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APPROACH TO THE NATURAL ENVIRONMENT (PLAS) TO IMPROVE SCIENCE LEARNING OUTCOMES

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ABSTRACT

The background to this research is that there is a problem of low learning outcomes for class V students in science content which is caused by the use of less varied learning approaches. The research method used in this research is quasi-experimental with a *Non-Equivalent Control Group Design.* research menggunakan soalmultiple choice tests and observation sheets. Based on statistical testing, namely the t test on the final test (*posttest*) data, it was obtained that T_{count} was 2.31<T_{table} 3.29, so the hypothesis was accepted, meaning that there were differences in learning outcomes for classes that used the PLAS approach and classes that used the conventional approach. Based on the results of the N-Gain test, it is known that the experimental class test results before the PLAS approach (*pretest*) were given an average score of 44.13. Meanwhile, the test result after being given the PLAS approach treatment (*posttest*) was 81.30. Then we get an N-Gain result of 0.648, so according to the N-Gain criteria, this result can be stated as a medium criterion. Meanwhile, the test results in the control class carried out before using the PLAS approach (*pretest*) obtained a score of 42.05. After being given treatment it became 59.55. And obtained an N-Gain result of 0.295, according to the N-Gain criteria, this result is stated as low criteria. The results of this research show that the application of the natural environment approach (PLAS) can improve students' science learning outcomes.

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1. INTRODUCTION

Science learning is one of the materials introduced in elementary schools (SD). Science learning is not only about mastering a collection of knowledge in the form of facts, concepts or principles, but is also a process of discovery. The learning process emphasizes providing direct experience to develop students' competencies so they can explore and understand the natural surroundings systematically.

Based on the results of observations carried out in elementary schools, several problems were found. The first thing is that many students' science learning outcomes are still below the KKM. This can be proven by the students' daily science test scores based on data after observing the class V homeroom teacher. In class VA, of the 23 students, the percentage of students below the KKM is 70%, while above the KKM it is 30%. Meanwhile, in class VB, with a total of 22 students, the percentage of students below the KKM is 60%, while above the KKM it is 40%.

Another problem is that the approach used is not yet varied. Based on evidence that supports this problem, the researcher's observations regarding students' attention to science learning have not been focused due to unpleasant learning conditions because teachers only use conventional approaches in the classroom. This is different from the theory put forward by Listyawati (Widiana, 2016) that science subjects are one of the basic subjects that must be studied by including other objects that support this learning.

Based on the problems above. So an improvement is needed, especially an approach that is believed to improve students' science learning outcomes. In this case, teachers can use the natural environment approach (PLAS) which can be used as an approach that can be applied in learning by utilizing the surrounding natural environment as a source and means of learning. As according to Rousseau (Meilani, 2017), children should learn directly from their own experiences rather than just relying on explanations from books.

Fitriana (Eli et al., 2020) states that PLAS is a learning approach that emphasizes children's learning experiences with the surrounding natural environment. Another opinion was expressed by Bintari (Lukman et al., 2015) who stated that the use of the environment around the school as a learning resource that is well planned and organized and interesting will have an effect on the student learning process, which in turn will increase student activity in learning.

Based on this description, it can be explained that the approach to the natural environment in learning can influence students' science learning outcomes. However, it is not yet known the magnitude of the impact of applying the environmental approach to learning outcomes. This is what underlies the need for further studies regarding the application of the natural environment approach to science learning outcomes. Based on the problems that have been raised, the implementation of this research aims to prove that the natural environment approach can improve students' science learning outcomes.

2. RESEARCH METHODS

The type of research used is quantitative research with a Quasi Experimental method which aims to find out how to apply the environmental natural environment approach (PLAS) to improve learning outcomes in class V science content at SD Negeri 3 Lengkong. The design used in this research is *Non-Equivalent Control Group Design.* This research used two classes, namely the experimental group group which was assisted by being given treatment *using* PLAS and the control group group which was assisted by receiving treatment using a conventional approach. In this design the test is carried out twice, namely *pretest* and *posttest.* The initial test (*pretest*) was carried out before the experimental class and control class were given treatment with the aim of finding out the students' initial abilities. then a final test (posttest) was carried out after the experimental class and control class received different treatment. From the results of the posttest, it will be known whether using PLAS is better than using a conventional approach in improving learning outcomes. according to Sugiyono (Sunarti et al., 2019) this design can be describedpada Tabel 1.

