

Study the Awareness of Environmental Problems of Matthayom Sueksa Six Students at the Demonstration School of Ramkhamhaeng University

Maneerat Sa-ngiemjit
Faculty of Education,
Ramkhamhaeng University,
Bangkok 10240, Thailand;
+66 866886299
marneeras_s@yahoo.com

ABSTRACT

This research investigation compares the awareness of environmental problems of Matthayom Sueksa 6 students. Using the cluster sampling method, the researcher selected a sample population of Matthayom Sueksa 6, constituting of 40 Science-Math students and 40 Mathematics – English students at the Demonstration School of Ramkhamhaeng University (DSRU) of such students enrolled in the second semester of the academic year 2016. The instrument used in the research was a measure of environmental awareness, having coefficient of variation is 1.84 - 5.11 and the reliability is 0.717.

Using techniques of descriptive statistics, the researcher analyzed the data collected in terms of mean and standard deviation. A t-test technique was also employed by the researcher.

Findings are as follows:

1, Mean and standard deviation of the awareness of environmental problems of Science-Math students are 3.21 and 0.19 respectively, indicating that students are well aware of the environment. Mean and standard deviation of the awareness of environmental problems of Mathematics – English students are 2.68 and 0.41 respectively, indicating that students are well aware of the environment.

2, Awareness of environmental problems of students studying Science - Mathematics and the Mathematics – English. There was difference in environmental awareness at the statistically significant level of .05.

CCS Concepts

Social and professional topics~Student assessment

General and reference~Surveys and overviews

General and reference~General literature

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Keywords

Awareness of environmental problems, Students, Science – Mathematics, Mathematics – English

1. INTRODUCTION

In the past, Thailand was rich in natural resources. We can say that Thailand has prosperous natural resources in its waters and on its grounds. However, there have been environmental impacts ever since two plans were introduced and implemented: The National Economic Development Plan No. 1 in 2504 B.E., and more recently, The National Economic Development Plan No. 12. These plans have put into effect an escalation of developments throughout various areas of Thailand. Natural resources have been used as a key element in the development process, however, it has been carried out without proper management. This was due to the demands resulting from an ever-growing population. Currently, the population of Thailand is approximately 63.7 million [1]. Making environmental matters worse are the number of people who abuse the environment and its natural resources by irresponsibly discharging waste into the environment. Consequently, the environment has undergone severe damage.

Nowadays, our world is experiencing problems with climate change that are very different from those of the past. Furthermore, in many parts of the world, populations have increased significantly. Although some of countries have succeeded in controlling population growth, there still remains the problem of the lack of educational and informational resources that can help people to become more knowledgeable and aware of the consequences of mistreating the environment. Also, such resources would help people to better understand the relationship between the quality of our environment and the quality of life. [2]. These environmental issues are social problems that arise from the local, national and global levels.

The environment is essential for human life. For example, the essential components of air, water, food, housing, and medicines. When human and economic development in a society occurs, people are better able to create many environmental benefits. On the other hand, the lack of developing and maintaining resources has created serious environmental degradation. [3].

Since the beginning of mankind, humans and the environment have had an inseparable association. The environment plays an important role in determining living conditions and the quality of life. Separating one from the other is impossible. Therefore, human actions and activities make a strong impact on the environment [4].

Over the past decades, our world has changed dramatically into the era of science and technology. As a result, the development of modern technologies, communication, as well as research makes our life more convenient. People are living more comfortably, yet they overlook the fact that the environment is being destroyed. Air pollution, garbage, seasonal issues are the result of human behaviors. Although organizations exist around the world that provide knowledge and understanding about environmental issues, the real solutions must come from individuals, communities, as the national and global levels. All parties must cooperate within both the public and private sectors.

School is where the community and all its members go to learn about a multitude of subjects from cognitive development to forming skills for information processing and awareness. It is in schools that students can have the opportunity to learn about their environment and its natural resources. It is a place where students can grow their consciousness regarding planet earth and its majestic beauty. Environmental education can help to prevent people from destroying our planet and its waters and earth. A curriculum that focuses on environmental awareness and which puts forth the consequences of degrading the environment can tremendously change student attitudes as well as making them more responsible citizens for the environment. The curriculum would provide students with a set of practices and behavioral objectives, such as, cleanliness, recycling, the proper way to dispose of garbage, limiting toxins into the air, maintaining the cleanliness of our rivers, and parks. Furthermore, students can practice how to balance a healthy body and mind. Evidently, we can see that preventing environmental problems can be a direct outcome of education. Schools do not merely help students to develop their cognitive domain and range processing skills, it is also a place where students develop a sense of ethics, humanistic attitudes, interests, and values. [5].

In order to create knowledge, consciousness, awareness and adaptive change in people, we have to depend on the educational system and environmental education. Core Curriculum of Basic Education in Thailand is such that environmental education is combined with other subjects. For that reason, students may not be keenly, or even basically, aware of the importance of the environment. The evaluations that are made do not reflect the knowledge, attitudes, values, skills, participation level, and direct behavioral changes concerning the environment [6].

