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The Effect of Outdoor Learning Methods to Improve Environmental Literacy and Environmental Care Attitudes in Science Lessons Class VII MTs Hamzanwadi NW Gelogor Kediri West Lombok

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Abstract

This study aims to determine the influence of Outdoor Learning learning methods on improving environmental literacy and environmental care attitudes in science lessons in class VII MTs Hamzanwadi NW Gelogor Kediri, West Lombok. This type of research is quasi-experimental. The sampling technique used purposive sampling with the subjects of grade VII students consisting of class VII A as the control class (33 students) and class VII B as the experimental class (33 students). The research instruments include environmental literacy tests and environmental care attitude questionnaires. The data obtained was analyzed using SPSS 20 with a paired sample t-test and an N-Gain test. The results of the paired sample t-test showed a significance value (2-tailed) of 0.000 < 0.05, which means that there is a significant influence of the Outdoor Learning method on improving environmental literacy and students' environmental care attitudes. Meanwhile, the results of the N-Gain test showed an average score of 76.6% for environmental literacy and 67% for environmental care attitudes, which are included in the category of quite effective. These findings suggest that Outdoor Learning can be an effective learning strategy in fostering students' awareness and concern for the environment through hands-on learning experiences.

Keywords: Outdoor learning, environmental literacy, environmental care attitude

INTRODUCTION

Based on the results of observations conducted on Friday, December 16, 2024 at MTs Hamzanwadi Gelogor, it was found that students were less active in the learning process because teachers had not used interesting learning methods or media that were interesting and motivated by students. This has an impact on the low participation of students in responding to problems and the decline in their cognitive abilities. In addition, the limited learning facilities at school are also an obstacle in improving student learning outcomes. Therefore, the researcher considers it important to apply the Outdoor Learning learning method as an alternative strategy that is relevant to science material, especially about environmental pollution, in order to increase environmental literacy and environmental care attitudes of students through direct involvement with their surrounding environment.

Increasingly complex environmental problems require education that is able to form a generation that cares and is responsible for the environment. Unfortunately, the learning process in schools is often still conventional, does not actively involve students, and does not utilize the environment as a learning resource. Based on the results of observations at MTs Hamzanwadi NW Gelogor, it was found that students are less active in learning science because teachers have not applied interesting and contextual methods. This has an impact on low environmental literacy and environmental care attitudes of students.

Therefore, a learning method is needed that is able to activate students and provide a meaningful and contextual learning experience, one of which is the Outdoor Learning method. This method is believed to be able to increase environmental literacy and foster students' concern for the environment through direct experiences outside the classroom. Thus, this research is important to test the extent of the effectiveness of the Outdoor Learning method in improving students' literacy and environmental care in science subjects.

Previous research has proven that the Outdoor Learning method is effective in improving learning outcomes and caring for the environment. For example, research by Agus Purnomo (2024) shows that out-of-class learning methods can increase the knowledge and attitudes of Geography students about environmental conservation.

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However, the research was conducted at the higher education level with student subjects, not MTs students. Meanwhile, Tomy Andreas Silitoga, Natalina Purba, and Theresia Monika Siahaan (2022) in their research on grade III elementary school students found that the Outdoor Learning method was able to improve thematic learning outcomes, especially on the subtheme of loving plants. This research does emphasize the direct experience of students, but it has not touched on the aspects of literacy and environmental care attitudes comprehensively. In addition, Ita Kurniawati, Purwati, and Tria Mardiana (2021) examined the use of the Outdoor Learning method assisted by concrete media in mathematics learning, and found a significant improvement in the learning outcomes of elementary school students, but did not discuss affective aspects or concern for the environment.

In contrast to previous studies, this research was conducted at the MTs level, focusing on science subjects, and specifically examined two aspects at once, namely environmental literacy and students' environmental care attitudes. In addition, similar research has not been found in the West Lombok region, especially at MTs Hamzanwadi NW Gelogor. Therefore, this research has novelty both in terms of subject, location, and focus of the variables studied. The results of this research are expected to make an important contribution to the development of environment-based learning methods and become a reference for future researches, especially in madrasah or junior high school environments that have similar characteristics.