Table 1. Research Design

Group	Pretest	Treatment	Posttest
Experiment	O_1	X	O_2
Control	O_3		O_4

(Sugiyono, 2016:116)

3. RESULTS AND DISCUSSION

3.1. Results

The researcher made observations in the experimental class at meeting 1 and meeting 2 during the implementation of learning using the natural environment approach (PLAS). The following are the results of teacher teaching observations and the results of student learning observations at meetings 1 & 2 in table form as follows.

Table 2. Data from Teacher Teaching Observations At Meeting 1 and Meeting 2

Meeting	Observed aspects										Score (%)	Criteria
	1	2	3	4	5	6	7	8	9	10		
1	3	3	3	3	3	2	2	3	2	3	67.5%	Tall
2	4	3	3	3	3	3	3	3	3	3	85%	Very high
Average	3.5	3	3	3	3	2.5	2.5	3	2.5	3	72.5%	Tall

(Research Results at SDN 3 Lengkong)

Based on Tabel 2 it is known that the score obtained from observations of teachers' teaching activities in implementing PLAS obtained an average score of 72.5% with high criteria. The score obtained at meeting 1 obtained an average score of 67.5% with high criteria, this was because the teacher was still adapting learning using PLAS, the time allocation was not in accordance with the RPP and was still unable to master the class. Meanwhile, at meeting 2, an average score of 85% was obtained with very high criteria, this was because teachers had begun to be able to condition students and prepare for learning using PLAS better.

Table 3. Data from Student Learning Observations At Meeting 1 and Meeting 2

Meeting	Observed aspects										Score (%)	Criteria
	1	2	3	4	5	6	7	8	9	10		
1	4	3	4	4	2	4	2	3	2	4	80%	Very high
2	4	4	4	4	3	4	3	4	4	4	95%	Very high
Average	4	3.5	4	4	2.5	4	2.5	3.5	2.5	4	86.25%	Very high

Based on table 3, it is known that the score obtained from observations of student learning activities in implementing PLAS obtained an average score of 86.25% with very high criteria. The score obtained at meeting 1 obtained an average score of 80% with very high criteria. Meanwhile, at meeting 2, an average score of 95% was obtained with very high criteria. Based on the scores obtained, students' enthusiasm when learning using PLAS is very high, and students experience learning that is not monotonous by just transferring knowledge but is directly confronted with the reality in the environment around students so that students' attention can be focused on science learning.

Once the results of the normality of the pretest scores and the posttest scores are normally distributed, the data is then continued by using statistical tests. Hypothesis testing is carried out using the t test at a significance level of 0.01, with the test criteria being to reject H_0 if $t_{count} > t_{table}$.

Table 4. Posttest Hypothesis Test Results Experimental Class and Control Class

Statistics	Average	Variance	The number of students	t_{value}	t_{table}
Experiment	81.17	8.28	23	10.09	3.29
Control	59.42	6.00	22		

Based on table 4, the results of the posttest hypothesis test carried out by the experimental and control classes, obtained a $t_{count\ of}$ 10.09 at degrees of freedom (db) 43. By taking a significance level of 0.01. So, the $t_{table\ value}$ is 10.09. So, the results obtained $_{are\ t}$ (2.31) $<t_{table}$ 3.29. Thus, h_1 is accepted which means that there is a significant difference in learning outcomes between the experimental class which uses the natural environment approach (PLAS) and the control class which uses the conventional approach.

To determine the increase in N-gain in student learning outcomes between the experimental class whose learning activities used the natural environment approach (PLAS) and the control class which did not use the natural environment approach (PLAS), the gain was calculated. The following are the gain results from the experimental class and control class which can be seen in the table below.

