ANALYSIS OF THE ENVIRONMENTAL LITERACY OF STUDENTS SMA N 1 BREBES

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ABSTRACT

Environmental literacy is a person's way of knowing, understanding and interpreting environmental conditions. Environmental literacy can be developed through environmental education. This research was carried out at SMA N 1 Brebes. The sample in this research was class XI, totaling 45 students. This research method uses a descriptive research method. The instrument in this research uses an environmental literacy instrument referring to Middle School Enviromental Literacy Survey. Based on the research, it was found that the environmental literacy achievement of SMA N 1 Brebes students was 62.22% (sufficient criteria) and 37.78% (good criteria). Meanwhile, the average score based on environmental literacy indicators obtained different average values, ecological knowledge of 79.14% (good criteria), cognitive skills of 33.78% (poor criteria), environmental awareness of 61.65% (good criteria), and environmentally responsible behavior of 66.52% (good criteria). Good environmental literacy can help increase public awareness about the importance of protecting the environment.

Keywords : awareness, environmental, ecological, literacy, responsible.

INTRODUCTION

Environmental problems are an increasingly pressing issue in this modern era (Hamdani & Wathoni, 2024; Putro et al., 2024). Environmental damage not only threatens the sustainability of nature, but has a direct impact on the quality of human life (Utomo et al., 2023). Environmental problems, such as climate change, can affect the balance of nature and cause the extinction of natural resources (Jayawardana, 2023; Surakusumah, 2011).

The environmental damage that occurs does not entirely come from the development of the industrial and technological sectors, but rather the weak level of human literacy, including attitudes and behavior towards the environment (Angreani et al., 2022; Santoso et al., 2021). As summarized by the Provincial Research and Development Agency, Central Java that in the last two decades, sea water intrusion in several areas of the north coast of Central Java has increasingly penetrated deeper into land, both surface intrusion and subsurface intrusion. In many cases, seawater intrusion has a very broad impact on various aspects of life (Santoso, 2023).

Environmental literacy is a person's way of knowing, understanding and interpreting environmental conditions (Safitri et al., 2023; Santoso et al., 2021). Based on the results of this understanding and interpretation, someone can decide on appropriate actions to preserve, restore and improve environmental conditions. The broadest meaning of environmental literacy is that environmental literacy includes awareness and concern for the environment and related issues, as well as knowledge, skills and motivation to find solutions to current problems and prevent new problems. (NAAEE, 2011).

According to (Angreani et al., 2022) Environmental literacy can be developed through environmental education. Good environmental education can help increase public awareness about the importance of protecting the environment. Therefore, information is needed regarding the environmental literacy of students at SMA N 1 Brebes. So that through this analysis it can be used as a consideration for educators to increase students' environmental literacy.

RESEARCH METHODS

This research was carried out at SMA N 1 Brebes, Central Java, Indonesia. The population in this study were class XI high school students. The sample in this research was class XI for the 2023/2024 academic year, totaling 45 students. This research method uses descriptive research methods. This research consists of several stages carried out. The first stage of this research is problem identification. This stage is the initial stage which aims to understand the problem to be studied, so that later in the analysis and design stages it will be in accordance with the problem being studied. The second stage is literature study. At this stage the author examines and studies existing concepts and theories, to be used as references and benchmarks. References can be obtained from various books, journals and studies on the internet. The third stage is data collection. This stage can be carried out using various test methods. The test method is carried out by giving instruments to research subjects related to environmental literacy. The environmental literacy instrument consists of environmental literacy questions in the form of multiple choice and questionnaires. The fourth stage is reporting. The report is prepared based on research data.

