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The Use of Environment Exploration Learning Approach to Improve Students' Learning Outcomes in Science Learning at MI Darul Ulum

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Abstract. This study aimed: (1) to measure the student learning outcomes on the use of Environment exploration learning approach; (2) to find out the results of descriptive analysis of student learning outcomes with descriptive tests; (3) to describe the increase of each student's achievement. The method used is experimental by using a pre-experimental design (one-group pre-test post-test design), the data collection technique used in this study is test. The results of research shows that: (1) student learning outcomes increased with an average pretest score of 48 and an average posttest score of 78; (2) the results of the descriptive analysis show that the roaming approach can improve student learning outcomes; (3) the overall value of student learning outcomes increased with an average N-Gain of 0.59 with a moderate classification. based on the results of the study, it can be concluded the use of environment exploration learning approach significantly improve the students' learning outcomes in science learning.

INTRODUCTION

Education is an effort made by humans towards a better direction and can improve the standard of human life, so that educational goals are achieved, it is necessary for educators to always improve and develop learning methods to solve problems and improve student achievement [1]. Education has an important role in life because it plays a role in the process of improving the quality of human resources as a whole [2]. Education as an important need for humans in order to develop to achieve their goals [3].

Natural science is a science that studies nature, its contents, and all the phenomena that exist in it [4–5], and is a lesson that places great emphasis on process skills [6]. The lack of mastery of science concepts is caused by students who have difficulty understanding and responding to the learning taught by the teacher [7]. Science is the main subject in Indonesia, one of which is at the elementary school level [8–9].

Science learning will be better studied with teaching aids, and this is very minimally found in elementary schools. Sources of subject matter only come from books and teacher information so that students' visualization of the material being studied is low and results in boredom and difficulty understanding science lessons [10]. Science learning often involves students in order to achieve learning objectives and students can think critically, creatively, and innovatively [11]. Science learning can be directed in groups so that it can facilitate students' understanding of the natural surroundings [12–13].

Science learning in elementary schools can give a student curiosity scientifically, help students develop their ability to ask questions and find out the answers through natural phenomena and study them scientifically [7,14]. In teaching and learning activities, the use of conventional methods results in the teaching and learning process being ineffective, and unattractive [15]. The use of conventional methods is only 5% of students who can understand material so it is less effective to apply [16]. Science learning in ensuring its success is influenced by students' interest in learning [17].

Interest in learning is a feeling of interest or inclination of the heart in an activity [1]. Low interest in learning can lead to less than optimal learning activities of students [18]. Students who do not have a dominant interest in learning ignore the tasks given so that it has an impact on student learning outcomes [19,20].

Learning outcomes are the ability of students after carrying out teaching and learning activities that are measured through 3 aspects, namely: first cognitive in the form of knowledge and understanding, second affective in the form of assessing student behavior, and the third psychomotor in the form of the level of mastery of students through learning experience [21]. Elementary school science learning outcomes include several things, namely: mastery of scientific products, mastery of scientific processes, and mastery of scientific attitudes [22].

Based on the results of observations made by researchers at MI Darul Ulum, Samuda Besar Village, Mentaya Hilir Selatan District, teachers still use conventional methods in the learning process and only use book media as the main focus when teaching. Teachers also still do not use the surrounding environment as a learning resource. There are no activities for students to explore, describe, and report their learning outcomes. Students only receive the learning explained by the teacher. The learning process, especially science lessons, is better by incorporating simple investigation activities, discussions and going directly to the environment [23]. One alternative that can be done is to use a learning approach to exploring the surrounding nature [24].

Exploration of the Surrounding Nature is an approach that utilizes the environment as a learning resource in which to study phenomena scientifically [25–27]. Utilization of the environment as a learning resource for students can support learning activities optimally [28]. The use of the environment as a medium is very efficient and effective, this is because it does not require expensive costs. The environment becomes a supporting medium and helps provide opportunities for students to achieve learning goals, motivate, increase knowledge and hone students' abilities [8]. The environment can be said as a "laboratory" or a place of exploration, experimentation, and self-expression for students [29].

Based on the introduction above, researchers are interested in knowing the learning outcomes of students with the surrounding nature roaming approach, to find out the results of descriptive analysis on student learning outcomes with descriptive tests, to determine the increase in achievement obtained by each student to Improve Student Learning Outcomes in Science Learning at MI Darul Ulum.

METHOD

This research was conducted in MI Darul Ulum, Samuda Besar Village, Mentaya Hilir Selatan District, East Kotawaringin Regency, Central Kalimantan Province. The research was conducted in class VI, which consisted of 15 students. The research was carried out at MI Darul Ulum on August 23 and 24, 2021. The pretest was held on August 23, 2021, this is to see and find out the students' initial abilities. After the pretest was carried out, on the same day treatment was carried out in the experimental class in the form of material exposure followed by exploration of the surrounding nature. On August 24, 2021, a posttest was conducted to determine student learning outcomes. The method used in this study is an experimental method using a pre-experimental design (one-group pre-test post-test design) [30]. The research design is as follows:

