 1818-5800
© Medwell Journals, 2016

Importance of River and Water among Teachers

[1]Khadijah Binti Mohd Rashid, [1]Zanaton H. Iksan, [2]Sharifah Zarina Syed Zakaria,
[2]Muhammad Nazif Remli and [2]Aminuddin Mohamed
[1]Faculty of Education, Universiti Kebangsaan Malaysia (UKM), 43600 Bangi, Selangor, Malaysia
[2]Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia (UKM),
43600 Bangi, Selangor, Malaysia

Abstract: Water plays a very important role in everyday life. However, water pollution has resulted in changes to the quality of the river water, especially when it is among the most important sources of water in everyday life. The teacher and the school staff are role models for students in developing moral values. This study aimed to find out the teachers' attitudes, knowledge, awareness, skills and participation of the importance of the river and water and the relationship between each other. This study used a survey method. A total of 143 questionnaires containing seven parts had been distributed to school teachers and staff in Selangor. Data were analysed using SPSS Version 15. The findings showed that the overall knowledge, attitude, awareness, and participation of teachers and staff on the importance of the river and the water were low. No significant relationship was also found between knowledge and attitudes, awareness, skills and participation of teachers and staff on the importance of rivers and water.

Key words: Environmental knowledge, attitude, awareness, water, teacher

INTRODUCTION

We are well-aware that water plays a very important role in the daily lives of human beings, animals and plants (Mohd, 2010). In Malaysia, the river is the main source of water for all human activity. There are approximately 49 major river basins which are the sources of these supplies. Thus, the method of water management is very important to avoid contamination of the river so that the quality of water resources is always maintained.

However, water pollution resulting from landfills and sewage into the river has resulted in changes to water quality worldwide. These changes have led to various health threats, such as an increase in waterborne diseases and lack of clean water (Harris, 2006). Contaminated water supplies will seriously impact the human health directly. Now, pollution is among the environmental issues that has always been the main agenda in most discussions at national and international levels (Cockerill, 2010; Mohd, 2010).

To overcome this environmental problem, environmental education can provide a change to the domain of thought, awareness, attitudes and behaviours toward a love for the environment which is in line with the goals of environmental education which is to create a society that is more sensitive and has the knowledge, skills, values and commitments towards solutions on issues relating to the environment. The good way for students to learn about nature and the environment is by placing themselves in the real condition or through real life experience because students that are brought into direct contact with nature and can apply the knowledge they learn, thus can create awareness towards the environment (Zakaria and Halim, 2009).

Therefore, in school, teachers and staff are the ones best suited to provide environmental education because they are seen as role models for the students. This is because all their values and behaviour would indirectly be an example to the pupils. Here, the teacher plays an important role in guiding and encouraging the younger generation to adopt a sustainable or environmentally friendly lifestyle (Sabri and Teoh, 2006). Hence, this study aimed to determine the level of knowledge, attitudes, awareness, skills and participation of teachers and school staff in the importance of rivers and water. This study also aimed to look at the relationship between knowledge with other domains of the importance of rivers and water.

Issues and importance of river and water: Malaysia has experienced a rapid physical development since independence and the development has a profound

Corresponding Author: Khadijah Binti Mohd Rashid, Faculty of Education, Universiti Kebangsaan Malaysia (UKM), 43600 Bangi, Selangor, Malaysia

impact on the changing landscape of the country, including the water quality (Mohd, 2010). Human's greed to reap high profits from this development process has threatened environmental cleanliness. This situation reflects the fact that there is a lack of awareness and concern to appreciate the environment.

As a result of various environmental issues such as loss of biodiversity, global warming, ozone depletion, deforestation, pollution, etc. which have worsen, the challenges in environmental management have also increased Harris (2006). Therefore, preservation efforts of any form of environmental contamination require continuous and critical effort (Mohd, 2010). Previous studies showed that efforts to maintain and preserve the environment were very closely related to the question of knowledge, attitude, every day practice, community attitudes and skills to keep the environment a clean and healthy place to live (Mohd, 2010).