The purpose of this study is to improve environmental literacy and environmental care attitudes, in science lessons by using the Outdoor Learning learning method for grade VII MTs Hamzanwadi Gelogor Kediri, West Lombok.

RESEARCH METHODS

This research will be conducted from April 2025 to May 2025. The location of this research is at the MTs Hamzanwadi Gelogor school, located in JI. TGH. Abdul Karim Gelogor Kediri, Jagaraga Indah Village, Kediri District, West Lombok Regency, with postal code 83362. This study uses a quantitative approach with a quasi-experimental type. The design used is Nonequivalent Control Group Design. The subject of this study is grade VII students of MTs Hamzanwadi NW Gelogor with a total of 66 students, divided into control and experimental classes.

This study uses 2 instruments, namely a test for environmental literacy consisting of 20 multiple-choice questions and a questionnaire for environmental care attitudes consisting of 25 statements on a Likert scale. Furthermore, the data was analyzed using SPSS 20 through validity, reliability, normality, homogeneity, paired sample t-test, and N-Gain calculation.

Validity testing is the process of determining whether a measuring instrument is legitimate or not. The measuring tools referred to here are questions or questions in the questionnaire. A questionnaire is considered valid if the questions can clearly explain what the questionnaire is measuring (Nilda and Heriyanto, 2021). In this validity test, the formula used is Pearson Product Moment. The significance level used is 0.05, the test criterion is that if $r_{\text{is calculated}}$ > rtable, then the instrument or question items are significantly correlated with the total score (declared valid) and if the calculation is < rtable, then the instrument or question items do not correlate significantly to the total score (declared invalid). In this study, we will test the validity with the help of the SPSS 25 application.

Reliability refers to the ability of a measuring instrument to provide consistent results when applied at different times. However, the same results cannot always be obtained every time, due to differences in the time of application of measuring instruments as well as changes in the population and sample studied (Karimuddin et al., 2022). The reliability test was carried out using Cronbach's Alpha. In this reliability test, it will be assisted by the SPSS application. The following are the decision-making criteria for the reliability test: If the value of Cronbarch's Alpha > 0.60 then the test is declared reliable or consistent and if the value of Cronbarch's Alpha < 0.60 then the test is declared unreliable or inconsistent (Muharika Dewi, 2023).

The data normality test aims to show whether the sample data comes from a population that has a normal distribution or not (Gito Supriadi, 2021). With a significant level of (a) 5% or 0.05. In this study, the sample data used < 100 so that the researcher used the Shapiro-wilk test contained in SPSS. The criterion for Shapiri Wikn's normality is that if the sig > 0.05, then the sample is normally distributed. If the sig is < 0.05, then the sample is not normally distributed.

The homogeneity test is used to determine whether variation in several populations is the same or different (Usmadi Usmadi, 2020). In this study, we will test homogeneity with the help of the SPSS application using the Levene statistics test. The homogeneity test serves as the basis for decision-

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making. If the significant value < 0.05, then the variance of the two population groups or the data sample is not homogeneous (abnormal). Then if the significant value is > 0.05, then the variance from two populations or data samples is homogeneous (normal) (Nuryadi et al., 2017).

The T test is used to compare the average of two groups (experimental and control) and see if the difference is significant. This test was carried out with SPSS version 20. The results are considered significant if the significance value is < 0.05 (the hypothesis is accepted), and not significant if the > 0.05 (the hypothesis is rejected) (Helen and Farid, 2018).

The N-Gain test is used to measure how much a student's learning outcomes have improved by comparing pretest and posttest scores. This test shows the effectiveness of the learning provided (Volunteer et al., 2024).

RESULTS AND DISCUSSION

This study was conducted to determine the influence of the Outdoor Learning method on increasing environmental literacy and environmental care attitude of grade VII students of MTs Hamzanwadi NW Gelogor Kediri, West Lombok. The research used a quasi-experimental design with two classes, namely the experimental class that received the treatment of the Outdoor Learning learning method and the control class that received conventional learning.

