Analysis of Environmental Literacy Level of Students at MAN 1 Malang City

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Article Info	ABSTRACT
	Environmental problems that occur today are inseparable from human conditions or interactions with the environment, both biotic and abiotic environments. The low awareness of the Indonesian people towards their environment can also be influenced by their lack of environmental awareness. The purpose of this study is to determine the level of environmental literacy possessed by students of MAN 1 Malang City. This type of research is survey research. The sample of this research was 233 students of class XI and XII majoring in science and social studies. The instrument used in this study was an environmental literacy test adapted from the Middle School Environmental Literacy Survey/Instrument (MSELS). The average value of students' environmental literacy is 57.1 in the currently category.

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1. INTRODUCTION

Environmental problems that occur today are inseparable from human conditions or interactions with the environment, both biotic and abiotic environments. The environment is a place of life with various interactions that influence one another to form a system. The system formed from the interaction of the biotic environment with the abiotic environment is called an ecosystem. In a system, the distribution of living things occurs in an environment according to their life needs and occurs regularly, so that biotic and abiotic factors influence each other or exchange materials with each other. If there is damage to the abiotic environment, it will affect the biotic environment, because in an ecosystem there is a flow of energy between biotic and abiotic (Maswandi, 2015).

Humans carry out activities in everyday life that have caused many kinds of adverse effects on the balance of the environment. Irresponsible human activities are often the biggest contribution to shifts in the environmental order. Humans do a lot of uncontrolled exploitation of natural resources to meet their needs which results in a decrease in the carrying capacity of nature. In addition, waste generated by human activities can also be a problem for the environment (Pratama, 2020). Currently, in Indonesia there are still many environmental problems due to low public awareness of the environment.

Garbage accumulation is one of the environmental problems that until now has not been properly resolved. Based on data from the National Waste Processing Information System (SIPSN), there are 30.9 tons of waste per year, with a waste reduction of 15.62% tons of the total waste per year. The increasing population in Indonesia is the reason for the increasing volume of waste generated from household waste. Garbage problems that accumulate and are not properly resolved will have a negative impact on the environment, such as water, air and soil pollution. Due to these problems, the quality of water, air and soil will decrease. Apart from that, several disasters will occur due to the accumulation of waste, one of which is flooding (SIPSN, 2021).

The low concern of the Indonesian people for their environment can also be influenced by their lack of environmental awareness (Rijal, 2018). Environmental awareness possessed by humans can have a positive impact on the environment, namely the creation of a responsive attitude and the emergence of solution ideas to overcome current problems (Goldman, 2018). However, this is different from the results of Putri's research (2023) which states that there is a low relationship between the level of problem-solving abilities and the level of students' environmental literacy. Environmental literacy is an individual's ability to be aware of keeping their environment in good condition and in balance (McBeth, 2010).

The government takes these environmental problems seriously through a commitment to maintaining the environmental balance from damage through education. The negative impacts of environmental damage caused by human activities are problems that must be resolved carefully, considering that this problem is the responsibility of all elements of society, including educators. Education in Indonesia is very important role in building public. Through education, society does cultural transformation, create labor, creating means of control social and so on. With such is the development of society can run sustainably (Sujana, 2019). Education is an important element that can help environmental problems that are happening in Indonesia today.

Through education, the government inserted Environmental Education (PLH) in all subjects on population and the environment which were integrated into the 1984 curriculum. In the 2006 curriculum (KTSP) environmental education became a separate subject in local content (mulok). Then, in 2006 through the Ministry of Education and Culture together with the Ministry of Environment, the government continued the Environmental Education program by Sekolah Peduli dan Berbudaya Lingkungan (SPBL) program, which is currently known as the Adiwiyata program. Saribas (2015) states that Environmental Education has an important goal, which is to increase environmental literacy in students.

Individuals who have environmental literacy will have a caring attitude towards their environment, this is evidenced by Chawla's research (2006) which states that environmental literacy can shape an individual's caring attitude towards their environment. The application of environmental education in schools relates to one of the subjects in the specialization of Natural Sciences (IPA), especially in Biology subjects, while the specialization of IPS (Social Sciences) in Geography. The researcher chose the MAN 1 school in Malang City, because the school had not yet implemented the Adiwiyata program. Environmental education is only limited to Biology and Geography subjects.

2. RESEARCH METHOD

This research approach is descriptive qualitative with survey research type. This research was conducted at MAN 1 Malang City with a total sample of 233 students consisting of students in class XI and XII specializing in science studies and social studies. The research data was obtained by giving an environmental literacy test adapted from the Middle School Environmental Literacy Survey/Instrument (MSELS) according to McBeth (2011). The aspects measured in environmental literacy are ecological knowledge, cognitive skills, environmental attitudes and environmental behavior. The research instrument was tested for validity and reliability before being used in this study. The data obtained were then analyzed using descriptive analysis.

3. RESULT AND DISCUSSION

Based on the results of data processing for environmental literacy are presented in the following table.