The study found that those living in urban areas have a high level of knowledge of the importance of water (Cockerill, 2010). Among the factors that influence this situation is that a person's level of education affects their level of knowledge about environmental issues (Kaplowitz and Levine, 2005). This is because knowledge can raise awareness and create individuals who have a more positive behaviour towards the environment (Cockerill, 2010;Kollmuss and Agyeman, 2002).

Even if one is aware of the importance of water, it is still not enough to affect his attitude. Therefore, activities carried out to preserve the environment must be supported by community participation so that the awareness can be developed and ultimately affect one's attitude changes (Derahim *et al*., 2012; Cockerill, 2010). Awareness can also form a more ethical society. This is necessary because in the context of our country, it was found that the awareness and attitude of the population towards environmental issues, especially water are still at a moderate level. Low level of participation by city residents in the rivers and water preservation makes matters even worse (Teoh and Sabri, 2006). Therefore, it is very necessary to cultivate awareness to the people so that they are more concerned about the practice of green consumerism in order to protect the interests of rivers and water (Sabri and Teoh 2006).

To increase participation, environmental education can help the global community to recognize and understand the importance of rivers and water, as well as able to master the skills and eventually sustain the quality of our environment in general. This is in line with the initial behaviour model expressed by. Based on, this model suggests a linear relationship between knowledge, awareness, attitudes and behaviour towards the environment which by having the knowledge, it would raise awareness and attitudes, therefore creating individuals who have a more positive behaviour towards the environment.

MATERIALS AND METHODS

This study was conducted by employing the survey method. 143 respondents consisting of teachers and staff from schools in Selangor were selected randomly. The questionnaire was divided into seven parts, namely part A (3 items) to obtain the background information of the respondents; part B (29 items) which was aimed at measuring the level of teachers' and school staff's attitudes towards environmental issues inside and outside the country; part C (36 items) to measure the level of knowledge related to natural resources and pollution sources, legislation, usage and issues related to freshwater; part D (22 items) which was aimed to test the awareness of school teachers and staff; part E (17 items) was on the skills of school teachers and staff in the use of water; part F (23 items) aimed to determine the participation of school teachers and staffs in maintaining and conserving water and part G (6 items) aimed to measure the general knowledge of school teachers and staffs about water. Data were analysed using the Statistical Package for Social Sciences (SPSS version 15).

RESULTS AND DISCUSSION

There were five domains involved in the research on the importance of rivers and water which were the knowledge, attitudes, awareness, skills and participation of teachers and school staff. Discussions related to the overall level of the domains were based on the findings shown in Table 1.

Table 1 shows the level of attitudes, knowledge, awareness, skills and participation of teachers and school staff on the importance of rivers and water. Overall, these domains were found to be at a low level (mean = 1.8787, SD = 0.26). Two domains were at a moderate level which were the awareness domain (mean = 2.1005, SD = 0.22) and expertise domain (mean = 2.3921, SD = 0.32) while other

Table 1: Level of respondents' attitude, knowledge, awareness, skills and participation towards the importance of river and water

Factors	N	Mean	SD	Level
Knowledge	143	1.7919	0.10865	Low
Attitude	143	1.4883	0.35102	Low
Awareness	143	2.1005	0.21560	Moderate
Skills	143	2.3921	0.32308	Moderate
Participation	143	1.6207	0.30966	Low
Overall	143	1.8787	0.26160	Low

domains were at low levels which were attitude (mean = 1.4883, SD = 0.35), knowledge (mean = 1.7919, SD = 0.11) and participation (mean = 1.6207, SD = 0.31).

Knowledge about the importance of rivers and water: The knowledge level of teachers and school staffs were also at a low level. This study found that the respondents knew that the illegal dumping of toxic waste, an issue which had often been featured in newspapers, was the biggest threat to freshwater supplies in Malaysia (57.3%). The issue of illegal dumping of toxic waste in Johor had opened the eyes of the public about its threat to water. However, the majority of respondents did not know and was not sure about the existence of laws that protect the freshwater supplies in Malaysia (67.2%). This indicated that the knowledge of teachers and school staff regarding environmental legislation was minimal. Overall, the majority of the respondents did not know the average total quantity of water used personally on a daily basis including beverages, toiletries, pouring toilets, washing clothes, washing dishes, etc. (75.5%). This led the respondents to waste water because the respondents thought that Malaysia had adequate water supplies to meet the long-term needs of the country (73.4%) whereas Malaysia had been experiencing a water crisis since 1997.

