The Analysis of Environmental Attitudes of Public Junior High School Students in Ngawi

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Abstract. Environmental attitudes need to be developed by the students in the 21st century due to the world’s worse condition nowadays. Environmental attitudes are defined as someone’s internal condition to be willing or unwilling to preserve and take care of the environment in order to keep it stable. Students who possess such attitudes make quite significant impacts on the environmental quality. Besides, environmental attitudes are able to increase problem solving and decision making especially on the environmental issues. The objective of this research is to analyse environmental attitudes of public junior high school students in Ngawi. The participants are 7 graders of public junior high schools in Ngawi. The data are collected by distributing questionnaire concerning environmental attitudes based on NEP by Dunlap. The result indicates that the percentage of students categorized as pro is 38.33%, ones categorized as middle is 60.83%, and ones categorized as anti is 0.83%. Based on the result, it is concluded that the majority of the environmental attitudes of public junior high school students in Ngawi are categorized as middle. It becomes a serious concern to create better environmental quality.

1. Introduction

Natural destruction is one of the focuses that must be considered in the 21st century today. The effect caused by the natural destruction becomes very fatal if nature is not immediately saved. The number of natural disasters such as landslides, floods, etc. as well as the occurrence of an energy crisis can interfere with the survival of the living beings on earth. The occurrence of an energy crisis due to the use of fossil fuels which are the current trend is one of the causes of greenhouse gas emissions worldwide [1]. On one hand, natural disasters occur because humans are often the main perpetrators of the natural destruction.

The thing that underlies the activities of human exploitation of nature is the human attitude itself [2]. Attitudes related to environmental issues are environmental attitudes. According to Ajzen [3], Attitudes become one of the initial determinants of the realization of a person's behaviour. The environmental attitudes are a determinant of the good or bad of a person's behaviour towards his environment which leads to the quality of the environment. The environmental attitudes cannot appear directly without any habituation in an individual. Students need to be accustomed especially during teaching and learning activities at school. Therefore, environmental attitudes need to be considered and optimized so that nature is maintained properly.
The factors that can influence environmental attitudes include lessons in school, curriculum, extracurricular activities, social life, personal values, etc. [4]. Learning activities outside the classroom with student experience directly related to nature have a positive influence on the students' environmental attitudes [5]. This reinforces the importance of environmental education in learning activities to improve environmental attitudes, but unfortunately this is not in line with the education in Indonesia which has not optimally connected learning with the surrounding environment and environmental issues being faced so that the level of students' environmental attitudes is still not fully well.

Subardiyono & Salamah's research in Wonosari Gunungkidul revealed that the students' environmental attitudes was still low due to the lack of attitude internalization and the students' weakness in connecting what was learned in school with everyday life [6]. Besides that, Kresnawati in Ponorogo mentioned that the students who had environmental attitudes were only 47% so it needs to be improved [7].

Environmental attitudes can be measured using a paradigm assessment that is believed by the students to show a tendency to be environmentally caring or not be prepared to be environmentally friendly. The New Ecological Paradigm (NEP) Instrument from Dunlap was used to measure the students' environmental attitudes [8]. The NEP Scale has proven to be consistent as a measuring instrument. Furthermore, it has gained world recognition by the United Nations. The NEP scale is designed to identify the five dimensions of ecology [9] including growth limits, balance of nature, anti-anthropocentrism, anti-exemptionalism, and eco-crisis. Based on the five ecological components, it was described into 15 Likert-scale statements [8]. However, in this study five additional statements were given for the consistency of answers.

This study analysed the environmental attitudes of the public junior high school students in Ngawi by giving questionnaires filled out according to the beliefs of each environment. Based on these tests, the percentage and analysis of environmental attitudes of the public junior high school students in Ngawi were obtained.

2. Research Method
This research is quantitative research. In this study, the percentages of each student's belief in environmental attitudes were obtained. The results of filling out the NEP questionnaire included 5 ecological dimensions. A Likert-scale questionnaire was used. Each answer was scored and the percentage of each student from all samples was calculated and categorized.

