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Why Do Students Need to Establish Ecoliteracy?

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Abstract

This survey research aimed at determining the ecological intelligence level of students. It involved 120 fourth grade students of elementary school. The findings revealed that the students' intelligence level, with an average score of 77.48, was classified in 'high' category. In addition, other aspects were also classified into the 'high' category with an average score on attitude aspect of 78.19, skill aspect of 77.69, and participation aspect of 76.56. To conclude, the ecological intelligence of the fourth grade elementary school students was classified in 'high' category.

Keywords: *Ecoliteracy*

1. INTRODUCTION

Those who possess ecological intelligence are able to understand that every behavior and actions have an impact on the themselves, others and surrounding natural environment. In relation, human and the environment are integral natural systems that mutually influence each other and form an ecosystem. God created humans as kholifah on Earth who have the power to utilize the nature and its contents for their benefit. For this reason, humans have an obligation to use the nature responsibly and in accordance with environmental ethics by maintaining and preserving it (Muhaimin, 2015).

The environment can be defined as a unit of space including all objects, power, circumstances, living things, and also human beings and their behavior, which affect the survival of the life and welfare of humans and all living things.

Sumaatmadja in Muhaimin (2015) suggests that human environment is the objects around, which affects their properties and growth. Therefore, other human beings, objects produced by culture, regulations, air, water, solar heat, and other things surrounding the humans, are included in the human environment.

Ecological intelligence is the understanding that the place we live should be maintained so that we have the carrying capacity for the life of themselves and others. Therefore, based on this understanding, someone who has ecological intelligence will realize that nature should be preserved.

In the world of education, social studies learning in primary schools, has a very essential role in establishing

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ecological intelligence through ecoliteracy activities. Therefore, establishing ecoliteracy is vital in primary schools because the high ecological intelligence of students will foster an awareness that nature should be preserved (Noviana, 2018).

As the name implies, ecoliteracy intelligence refers to the formation of students' knowledge and understanding of the environment followed by the establishment of values that are implemented in the ecological skills and participation in their daily life. Ecological intelligence indicates the subject and the manner of individuals in understanding and behaving towards the environment, which in turn, makes individuals environmentally literate (Muhaimin, 2015).

Ecological intelligence is an intelligence related to ecological aspects in the context of education to be mastered by students in learning. (Palmer and Neal, 1994) argue that ecological intelligence emphasizes on the concept of students' sensitivity and concern to solve environmental problems in daily life to form an ideal perspective and ethics for the environment. In the education world, it refers to establishing sensitivity, awareness, understanding, critical thinking and problem solving skills related to environmental problems.

The purpose of this study is to provide an overview or describe the purpose of establishing ecological intelligence in elementary school students.

2. METHOD

This study was a survey research employing a quantitative approach. Survey research was conducted by directly observing the symptom or gathering information from large or small populations and analyzing the data collected from the samples representing the population (Iskandar in Huda, 2018); Noviana (2017); Noviana (2015).

This study aimed at: (1) determining the ecological intelligence level of fourth grade elementary school students; (2) finding out the distribution of students' achievement on aspects of ecological intelligence (attitudes, skills and participation); and (3) investigating the purpose of establishing ecological intelligence of elementary school students.

The data collection of this study was carried out by distributing questionnaires to 120 respondents selected through simple random sampling, who were fourth grade students of SDN 147 Pekanbaru,.

The achievement level of the each component tendency was analyzed by categorizing the students' intelligence level.

3. RESULT AND DISCUSSION

Findings

The results of this study focused on the findings related to students' ecological intelligence, which involved attitudes, skills and participation aspects.

Based on the results of the analysis of the data collected, it was found that the average score of the students' ecological intelligence was 77.48 and classified in 'high' category.

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In addition, based on the average score of students' ecological intelligence from attitudes, skills, and participation aspects of 120 students, it was found that three students (2.50%) were classified to 'very high' category, 71 students (59.17%) were classified in 'high' category , 45 students (37.50%) were classified in 'sufficient' category, and one student (0.83%) was classified in 'low' category.

Meanwhile, the achievements of the attitudes, skills and participation aspects were also high as indicated by the acquisition of scores on each aspect of ecological intelligence as presented in Table 1.

Tabel 1. Students' Ecollogical Inteligence Data

Aspect	Score	Average	Category
Attitude	78.19		
Skill	77.69	77.48	High
Participation	76.56		

The table above shows that the students' ecological intelligence score on the attitude aspect was 78.19, the skill aspect was 77.69, and the participation aspect was 76.56. The average score of these three aspects were 77.48 and classified in 'high' category.