Table 1. Average scores of experimental class and control class

Class	Instruments	Average Score
Experiment	Environmental literacy test (Pretest)	48
Control		42
Experiment	Environmental literacy test (Postest)	74
Control		64
Experiment	Environmental Awareness Questionnaire (Pretest)	86
Control		81
Experiment	Environmental Awareness Questionnaire (Postest)	92
Control		89

The results showed that there was a difference in learning outcomes between students in the experimental class who participated in learning using the Outdoor Learning method and students in the control class who participated in learning using conventional methods. In the aspect of environmental literacy, the pretest data showed that the average score of students in the experimental class was 48, while in the control class it was 42. After the learning process took place, the average posttest score of the experimental class increased significantly to 74, while the control class only reached 64. This improvement indicates that the Outdoor Learning method is able to make a greater contribution to the improvement of the understanding of environmental concepts, especially since this approach actively engages students in direct observation and exploration of the surrounding environment.

Furthermore, in the aspect of environmental care, the results of the pretest questionnaire showed that the average score of the experimental class was 86, while the control class was 81. After the treatment was administered, the experimental class increased on average to 92, while the control class increased to 89. Although the average difference in post-learning is not very large, the tendency for higher increases in experimental classes suggests that this method of experiential learning not only improves the cognitive aspects of students, but also effectively shapes attitudes and awareness of the importance of preserving the environment.

Further analysis of the students' initial abilities showed that the two groups were in a relatively equal range of abilities. In environmental literacy, the experimental class had a maximum score of 78 and a minimum of 17, while the control class had a maximum score of 72 and a minimum of 11. This range of grades indicates a diversity in students' initial abilities in both classes, but the differences are not significant, so methodologically it is justifiable that different treatment can be given to see the influence of each learning approach.

Similarly, in the aspect of environmental care, the pretest scores of experimental class students were in the range of 51–97 with an average of 86, while the control class was in the range of 58-90 with an average of 81. This data shows that before the treatment was given, the distribution of abilities in the two classes also did not show extreme differences. Therefore, the comparison of the impact of the two learning methods after treatment can be evaluated fairly.

After the implementation of learning, the results of the posttest for environmental literacy showed a significant increase in the experimental class. The maximum value of the experimental class reached 94 and a minimum of 33, while the control

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class had a maximum value of 89 and a minimum of 22. The high minimum score in the experimental class showed that the Outdoor Learning method was not only effective for students with high ability, but also improved for students with lower initial ability.

For the aspect of environmental care, the experimental class recorded an average score of 92 with a range of 74–100, while the control class obtained an average score of 89 with a range of 66–98. Although the difference in mean values is relatively small, the minimum values in the higher experimental classes suggest that this method has a more even impact. This means that not only students with a predisposition to a positive attitude towards the environment benefit, but other students also experience a significant increase in environmental awareness.

Table 2. N-Gain score test environmental literacy test

Descriptions					
	Class			Statistics	Std. Error
N-Gain Persen	Experiment	Mean		76.6337	2.85037
		95% Confidence Interval for Mean	Lower Bound	70.8277	
			Upper Bound	82.4397	
		5% Trimmed Red		77.2451	
		Median		76.3889	
		Variance		268.112	
		Std. Deviation		16.37412	
		Minimum		33.33	
		Maximum		100.00	
		Range		66.67	
		Interquartile Range		24.32	
		Skewness		-.367	.409
		Kurtosis		-.089	.798
	Control	Mean		29.1789	4.45267
		95% Confidence Interval for Mean	Lower Bound	20.1091	
			Upper Bound	38.2486	
		5% Trimmed Red		29.5367	
		Median		28.2051	
		Variance		654.266	
		Std. Deviation		25.57862	
		Minimum		-18.18	
		Maximum		71.79	
		Range		89.98	
		Interquartile Range		44.69	
		Skewness		-.341	.409
		Kurtosis		-.863	.798

A statistical test using a paired sample t-test showed that the significance value (2-tailed) was 0.000 < 0.05, both for environmental literacy and environmental concern, which means that there was a significant difference between the pretest and posttest in the experimental class. In addition, the N-Gain analysis showed that the average score for environmental literacy was 76.6% and environmental care attitudes were 67%, both in the "moderately effective" category. Meanwhile, in the control class that used the conventional method, the results of the calculation of the N-gain Score test, showed that the average score of the N-gain score for the environmental literacy test and the environmental care attitude questionnaire, which was 29% and -56%, was included in the "ineffective" category.