TABLE 1. Research Design One Group Pretest-Posttest

Pretest	Treatment	Posttest
O1	X	O2

Data collection techniques using research instruments in the form of pretest and posttest. After the data is obtained, the next step is to process and analyze the data using statistical tests, namely descriptive tests to see descriptive analysis on student learning outcomes. Then proceed with calculating N-Gain to see the increase in achievement obtained by each student [30]. The N-Gain test was conducted to determine the success rate of learning outcomes. Calculation of N-Gain using the following normalized gain formula [31]:

$$g = \frac{S_{post} - S_{pre}}{S_{maks} - S_{pre}}$$

The scoring category is divided into 3, namely:
1. High : $g > 0.7$
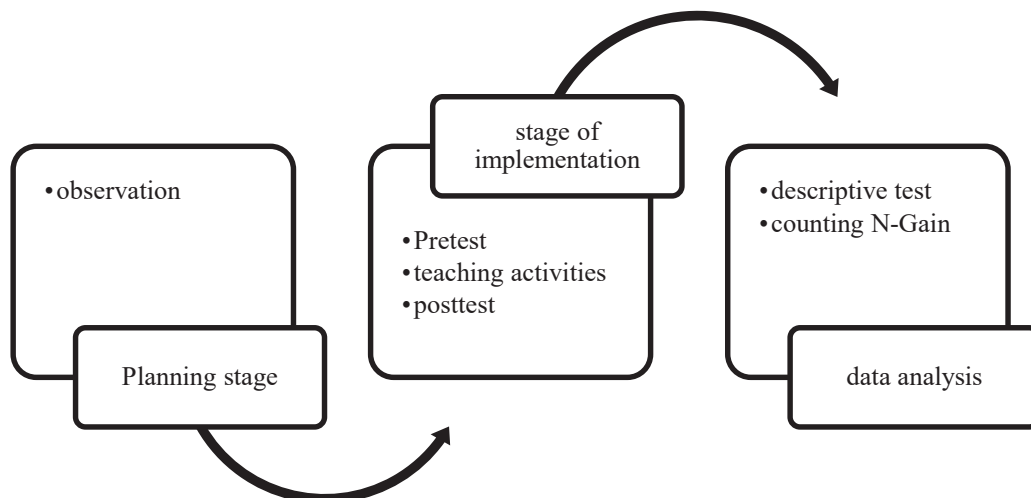2. Currently : $0.3 < g < 0.7$
3. Low : $g < 0.3$

FIGURE 1. Research Stages

RESULTS AND DISCUSSION

After the research was conducted, the data were obtained and analyzed. in this discussion section describes the research results obtained through the pretest and posttest as follows:

TABLE 2. Descriptive Analysis

	N	Minimum	Maximum	mean	Std. Deviation	Variance
Value_Pretest	15	30	70	48.00	11,464	131.429
Value_Posttest	15	60	90	78.00	10,142	102.857
Valid N (listwise)	15					

Based on the results of the descriptive analysis on the pretest and posttest data above, the average pretest value of the 15 students was 48 and the posttest average was 78 with a pretest variance value of 131.429 with a standard deviation of 11.464 and a posttest variance value of 102.857 with a standard deviation of 10.142, from the results above, it can be seen that the posttest results increased significantly than the pretest results, so it can be concluded that the use of roaming around can improve student learning outcomes.

After the statistical test is done, namely descriptive analysis, then the next step is to calculate the N-Gain to determine the increase in achievement obtained by each student. The following are the results of the N-Gain test calculation:

TABLE 3. Pretest, Posttest, Gain, and N-Gain Scores From the Learning Outcomes of Class VI Students at MI Darul Ulum Samuda Besar

No	Student's name	Pretest Score	Posttest Score	Gain	N-Gain Value	Classification
1	Student 1	50	90	40	0.8	High
2	Student 2	60	90	30	0.8	High
3	Student 3	30	70	40	0.6	Currently
4	Student 4	40	70	30	0.5	Currently
5	Student 5	50	80	30	0.6	Currently
6	Student 6	40	70	30	0.5	Currently
7	Student 7	30	60	30	0.4	Currently
8	Student 8	50	80	30	0.6	Currently
9	Student 9	60	90	30	0.8	High
10	Student 10	40	90	50	0.8	High
11	Student 11	50	70	20	0.4	Currently

No	Student's name	Pretest Score	Posttest Score	Gain	N-Gain Value	Classification
12	Student 12	50	80	30	0.6	Currently
13	Student 13	60	70	10	0.3	Currently
14	Student 14	40	70	30	0.5	Currently
15	Student 15	70	90	20	0.7	Currently
	Average	**48**	**78**	**30**	**0.59**	

Based on table 3, the average pretest score of 15 students was 48, and the average posttest score was 78 of 15 students, so it can be concluded that after treatment in the experimental class showed significant results with an increase in average the average value from before treatment to after treatment. Utilization of Natural Surroundings has an effect on improving student learning outcomes at MI Darul Ulum, Samuda Besar village. The results of the N-Gain test calculation, it can be seen that from 15 students, there are 4 students who have a high classification and 11 students have a medium classification. The average N-Gain score is 0.59 with a moderate classification of 15 students.

(a)

(b)

(c)

(d)

FIGURE 2. The Process of Research Activities, Namely (A) Pretest and Material Presentation, (B) Posttest, (C) Explanation about Exploring the Surrounding Nature, and (D) Exploring Nature.

CONCLUSION

Based on the research that has been done, the following conclusions can be drawn: student learning outcomes increase with an average pretest score of 48 and an average posttest score of 78, the results of descriptive analysis show that the approach to exploring the surrounding nature can improve student learning outcomes, the value of student learning outcomes increased overall with an average N-Gain of 0.59 with a moderate classification.

Utilization of the environment has an effect on improving student learning outcomes if applied properly, but can be an obstacle in the learning process if it is not prepared thoroughly.

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