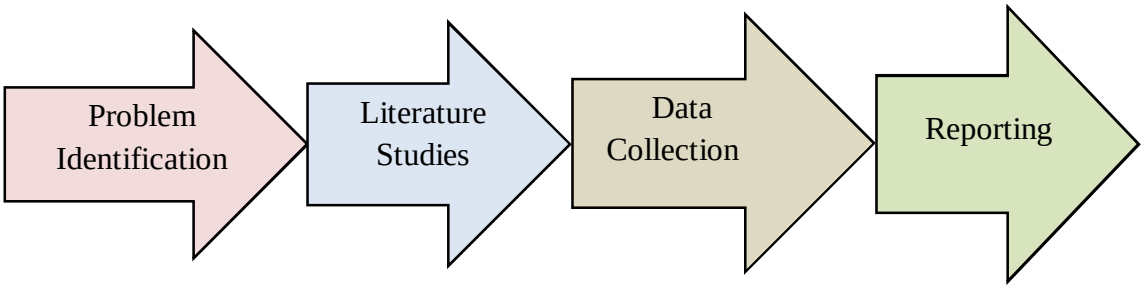

Figure 1. Research Flow Diagram

The environmental literacy instrument in this research refers to *Middle School Enviromental Literacy Survey* to measure environmental literacy components according to Erdogan et al. (2009) consists of four components, namely ecological knowledge, environmental awareness, cognitive skills, and environmentally responsible behavior.

Table 1. Environmental Literacy Test Grid

Part	Indicator	Sub Indicator	Question Number	Number of Questions
I. Ecological Knowledge	Basic Ecological Knowledge	Understanding ecological concepts and knowledge theories and understanding how natural systems work and how they interact with society/society)	1-13	13
II. Cognitive Skills	Identify environmental issues	Identify problems that occur based on the article	14-15	2
	Environmental Action Plan	Plan Environmental action based on the problems in the article	16	1
	Analysis of environmental issues	Analyze environmental issues based on the problems that occur	17-23	7
III. Environmental Conscious Attitude	Environmental awareness	Intention to act	24-35	12
		Environmental Sensitivity	36-46	11
		Feelings about the Environment	47-48	2
IV. Environmentally Responsible Behavior	Commitment to the Environment	Behave Commitment to the Environment	49-60	12

RESULTS AND DISCUSSION

Based on the criteria and range of values that have been determined, it can be seen that the environmental literacy achievements of SMA N 1 Brebes students vary. Below are presented the results of the percentage of environmental literacy achievement criteria for students at SMA N 1 Brebes in Table 2.

Table 2. Percentage of Environmental Literacy Achievement Results for SMA N 1 Brebes Students

No	Criteria	Value Range	Frequency	Percentage (%)
1	Very well	81-100	0	0
2	Good	61-80	17	37,78
3	Sufficient	41-60	28	62,22
4	Not sufficient	21-40	0	0
5	Less than once	≤ 20	0	0
	Amount		45	100

From the data above, it can be seen that the environmental literacy achievement criteria for SMA N 1 Brebes students from a sample of 45 students, shows the highest percentage is 62.22%

with sufficient criteria. Meanwhile, the percentage with good criteria was 37.78%. Furthermore, based on the existing scores, the average environmental literacy score for SMA N 1 Brebes students was 62.81% with good criteria.

Students' environmental literacy scores for each environmental literacy indicator have 4 indicators that can determine students' environmental literacy achievements, including ecological knowledge, cognitive skills, environmentally conscious attitudes and environmentally responsible behavior. It can be seen that the four environmental literacy indicators have different average scores. The following is the average environmental literacy score of SMA N 1 Brebes students for each indicator which is presented in the graphic in Figure 1.