Table. 1 Median, Mean, Standard error Mean, Maximum, Minimum, Standard Deviation, Variance, and Range in Environmental Literacy

Median	Mean	Std. Error Mean	Maks.	Min.	Standard Deviation	Variance	Range
57,00	57,1	0,48	100	38,25	7,35	54,00	37,25

The results obtained from the analysis of the description of the variable environmental literacy of MAN 1 Malang City students in Table 1 show that the median and mean values of environmental literacy are 57.00 and 57.1, respectively. The mean standard error and standard deviation values were 0.48 and 7.35, respectively. The maximum and minimum values are 100 and 38.25 respectively. The variance and range values are 54.00 and 37.25, respectively. These results indicate that MAN 1 Malang City students have medium environmental literacy.

Determination of environmental literacy value categories is based on categorization norms according to Azwar (2012) which consists of 3 categories including high, medium and low. The high category is obtained by adding up the mean value with the standard deviation value, the low category is obtained by reducing the mean value with the standard deviation value, while the medium category is obtained from the interval between the high and low category results. The results of the categorization of environmental literacy values are presented in Table 2.

Table 2. Categories of Environmental Literacy Values

No.	Categories	Categorization Norms	Frequency	Percentage (%)
1	Low	X < 49,71	40	17,2
2	Medium	49,71< X > 64,39	153	65,7
3	High	X > 64,39	40	17,2
	Amount		233	100

Based on Table 2, it is found that the percentage distribution of the low category of environmental literacy values is 17.2% of the total number of respondents, the medium category of environmental literacy values is 65.7% of the total number of respondents which is the highest percentage, while the distribution of high categories of literacy values environment by 17.2% of the total number of respondents. The categories of environmental literacy values in the science and social studies based on categorization norms are presented in Table 3.

Table 3. Categories of Environmental Literacy Value in Science and Social Studies

Major	N	Categories	Frequency	Percentage (%)
Science Studies	141	High	28	19,86
		Medium	94	66,67
		Low	19	13,48
Social Studies	92	High	12	13,04
		Medium	59	64,13
		Low	21	22,83

Based on Table 3, it was found that the percentage distribution of the high category of environmental literacy values in science studies was 19.86% of the total number of respondents, the medium category of environmental literacy values was 66.67% of the total number of respondents which was the highest percentage, while the distribution of the low category of the environmental literacy value of 13.48% of the total number of respondents. The percentage distribution of the high category of environmental literacy values in the social studies is 13.04% of the total number of respondents, the medium category of environmental literacy values is 64.13% of the total number of respondents which is the highest percentage, while the distribution of the low category of environmental literacy values is 22.83% of the total number of respondents. These results indicate that MAN 1 Malang City students have environmental literacy in the medium category, both science studies and social studies. The average value of each indicator on the environmental literacy variable is presented in Figure 1.
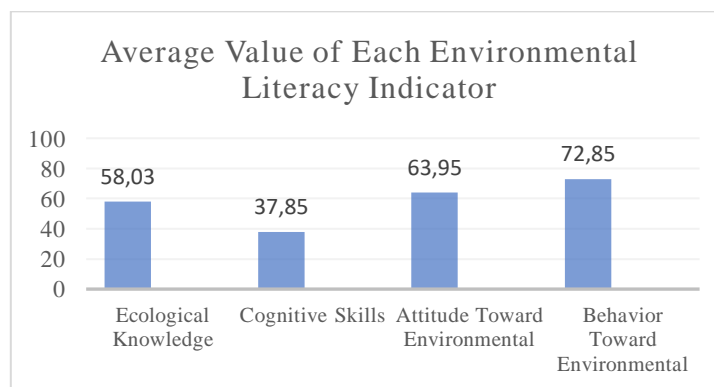

Figure 1. Graph of the Average Value of Each Environmental Literacy Indicator

Based on Figure 1, it was found that the average value of the indicator of ecological knowledge was 58.03 in the medium category, the average value of the cognitive skills indicator was 37.85 in the low category, the average value of the attitude toward environmental indicator towards the environment was 63.95 in the medium category, and the average value of the indicator behavior towards the environment is 72.85 with the high category.

Environmental literacy is an individual's ability to be aware of keeping their environment in good condition and in balance (McBeth, 2010). Textoz, et al research in 2011 explained that this conscious attitude means an attitude of environmental literacy, where individuals are not limited to only having knowledge about the environment, but also have environmental attitudes so that they behave pro-environmentally which can bring up ideas or ideas to solve current environmental problems. happen. The research results of Aini, et al (2020) state that there is a positive impact that can increase students' environmental literacy due to learning in local content of environmental education.

In this study, indicators of environmental behavior have an average score in a high category due to the level of knowledge possessed by students, so that this influences environmental attitudes which will be manifested through their behavior towards the environment (Haske and Wulan, 2015). In addition to this, learning experiences carried out directly in the environment can also influence students' environmental behavior (Ardianti, et al., 2017). Based on the results of Wulandari, et al research in 2021 stated that the biggest effective contribution to behavior is attitude, while knowledge must be together with attitude to influence behavior effectively. The Environmental Education and Training Partnership explains that an individual is considered environmentally conscious if the

individual understands and knows about what he should and shouldn't do to his environment to maintain the environmental balance (NAAEE, 2011).

4. CONCLUSION

Based on the results of the study it can be concluded that the level of environmental literacy of students at MAN 1 Malang City in class XI and XII specializing in science studies and social studies has an average score in the medium category. Determination of environmental literacy value categories is based on categorization norms according to Azwar (2012) which consists of 3 categories including high, medium and low.

5. ACKNOWLEDGEMENT

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