Attitude towards the importance of rivers and water: Teachers' and school staffs' attitudes were at a low level. Of the items, it was found that teachers and school staff had the highest level of concern about global issues related to education (85.3%) compared to environmental issues. This had contributed to the low level of attitude towards the importance of rivers and water. This was because the respondents comprised of teachers and school staff who were working in education and were always sensitive to issues related to education. However, teachers and school staffs had the most outstanding level of concern with issues related to health care in the country (86%). This was because human health was directly affected when the supply of water was contaminated and it was proven that a healthy lifestyle can prolong a person's life.

Awareness of the importance of rivers and water: The level of awareness of teachers and school staff was moderate. From this study, respondents showed concern about the risk of supply shortage and quality of freshwater. Therefore, respondents chose to drink from the source of purified water (88.8%) because they were concerned with the quality of drinking water (39.2%) and only a handful that were still choosing tap water supply (10.5%). They realized that the water quality was deteriorating and the government was trying to restore the polluted rivers to ensure that the national water supply will not be affected. This provided water conservation awareness among teachers and school staff (97.2%). However, respondents were aware that there was a need of conservation in water consumption (99.3%) but they did not show frustration when they allowed for the flow of chemicals (soapy water) into the drain (35.0%) and let the water run while washing and rinsing dishes (23.1%). Although these percentages were still low, it was positive and had the potential to become worse. Sadder still, teachers and staff had lower awareness about water than the awareness of electricity savings where 54.5% of respondents would not try to reduce water consumption compared to 39.2% of electricity consumption. This showed that they were more sensitive to increases in electricity bills compared to water bills.

Skills in the importance of river and water: Although the skills of teachers and staff as a whole was at a moderate level, the respondents still showed their skills with constant monitoring and repair leaking (63.6%), not running the tap water when brushing teeth (53.8%) and reducing the frequency of washing car (63.6%). These skills allowed the respondents to reduce the quantity of water used. However, most respondents did not use water from the collected rain for daily use (59.4%). Methods of collecting rain water (rain harvesting) is an alternative measure to cope with water shortages, because Malaysia received very high rainfall each year, about 2400 mm. Hence, this would be a fair use because it can save a bit of clean water supply from the tap.

Participation in the importance of river and water: The level of participation in the importance of the river and the water was low. However, respondents indicated participation by buying 2 in 1 shampoo and body soap to help conserve water. Using soap and conditioner separately may aggravate the flow of chemicals into the water stream and affect humans and aquatic life. In addition to selecting the appropriate products, respondents also indicated participation by never letting the tap running in public areas (74.8%), not letting the tap running when brushing (44.8%) and never use tap water without stopping when watering flowerbeds (46.2 %). This is because the waste of water will impact on the increase in water charges while 42.7% of respondents did not agree with the increase in water charges to encourage water conservation.

To foster the participation in the importance of rivers and water, respondents felt that the principal can play a role in water conservation campaigns (60.1%) compared to artists (42.7%). As teachers and school staff, the respondents argued that the principal's instructional

Table 2: Relationship between Knowledge (K) and Awareness (AW), Attitudes (AT), Skills (S) and Participation (P) of study participants on the importance of river and water

Factors	K	AW	AT	S	p value
Knowledge					
Pearson correlation	1	0.087	0.145	-0.113	-0.035
Sig. (2-tailed)		0.302	0.083	0.179	0.674
N	143	143	143	143	143

** Correlation is significant at the 0.01 level (2-tailed).

leadership can provide encouragement and support for teachers and students with the goal of addressing environmental problems. In addition, respondents felt that campaigns through advertisements can provide further disclosure regarding the ways to conserve water (86.7%). This was because campaigns through advertisements could encourage, stimulate or influence human behaviour psychologically

Pearson correlation analysis was conducted to identify the relationship between knowledge with other domains such as awareness, attitudes, skills and participation of teachers and school staff on the importance of rivers and water. The findings are shown in Table 2.