The Demonstration School of Ramkhamheang University sees the importance of studying environmental issues and of combining the content of the environment within the study subject of the basic sciences. The Demonstration School of Ramkhamheang University offers classes from Mathayom Sueksa 1 to Mathayom Sueksa 6. Students are able to continue their study on the vocational level after finishing Mathayom Sueksa 3, or to continue to study in Mathayom Sueksa 4. For the reasons mentioned above, the researcher is interested in measuring awareness of environmental problems from the students who study in Mathayom Sueksa 6 at the Demonstration School of Ramkhamheang University in order to further her knowledge and awareness of what is happening in the current state of the world. Equally important, the researcher will use the results of this study as a guideline for teaching and learning about natural resources and environmental conservation in the field of science learning.

2. OBJECTIVES

To study and assess the level of awareness of environmental problems of Mathayom Sueksa 6 students at the Demonstration School of Ramkhamheang University.

2. To compare environmental problems awareness level among Mathayom Sueksa 6 Students of the Demonstration School of Ramkhamheang University.

3. RESEARCH HYPOTHESIS

Students of Mathayom Sueksa 6 will be aware of environmental problems.

Students from different majors will have different levels of environmental problem awareness.

4. SCOPE OF THE RESEARCH

4.1 Population

Participants of the research are 301 Mathayom Sueksa 6 students who studied in the academic year of 2017, Second Semester of The Demonstration School of Ramkhamheang University. The research population consisted of students from 2 different majors; 120 students from Science – Mathematics majors and 181 students from Mathematics – English and others majors.

4.2 Samples

The research sample consists of 40 students majoring in Science – Mathematics major, and 40 students majoring in Mathematics – English during the 2017 academic year, second semester. The sample was chosen by a cluster random sampling.

5. VARIABLES

5.1 Independent variables

Independent variables are major subjects of Mathayom Sueksa 6 students of The Demonstration School of Ramkhamheang University.

5.2 Dependent variable

Dependent variable is the level of environmental problems awareness.

6. DEFINITION OF TECHNICAL TERMS

1. Environmental problems awareness means the knowledge or perception subject has of problems concerning the environment.

2. By 'students' the researcher refers to 6 Mathayom Sueksa students, who were studying at the Demonstration School of Ramkhamheang University during the 2017 academic year, second semester.

3. Science – Mathematics majors: are students whose studies focus on Science and Mathematics

4. Mathematics – English majors: are students whose studies focus on Mathematics and English

7. OUTPUTS AND BENEFITS

The benefits of research results are:

1. The researchers were able to use the results of the research to develop a method of science teaching that enhances the student's awareness towards environmental problems, to promote students acknowledgement of the value of the environment, and also to increase environment conscientiousness, all of which aim to protect the environment.

2. The researchers were able to make use of research results in order to create classroom activities that focus on environmental and natural resource preservation.

8. METHODOLOGY

The researcher followed these procedures:

1. Selecting 40 students from each major by drawing lots. Dividing the students into two groups: the first group is Science – Mathematic major students, the second group is Mathematics – English major students.
2. Testing the environmental problems awareness.
3. Checking and analyzing the results of the test and applying basic statistical tools to test the hypothesis.
4. Interpreting statistical analysis results, summarizing the results and writing research reports.

8.1 Research instruments

The research instruments consisted of the following:

1. Studying the “Environmental problems awareness test” [5]; which consists of 40 items with discrimination levels (r) at 1.84 – 5.11 and Reliability levels at 0.717.
2. Applying the “Environmental problems awareness test” to the students who were not research samples. The results of the test will be evaluated by the following criteria:

Positive Feedback Ratings are as follows.

Strongly agree	weight 4 point
Agree	weight 3 point
Disagree	weight 2 point
Strongly disagree	weight 1 point

Negative Feedback Ratings are as follows.

Strongly agree	weight 1 point
Agree	weight 2 point
Disagree	weight 3 point
Strongly disagree	weight 4 point

The interpretation of the level of Environmental problem awareness is calculated by taking the score given to each aspect and then taking the overall average. The criteria of the scoring system was used in the interpretation of the data as well.

The criteria used in the interpretation is as follows:

Average at 3.51-4.00 means Very aware of environmental problems

Average at 2.51-3.50 means aware of environmental problems
Average at 1.51-2.50 means less awareness of environmental problems

Average at 1.00-1.50 means no awareness of environmental problems

3. Find the discrimination level of the Environmental problems awareness test by way of a t- Distribution. Then, select only 40 questions with the discriminative power value that is significantly higher than, or equal to, 1.75. In this research project [7], the researcher chose the question with a discrimination value between 1.84- 5.11.

4. Applying the test to the students who were not in the research sample in order to test for reliability by finding the Cronbach

alpha coefficient (α - Coefficient). The result of the reliability value was at 0.717

5. Implement a measure of environmental awareness to apply with the research sample, which is Mathayom Sueksa 6 students, who were studying at The Demonstration School of Ramkhamheang University during the 2017 academic year, second semester.

8.2 Data analysis

1. The study of the problems students faced based on their level of environmental awareness: Mathayom Sueksa 6 students.
2. Comparing environmental problems awareness of Mathayom Sueksa 6 students who are Science – mathematics major and Mathematics – English major by t-test for independence samples.