The study samples involved 120 students from 4 public junior high schools in Ngawi with 30 students respectively. The data were collected using a questionnaire with 20 statements consisting of 15 original NEP statements and 5 additional statements aimed at the consistency of the answers. The modified questionnaire has passed the expert validation stage and has been checked for validity and reliability. The percentages obtained were then entered into 3 predetermined categories. The details of the assessment of the environmental attitudes are presented in Table 1.

| Table 1. The Details of the Assessment of Environmental Attitude |
|---------------------------------------------------------------|
| **Tools** | **Question type** | **Item** | **Score** |
| Questionnaire of NEP | Likert scale | 20 | Odd numbers: SA (5), A (4), U (3), D (2), SD (1) |
| | | | Even numbers: SA (1), A (2), U (3), D (4), SD (5) |

Notes: SA (Strongly Agree), A (Agree), U (Uncertain), D (Disagree), SD (Strongly Agree) [Source: 8.9]
The percentage calculation of each category is obtained from the following equation:

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\% = \frac{\text{number of students per category}}{\text{total number of students}} \times 100\%
\] (1)

The percentage calculation results are then included in the 3 categories that have been determined as follows:

| Category       | Percentage (%) |
|----------------|----------------|
| >79            | pro-ecological |
| 54-79          | Mid-ecological |
| <54            | anti-ecological|

(Source: [11])

3. Results and Discussion

Environmental attitudes are an attitude that can affect the quality of the environment and have a major impact on the quality of the earth. Environmental attitudes can be influenced by many internal and external factors. Ministry of Education and Culture [9] states that environmental attitudes are the responsibility of each individual who is generally influenced by one of the factors of knowledge. Individuals with high environmental knowledge will influence the high caring attitudes and behaviours towards the environment.

The students’ environmental attitudes are influenced by several factors, namely social environment, science lessons, and extracurricular activities [4]. Therefore, schools should add environmental education to each lesson. The level of students’ environmental attitudes can be known through the provision of a Likert New Ecological Paradigm (NEP) scale questionnaire covering 5 dimensions [10].

Based on the results of the students’ environmental attitudes of the public junior high schools in Ngawi using the NEP Likert scale questionnaire filling, the students were categorized into 3 groups as presented in the following table:

| Table 3. The number of students in each category |
|-----------------------------------------------|
| Category          | The number of student |
| Pro-ecological    | 46                   |
| Mid-ecological    | 73                   |
| Anti-ecological   | 1                    |

The percentages of the students in the 3 categories from the total number of samples were then obtained as shown in Table 4 as follows:

| Table 4. The percentage of the students in each category |
|---------------------------------------------------------|
| Category          | Percentage (%) |
| Pro-ecological    | 38.33          |
| Mid-ecological    | 60.83          |
| Anti-ecological   | 0.83           |

Based on Table 4, it can be concluded that the students' environmental attitudes are as follows:

a. In the pro-ecological category, there are 38.33% of students which shows that the students give positive answers to the odd numbers and negative answers to the even numbers. The pro-
A ecological category shows that the students are in favour of the NEP statement, but the pro-ecological category is also indicated as someone who supports to improve environmental conservation in full.

People with the pro-ecological category feel that the earth will be better if it does not get mixed hands of humans, and humans do not have the right to change and exploit the Natural Resources. Human tasks are better for the development of the Natural Resources [11].

b. In the mid-ecological category, there are 60.83% students. This shows that the students give more answers to the choices of uncertainty and some answers to the positive and negative. The mid-ecological category has a tendency to accept negative statements or Dominant Social Paradigm, having the belief that nature has values that need to be exploited by humans knowing the statements of pro-ecology but not fully believing. This mid-ecological attitude is more inclined towards the anti-ecological category than the pro-ecological category [11].

c. In the anti-ecological category, there are very few students (0.83%) compared to the other 2 categories. This is good because the students with anti-ecological categories tend not to support anything about improving environmental preservation. The students give more negative answers to the positive statements contained in odd numbers.

The anti-ecological category has the belief that humans have the right to make full use of the earth because it is considered to provide everything that should be used by humans. They strongly rely on the technology, economic and industrial progress without thinking that nature has no restrictions [11]. The anti-ecological category supports anthropocentrism, considering humans are the centre of the universe, and only humans have value, while nature and everything in it is merely a means of satisfying the interests and needs of human life [2].