Table 5. N-Gain Results for Experimental Class and Control Class

Statistics	Pretest	Posttest	N-Gain	Criteria
Experiment	44.13	81.30	0.648	Currently
Control	42.05	59.55	0.295	Low

3.2. Discussion

The findings prove that the natural environment approach (PLAS) can improve students' science learning outcomes. This is proven based on data analysis of *pretest* and *posttest results, the* cognitive learning outcomes of class V students at SD Negeri 3 Lengkong have increased. The comparison of the average number *of pretest* and *posttest* is 59.42<81.17. During *the pre-test* the learning outcomes were still low and during *the post - test* the learning outcomes increased.

There are several indicators of student learning outcomes as mentioned in chapter 2 page 18, namely the cognitive domain (knowledge), the affective domain (attitudes), the psychomotor domain (skills). Based on the three learning outcome indicators above, what is measured in this research is cognitive learning outcomes which have increased based on the results of knowledge tests in the form of multiple choice questions. This increase occurs because the natural environment approach (PLAS) can make students play a more active role in learning, students' attention is more focused, and learning is more meaningful because students are exposed directly to natural situations. So, the knowledge gained will be retained longer by discovering concepts from facts that have been seen from the environment and teacher guidance compared to just getting the concept from the teacher's explanation alone.

In science learning, the material on the benefits of water for living creatures using the application of the natural environment approach (PLAS) can help students to improve learning outcomes. This is supported by experts' statements, Mohammad, 2015. The concept of utilizing the environment for learning provides an excellent opportunity for students to improve their learning outcomes.

Apart from that, research conducted by Endar Dwi Jayanti in 2018 entitled "Application of the Surrounding Natural Environment Approach (PLAS) to Improve Student Learning Outcomes", in this research explains that the application of the surrounding natural environment approach can improve the learning outcomes of class IVb students at Karangrejek State Elementary School. II. It is proven that in the cognitive domain learning results in pre-action, the percentage of KKM achievement was 45.45%, increasing to 81.82% in cycle I, in the affective domain, the pre-test results achieved 50%, increasing to 88.98%, while in the psychomotor domain, the pre-test results were 45. .45% increased to 86.19%. Thus, it has been proven that the application of the environmental natural environment approach (PLAS) to student learning outcomes in science learning in class V of SD Negeri 3 Lengkong has increased. The environmental approach is a learning that seeks to increase student involvement through knowledge and understanding by observing for themselves what is in the surrounding environment.

Learning using an environmental approach is meaningful learning for students, because this learning provides experience directly related to science concepts, especially regarding the benefits of water for living things. The teacher invites students to study outside the classroom, shows objects that will be used as learning resources, continues by explaining the material, and asks students to observe the surrounding environment regarding the use of water by living creatures. Then the teacher gives students the opportunity to work with the groups that have been distributed to fill in the group worksheet.

This shows that students are interested and increasingly enthusiastic about learning by using an approach to the natural environment. Students are given the opportunity to explore the material studied. In addition, material studied using a natural environment approach can stick in students' memories longer so that it can ultimately help improve student learning outcomes. Thus, it can be concluded that learning activities using the natural environment approach (PLAS) in class V of SD Negeri 3 Lengkong have a positive impact on student learning outcomes. This can be seen from the average scores obtained during the pretest and posttest. Based on test analysis, it shows that student learning outcomes before being given treatment are very different from after being given treatment by researchers. Where after being treated using the natural environment approach (PLAS) student learning outcomes became higher which had an influence on student learning outcomes. Based on the data results described above, research data using the environmental natural environment approach (PLAS) has been proven to be able to improve student learning outcomes in science content in class V.

4. CONCLUSION

Based on the research results and the results of data analysis that has been carried out regarding the application of the environmental natural environment approach (PLAS), the researchers can conclude that; (1) There are differences in learning outcomes between classes that were given treatment in the form of a natural environment approach (PLAS) and the learning outcomes of students who used a conventional approach in the science learning process regarding the benefits of water for living creatures, in class V students at SD Negeri 3 Lengkong. (2) There is an increase (n-gain) in learning outcomes between students who receive treatment using the natural environment approach (PLAS) which is higher and the learning outcomes of students who use the conventional approach are lower in class V of SD Negeri 3 Lengkong.

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