9. RESULT OF THE DATA ANALYSIS

Data analysis and the interpretation of the results. Researchers have proposed the following statement:

1. Basic statistics of awareness towards environmental problems score of Mathayom Sueksa 6 students who are Science – mathematics major and Mathematics – English major.
2. Comparison of the awareness level concerning environmental problems of Mathayom Sueksa 6 students who are Science – mathematics major and Mathematics – English major

9.1 Basic statistics of awareness towards environmental problems score of Mathayom Sueksa 6 students who are Science – mathematics major and Mathematics – English major

Table 1. Show the mean and standard deviation of the scores on environmental awareness among Science – Mathematics majors and Mathematics – English majors.

Majors	Samples	\bar{X}	S.D.
Science – Mathematics	40	3.21	0.19
Mathematics – English	40	2.68	0.41

From Table 1: the data indicates that the mean and standard deviation of the scores from students who are Science – Mathematics majors on environmental problem awareness are 3.21 and 0.19, respectively. The result shows that students are environmentally conscientious at the level of “being aware of environmental problem issues”. On the other hand, the mean and standard deviation of the environmental problems of students who are Mathematics – English majors on environmental problem awareness are 2.68 and 0.41, respectively. The result shows that students are environmentally conscientious at the level of “being aware of environmental problem issues”.

9.2 Comparison of the awareness level concerning environmental problems of Mathayom Sueksa 6 students who are Science – Mathematics majors and Mathematics – English majors

Table 2. Shows the Comparison of the awareness level concerning environmental problems of Mathayom Sueksa 6 students who are Science – Mathematics majors and Mathematics – English majors.

Major	Samples	\bar{X}	S.D.	T
Science – mathematics	40	3.21	0.19	6.873*
Mathematics – English	40	2.68	0.41	

* There is a statistically significant level. .05.

From Table 2, the data indicate the awareness levels of environmental problems that students of both majors: Science – Mathematics and Mathematics – English, respectively. There was a significant difference in the environmental awareness of .05, which was in accordance with the hypothesis.

10. CONCLUSION AND DISCUSSION

10.1 Conclusion

The students of Mathayom Sueksa 6 have varying levels of awareness of environmental problems.

Environmental problems awareness of students who study in Science – Mathematics and Mathematics – English are different at the statistically significant level of .05.

10.2 Discussion

The research aims to compare the environmental awareness problems among Mathayom Sueksa 6 students who study at the Demonstration School of Ramkhamheang University, during the 2017 academic year, second semester. The key issues discussed include the following:

The findings show that the average and the standard deviation point of environmental awareness problems among Science – Mathematics majors were 3.21 and 0.19, respectively. On the other hand, environmental problems awareness among Mathematics – English majors were 2.68 and 0.41, respectively, which is statistically significant at the point .05 level, which is in accordance with the hypothesis. This is because of Science – Mathematics students acknowledge and absorb the information about the causes of environmental problems from the subjects that they have studied, such as, Physics, Biology and Chemistry, more than Mathematics – English students who only study fundamental science subjects. The previous statement refers to Budit Chulasai's research [8] which mentioned that "People's perception depends on their familiarity and past experiences, and how they live their everyday life. For example, take a person who has had no experience living in a garbage dump. For this reason, he or she may not be concerned about such problems. Corresponding with Nattaya Jaimaha In addition, the two groups significantly differed (at the 0.01 level) when asked whether the problems in general were serious and worth paying attention to. The only area in which a difference was not found was that of forests. Mathayom Sueksa 6 students felt more strongly than Mathayom Sueksa 3 students that problem in the 4 areas with significant difference were serious and worth paying attention to [9] and Chanya Soonjeng found that students have developed higher environmental awareness than before by using a series of activities. The difference was statistically significant at the point .01 level [3].

11. RECOMMENDATION

11.1 General recommendation

The research indicates that in order to enhance students' awareness towards environmental problems, teachers should develop classroom activities and place emphasis on environmental problems awareness according to the elements which indicated the affected by the differences of the students' major found in the research. The result of the research shows that different student's majors affected the level of awareness towards environmental problems. Therefore, teachers should enhance and develop the awareness among students by developing classroom activities or learning units in order to help students increase their level of environmental problems awareness. Also, by applying the knowledge they gained in their daily lives, students will be able to give advice to others.

11.2 Recommendation for further research

Research must develop an environmental awareness problems test for students at many levels in order to match the test to the different knowledge range of students.

The researcher must study the factors and, or, the causes which affected student's awareness levels concerning global warming. This information is fundamental in order to increase student's environmental problems awareness.

More than ever before, environmental problems are sharply on the rise everywhere on our planet. Consequently, most people are becoming more aware of environmental problems. Therefore, it is highly recommended that further research be conducted that will help heighten environmental awareness, build curricula, and plan activities. In this manner, we can grow a new generation of people who are keenly aware of the environment, its nature resources and who can teach others to protect them.

Researchers must further study environmental issues such as problems of poverty, food shortages and housing problem, and ascertain to what degree people are aware of environmental issues and massive problems that impact society at large.

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