The acquisition of scores on attitude aspect on students' ecological intelligence, which were classified in 'high' category, indicated that students already had an awareness of attitudes towards nature with the aim of maintaining its sustainability.

In the attitude aspect, the students had high awareness based on two indicators, namely (1) attitude of respect for health and cleanliness; and (2) attitudes in maintaining cleanliness. The indicator of respect for health and hygiene had an average score of 80.79, and was classified 'high' category. Meanwhile, the average score of the indicator of attitude in maintaining cleanliness was 75.58 and classified in 'high' category. Based on the scores of these two indicators, the students had conscious attitude to respect and maintain health and hygiene as indicated in the scores that were classified in 'high' category.

The score of aspect skill, which was classified 'high' category, indicated that students already had an awareness of skills in nature. Ths skill aspect in ecological intelligence was based on two indicators, namely: (1) the skill to wisely using and utilizing natural resources; and (2) environmental responsibility skills.

The indicator of wisely using and utilizing natural resources skill had an average score of 77.46 and classified in 'high' category. In addition, the indicator of environmental responsibility obtained an average score of 77.92, which was classified in 'high' category. Thus, based on the scores of these two indicators, the students already had an awareness of using the skills they possessed, especially in the skills of wisely using and utilizing natural resources and environmental responsibility skills.

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In the participation aspect, which was classified in 'high' category, the students already had awareness in participation to preserve nature and its sustainability. This participation aspect was manifested into two indicators, namely: (1) participation to carry out activities to preserve the environment; and (2) participation to engage in environmental movements.

The indicator of carrying out activities to preserve the environment had an average score of 76.88 and was classified in 'high' category. In addition, the average score of the indicator of participation to engage in the environmental movement was 76.25 and classified in 'high' category. It can be concluded that students' awareness of ecological intelligence in the participation aspect in the activities to conserve the environment and participation to engage in environmental movements were classified in 'high' category.

Discussion

Ecological intelligence is always associated with human awareness of the environment. For this reason, it is vital to establish early awareness of preserving nature and its sustainability.

The findings of this study indicated that elementary school students already had the awareness of preserving nature and its sustainability, as evidenced by the questionnaires results about ecological intelligence, consisting three aspects, namely attitude, skills and participation. Firstly, in the attitude aspect, students were asked about the awareness of respect for health and cleanliness and the attitude to maintain cleanliness. The results indicated that elementary school students already had a 'high' category of awareness of attitude aspect on ecological intelligence.

Second, the skills aspect that is manifested in the skill of wisely using and utilizing resources and the skills of environmental responsibility, showed that the student skills were classified in the 'high' category. This indicated that the skills possessed by the students were sufficient to realize the preservation of nature.

Last, the in the participation aspect, the students were asked about their participation in activities to preserve the environment and environmental movement. The findings indicated that both aspects were classified in the 'high' category.

These aspects, which include attitudes, skills, and participation, should be possessed by every human being in order to guarantee and maintain the sustainability of nature. This is consistent with the opinion of Zen in Neolaka (2008), stating that every citizen should cultivate and foster awareness to preserve the environment based on the values system of the environment, which is based on the philosophy of living peacefully with the natural environment.

This is in line with Muhaimin (2015), who asserts that human is obliged to utilize nature responsibly in accordance with environmental ethics by maintaining and preserving it. Rafsanjani (in Nugraha, 2015) and Sari (2018) suggests that, with a good level of 'ecological literacy', all designs in various fields of life will also be ecologically based. Thus, every area of life (eco-economy, eco-farming, eco-

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management, and eco-city) should be designed with a strong ecological style. In the other words, ecological intelligence should be established and possessed by students as early as possible.

Ecological intelligence possessed by students is the aspect that will establish ecoliteracy, since there is a strong bond between humans and the environment. Thus, it will establish students' awareness of their environment. Therefore, it is vital to establish early awareness of preserving nature and its sustainability.

The results showed that students in primary schools had established their own ecoliteracy through: (a) respect for health and cleanliness; (b) attitude to maintain cleanliness; (c) the skill of wisely using and utilizing resources; (d) skills of environmental responsibility; (e) students' participation in activities to preserve the environment; and (f) participation to engage in environmental movements.

4. CONCLUSION AND RECOMMENDATION

This study on elementary school students' ecological intelligence level revealed that the ecological intelligence of students was classified in the 'high' category. It was indicated by the average score of 77.48. Furthermore, the acquisition of students' ecological intelligence scores on attitude aspect was 78.19 and the acquisition of scores on skills aspect was 77.69, and the acquisition of score in participation aspect was 76.56. To conclude, ecoliteracy-based teaching materials are considered vital to be developed for elementary school students.

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