Based on the results obtained, it can be seen that the majority of the students' environmental attitudes is in the mid-ecological category as shown with a fairly high percentage of 60.83% (Figure 1).

![Figure 1](image_url)

**Figure 1.** The percentage of students in each category.

The mid-ecological category shows the belief that nature has values that will be better used by humans. The mid-ecological category is more inclined to anti-ecological. Thus, it is feared that if the belief is not changed now, it will also have an effect when adult students become anti-ecological categories. Therefore, the environmental attitudes of the students of the public junior high schools in Ngawi need to get attention.
Mid-ecological category can be due to the internal and external factors. The development of time and technology is also one of the causes of the majority of the students in the mid-ecological category. In addition, changes in the students' attitudes can be through education that can be obtained from learning in school. At school, the students learn science and technology. Their learning motivation can influence their attitudes towards the application of science and technology so that the idea that nature can be used as a means of technological development is formed. Therefore, the students' environmental attitudes need to be considered and improved.

There is no harm in learning science and technology if it is studied appropriately. Hence, it would be wise if educators are able to direct students in the application of science and technology while paying attention to the impacts that can be caused to the nature.

Education is an important thing that must be done to respond to every challenge of the current and future situations [12]. The research shows that a high educational background is able to influence the high attitudes towards the environment and vice versa. [15] This is the basis that education can save nature from the actions of humans who do not understand and are not responsible for it. The direction to love the right environment in the learning process will bring students to the pro-ecological direction. They will fully support the improvement of natural sustainability.

Education that connects with the environment will be indispensable for improving environmental attitudes. One approach to learning that directs students to love the environment and apply science and technology is learning with the approach of Science, Environment, Technology, and Society (SETS). SETS learning can facilitate problem-solving skills and environmental awareness of high school students [13]. SETS approach can be used to overcome some of the classic problems of education as students only absorb knowledge without knowing how much the material connects with students' life i.e. to equip the students to be able to answer and overcome every problem related to the preservation of the earth, social and global issues. Hodson [14] suggested SETS internalisation in each educational curriculum so that learning does not neglect the environmental aspects that can lead to the inferences about the potential of science and technology to solve problems (environment), for example, producing air filters that are better than reducing air pollution.

The learning environment in education will provide additional knowledge for the students that will affect their cognitive domain and can affect changes in the students' attitudes to environmental attitudes, the relationship between attitudes as an affective domain and as the cognitive domain. If the cognitive domain is high, the affective domain is also high and vice versa. Understanding environmental phenomena scientifically contributes positively to the formation and development of the scientific attitudes. In addition, inferior knowledge also contributes to the attitude domain caused by prior knowledge so that the students are able to understand the issues that occur in the surrounding environment [12].

Based on this explanation, we can say that environmental attitudes are very important to note regarding the impact on the natural quality to support human survival on earth. In addition, environmental attitudes are able to get students to become good environmental problem solvers. This is in line with Walgito's statement [16] explaining the relationship between individual attitudes and his environment. He will reject the environment if the individual is not in accordance with the circumstances of the environment. He will accept the environment if the environmental conditions are appropriate or suitable to the individual's situation. He is neutral or status-wise if he does not fit into the environment and take the right steps.

In addition, the relationship between human and the environment is circular, which means that everything that humans do to their environment will have an impact on them [17]. Students with good environmental attitudes can be the problem solvers of nature and the right decision makers without having a negative impact on nature so that they can save the almost damaged natural quality for the sake of the survival of the earth and better living beings. With the increase of the environmental attitudes, the students are expected to be able to make the right decisions on the current environmental problems.
4. Conclusion
The results obtained can be concluded that the environmental attitude of students still needs to be optimized because the majority of students in public junior high schools in Ngawi occupy the mid-ecological category of 60.83%. It needs to be optimized because the mid ecological category is more inclined to the feared anti ecological category which can be a bad impact on natural quality.

Optimizing environmental attitudes can be through education, learning through an environmental approach such as SETS or out of class activities is one of efforts to improve students’ environmental attitudes.

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