Increasing environmental literacy and environmental care attitudes in experimental class students proves that environment-based learning through *the Outdoor Learning* method is more effective than conventional learning. This finding is in line with the results of Purnomo's (2024) research, which states that learning methods outside the classroom are able to increase understanding and concern for environmental conservation. In the

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context of science learning, which is contextual and applicative, learning activities outside the classroom allow students to interact directly with real objects relevant to the material, such as environmental pollution.

Table 3. N-Gain score questionnaire questionnaire attitude concerned about the environment

Descriptions					
	Class			Statistics	Std. Error
N-Gain Persen	Experiment	Mean		67.1628	5.40688
		95% Confidence Interval for Mean	Lower Bound	56.1493	
			Upper Bound	78.1762	
		5% Trimmed Red		68.8708	
		Median		64.2857	
		Variance		964.734	
		Std. Deviation		31.06017	
		Minimum		.00	
		Maximum		100.00	
		Range		100.00	
		Interquartile Range		61.41	
		Skewness		-.381	.409
		Kurtosis		-1.066	.798
	Control	Mean		-56.3946	55.38201
		95% Confidence Interval for Mean	Lower Bound	-169.2041	
			Upper Bound	56.4148	
		5% Trimmed Red		1.4383	
		Median		42.1053	
		Variance		101216.495	
		Std. Deviation		318.14540	
		Minimum		-1600.00	
		Maximum		92.31	
		Range		1692.31	
		Interquartile Range		57.81	
		Skewness		-4.068	.409
		Kurtosis		18.264	.798

Table 4. Average N-gain score value of experimental class and control class

Class	Instruments	Value	Category
Experiment	Environmental literacy test	76,6%	Quite effective
Control		29%	Ineffective
Experiment	A Survey of Environmental Care	67%	Quite effective
Control		-56,3%	Ineffective

According to McBeth & Volk (2010), the components of environmental literacy include knowledge, attitudes, cognitive skills, and responsible behavior. These four components can be honed well when students actively participate in exploratory activities and direct observation in the outdoors. In this study, students not only understand the theory of environmental pollution, but also directly observe the environmental conditions around the school. This experience has a stronger affective and cognitive impact than just listening to explanations in class.

As for the aspect of caring for the environment, indicators such as maintaining cleanliness, using natural resources wisely, and involvement in environment-based activities, become more real when students experience activities involving the environment firsthand. This is reinforced by the opinion (Nenggala 2020), which affirms that an attitude of caring for the environment can be cultivated through active involvement in environmental activities, such as cleaning the school environment, sorting waste, or observing polluted water flows.

The results of N-Gain, which showed moderate to high effectiveness, reinforce that *experiential learning* such as *Outdoor Learning* is very suitable to be applied in science education. In addition to improving cognitive learning outcomes, this method also has an impact on the formation of attitudes and behaviors, which is the main goal of environmental education. This discussion leads to one important point, that *the Outdoor Learning* method not only provides a quantitative improvement in learning outcomes, but also qualitatively provides meaningful experiences for students to better understand and love their environment. Therefore, this method is highly recommended to be implemented more widely and integrated in the science learning curriculum at the madrasah and elementary and secondary school levels.

CONCLUSION

The results of the research and analysis in the previous chapter, there are influences related to the use of the Outdor Learning method or learning carried out outdoors to improve environmental literacy skills and students' environmental care attitudes can be seen from the results of the calculation of test sheets and questionnaire sheets observed by observers better than in classrooms without using the Outdor Learning learning methodor still using conventional methods in science lessons in class I MTs Hamzanwadi NW Gelogor. The conclusion of this study is that the Outdor Learning Method or out-of-class learning is influential in improving students' environmental literacy skills and environmental care attitudes in science lessons in grade 1 (one) of MTs Hamzanwadi NW Gelogor.

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