There appeared to be no significant relationship between knowledge and awareness of teachers and school staff on the importance of rivers and water with $r = 0.087$ and Sig. = 0.302 ($p<0.01$) with a very weak relationship strength. For the relationship between knowledge and attitude, it was also found that there was no significant relationship between knowledge and the attitudes of teachers and school staff on the importance of rivers and water with $r = 0.145$ and sig = 0.083 ($p<0.01$) with a very weak relationship strength. Correlation analysis of knowledge and skills and participation domains each indicated that the strength of the relationship was very weak and negative. It was found that there was no significant relationship between knowledge and skills with $r = -0.113$ and sig = 0.179 ($p<0.01$). In addition, the knowledge and participation domain had also showed no significant relationship in which the value of $r = -0.035$ and sig = 0.674 ($p <0.01$).

From this study, overall, it was found that there was no significant relationship between the knowledge domain with the other domains on the importance of rivers and water. This contradicted with the initial model behaviour introduced by Kollmuss and Agyeman (2002) that there was a linear relationship between knowledge, awareness, attitudes and behaviour towards the environment. This showed that these five things are totally separate entities (Amir Hamzah and Chin, 2012). For example, knowledge about the importance of rivers and water had nothing to do with the practices, attitudes, awareness and skills of teachers and school staffs. Low level of knowledge had no relationship with the moderate level of awareness and skills and low level of attitude among teachers and school staff.

CONCLUSION

The study on the importance of rivers and water showed concerns for teachers and school staff being the role models of students in school. All their values and behaviours will indirectly be an example to the students. This was because the study had found that teachers and school staff had low levels of knowledge, attitudes, awareness, skills and participation and no significant relationship between their knowledge with the other domains. Teachers and school staff should have the attitude, knowledge, awareness, skills and high participation in the importance of rivers and water so that they can guide and encourage the younger generation to be more appreciative of the river and water and avoid wastage of resources.

IMPLICATIONS

The findings of this study are expected to provide implications for teachers and school staff so that they can increase the level of attitudes, knowledge, awareness, skills and participation of the importance of rivers and water as well as to be more sensitive to water conservation and reduce water wastage. In addition, the ministry of education is expected to form an in-service training module of teachers and school staff to emphasize the importance of rivers and water.

ACKNOWLEDGEMENTS

Part of the research was funded by research grants FRGS/1/2013/SSI12/UKM/02/1&ERGS/1/2013/SSI09/UKM//02/2.

REFERENCES

Cockerill, K., 2010. Communicating how water works: Results from a community water education program. J. Environ. Educ., 41: 151-164.

Derahim, N ., H.S. Hashim, N. Ali and S. Aziz, 2012. SMEs as a sustainable campus: The advance of knowledge, awareness and involvement of students and staff on campus UKM (The SME as a sustainable campus: A preliminary inquiry into the knowledge, awareness, and participation of students and staff in the Bangi campus). Geografia: J. Soc. Space, 8: 76-90.

Harris, P.G., 2006. Environmental perspectives and behavior in China synopsis and bibliography. Environ. Behav., 38: 5-21.

Kaplowitz, M.D. and R. Levine, 2005. How environmental knowledge measures up at a big ten university. Environ. Educ. Res., 11: 143-160.

Kollmuss, J. and J. Agyeman, 2002. Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior?. Environ. Educ. Res., 8: 239-260.

Mohd, N.A.M.H., 2010. Air quality study wetlands, river fish trap, Sedili, Johoor. Ph.D Thesis, Universiti Teknologi, Malaysia.

Sabri, M.F. and Y.Y. Teoh, 2006. The level of environmental concerns and practices of green consumerism consumers in Petaling Jaya, Selangor. Pertanika J. Soc. Sci. Human., 14: 95-109.

Zakaria, S.Z.S. and L. Halim, 2009. A study on Malaysia primary school science education: Foundation for environmental knowledge. Soc. Sci., 4: 604-609.