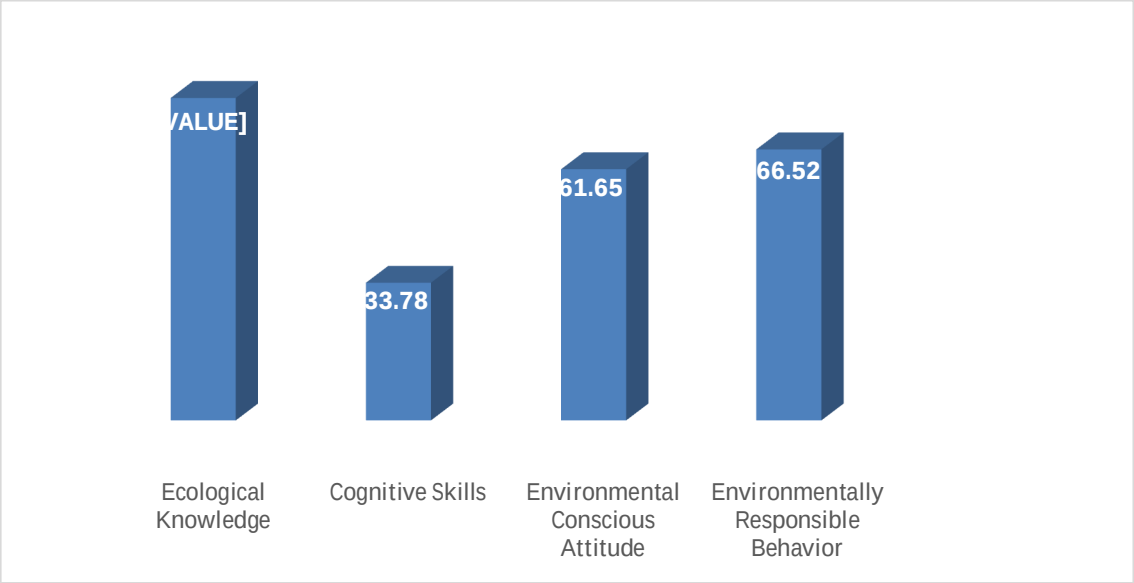

Figure 1. The Graphic of Environmental Literacy Indicator

The data above shows that the highest average value is found in the ecological knowledge indicator which has an average value of 79.14% (good criteria) but not as expected. Meanwhile, the lowest average value is found in the cognitive skills indicator which has an average value of 33.78% (poor criteria). Meanwhile, for the indicators of environmentally conscious attitudes and responsible behavior towards the environment, the average values are 61.65% and 66.52% respectively with good criteria.

Based on the results of data analysis, it can be stated that the environmental literacy achievements of SMA N 1 Brebes students are included in the adequate criteria with a percentage of 62.22%, while the environmental literacy achievements of students who are included in the good criteria are 37.78%. There are no grades with the criteria either very good or very poor or very poor.

In (NAAEE, 2011) the concept of environmental literacy is emphasized by *Environment Education and Training Patnership* (EETAP) stated that someone who is able to read the environment will know and understand how to act and treat the environment well. Education about the environment at school will influence the level of environmental literacy possessed by students as stated by (Aini et al., 2020; Kamil et al., 2019) is a process in which a person's environment is deliberately managed to enable him to participate in certain behavior under special conditions or produce certain responses, learning is something that is most special in the world of education.

Based on a comparison of the average scores for each environmental literacy indicator for SMA N 1 Brebes students, it was found that cognitive skills achieved the lowest achievement, while ecological knowledge achieved the highest achievement. (Ozsoy et al., 2012) stated that the cause of students' low environmental literacy skills is not due to the small number of books about the environment in schools but because students' direct learning experiences in the environment are lacking, and interaction with the environment is low. The low achievement of environmental literacy on cognitive skills indicators at SMA N 1 Brebes is influenced by many factors, both in terms of students, teachers and school facilities and infrastructure. Based on the results of field observations, students find it difficult to analyze environmental problems. Students found the environmental literacy questionnaire difficult to understand and difficult to complete. The learning carried out so far has mostly been carried out in the classroom guided by existing textbooks. Students' lack of learning experience about the environment makes students' cognitive skills less valuable.

In classroom learning, learning experiences are needed in the form of activities to identify environmental problems, so activities are needed that are designed to observe, ask questions, conduct experiments, connect and communicate to find solutions to existing problems. (Afif et al., 2022; Santoso et al., 2021). Thus, there is a need for education about the environment or *education for sustainable development* to increase students' environmental literacy. Education for Sustainable Development (ESD) can be integrated into teaching materials in learning. So it is hoped that students will get education and experience that is integrated with the school curriculum.

Cognitive skills cannot be formed by themselves in a person but are formed through a learning process. Knowledge of environmental problems and knowledge of various appropriate actions to overcome them are one of the prerequisites for responsible behavior. Having knowledge and ability alone is not enough, it needs to be accompanied by the intention or desire to realize the

action in question. Through knowledge and skills as well as a positive attitude that students have towards the environment they will be able to realize responsible behavioral actions

CONCLUSION

Based on the data and results of the discussion, it was concluded that the environmental literacy achievements of SMA N 1 Brebes students were included in the adequate criteria with a percentage of 62.22%, while the environmental literacy achievements of students who were included in the good criteria were 37.78%. The average score based on environmental literacy indicators obtained different average values, namely ecological knowledge of 79.14% (good criteria), cognitive skills of 33.78% (poor criteria), environmental awareness of 61.65% (good criteria), and environmentally responsible behavior of 66.52% (good criteria).

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