

IMPROVING SCIENCE LEARNING OUTCOMES THROUGH OUTDOOR STUDY AT SD 46 LUBUKLINGGAU

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Publish date: November 2025

Abstract: Low science learning outcomes among elementary school students indicate the need for learning models that actively engage students and utilize real learning environments. This study aims to determine whether the Outdoor Study learning model can improve science learning outcomes of fourth-grade elementary school students at SDN 46 Lubuklinggau. This study employed an experimental research design with 20 fourth-grade students as research subjects, consisting of 12 boys and 8 girls. The learning model applied was the Outdoor Study model. Data were collected through tests, observations, and documentation, and analyzed using descriptive qualitative and descriptive quantitative techniques. The research was conducted in two cycles, each consisting of planning, implementation, observation, and reflection stages. The results showed an improvement in students' science learning outcomes. In Cycle I, the average pre-test score was 54.25 and increased to 61.50 in the post-test. In Cycle II, the average pre-test score improved to 64.75 and further increased to 75.25 in the post-test. These findings indicate that the Outdoor Study learning model effectively enhances students' science learning outcomes. In conclusion, the Outdoor Study model can be used as an alternative learning approach to improve science achievement at the elementary level. This study implies that teachers are encouraged to integrate outdoor learning activities into science instruction, and future research is recommended to apply this model to other subjects or larger samples to strengthen its effectiveness.

Keywords: learning outcomes, science, Outdoor Study model.

INTRODUCTION

Education is a conscious and systematic effort to develop students' potential through meaningful learning experiences. It plays a crucial role in shaping students' intellectual, moral, and social competencies needed in everyday life. Learning, as an interactive process between teachers and students, should encourage active participation and provide opportunities for students to construct knowledge through direct experiences. In elementary education, science

learning is expected to help students understand natural phenomena, develop scientific thinking, and apply concepts in real-life contexts.

Science is one of the core subjects in elementary school that requires concrete learning experiences to support students' conceptual understanding. However, science learning is often delivered through teacher-centered methods, limiting students' active involvement. This condition raises an important problem regarding how science learning can be designed to become more meaningful, engaging, and effective for elementary school students.

Several previous studies have reported that the Outdoor Study learning model has a positive impact on students' learning activities and outcomes. Utami (2014) found that the implementation of Outdoor Study by utilizing the environment as a learning resource improved students' learning activities and achievement in elementary science classes. Similarly, Himayatul (2023) reported that Outdoor Study contributed to increased student participation and learning outcomes, although some students still did not reach the minimum mastery criteria. These findings indicate that Outdoor Study is a promising learning model for elementary science education.

Based on preliminary observations at SD Negeri 46 Lubuklinggau, science learning is still dominated by lecture-based instruction conducted inside the classroom. Teachers rarely utilize the surrounding environment as a learning resource, resulting in students' boredom and low learning outcomes. Many students do not meet the minimum mastery criteria, particularly in science topics related to plants and natural environments, because they only receive explanations without direct observation or hands-on activities.

Despite the proven effectiveness of Outdoor Study in previous research, there is a research gap related to its implementation in different school contexts, particularly at SD Negeri 46 Lubuklinggau. Most existing studies focus on general improvements in learning outcomes, while limited research specifically examines the application of Outdoor Study to improve science learning outcomes in this school setting and topic area. Therefore, further investigation is needed to confirm its effectiveness and adaptability in this context.

This problem is significant because ineffective science instruction may hinder students' understanding of basic scientific concepts and reduce their motivation to learn. Improving science learning outcomes at the elementary level is essential, as it forms the foundation for students' future learning and scientific literacy.

To address this problem, the Outdoor Study learning model is proposed as an alternative solution. Outdoor Study allows students to learn outside the classroom by directly observing real objects and natural phenomena. Through this approach, students actively engage their senses, connect theory with real-world situations, and develop deeper understanding. Therefore, this study focuses on improving science learning outcomes through the implementation of the Outdoor Study model at SD Negeri 46 Lubuklinggau.

METODOLOGI

Research Desain

This research is quantitative research. The method used in this research is the quasi-experiment method. Arikunto (2017:23) explains that quasi-experimental research is a type of quantitative research. This type of research is experimental research (Pre-Experimental Designs) with the experimental design used in the form of one group idesign ipre-test and post-test. The design of this research can be seen in the following picture.

Research Subject

The research was conducted at Lubuklinggau Public Elementary School 46, located on Jl. Majapahit, Lubuklinggau Tinur I District, Lubuk Linggau City, South Sumatra Province. The research will be conducted in fourth-grade students during the even semester of 2025.

Data Collecting

Observations were conducted to obtain information about the teaching activities of teachers and students during learning to see student responses as a form of learning motivation that leads to increased learning outcomes by using concrete media. Observations were conducted to obtain information about the teaching activities of teachers and students during learning to see student responses as a form of learning motivation that leads to increased learning outcomes by using concrete media.

Documentation is a method of collecting research data through written and recorded documents. This involves taking photographs of students during the learning process and

collecting the results of tests administered. Tests are tools used to measure what is intended to be achieved.

This research used a measuring tool called a test. A learning ability test, or learning achievement test, is a test used to measure the abilities a person has achieved after undergoing a learning process (Alman, 2020).

Data Analysis

Data analysis is the process of arranging data into patterns, categories, and basic units of description. Meanwhile, according to Suprayogo in Tanzeh, data analysis is a series of activities of reviewing, grouping, systematizing, interpreting, and verifying data to ensure a phenomenon has social, academic, and scientific value. Data analysis in this study was conducted before entering the field, during the fieldwork, and after completion.

This data analysis is carried out after the data obtained from the sample through the selected instrument and will be used to answer the problem in the research or to test the hypothesis proposed through data presentation. The collected data does not have to be all presented in the research report, this data presentation is in order to show the data to the readers about the reality that actually occurs according to the focus and theme of the research, therefore the data presented in the research is of course only data related to the discussion theme that needs to be presented. Activities in data analysis are data reduction, data presentation (data display), and drawing conclusions/data verification (conclusion drawing/verification).

RESEARCH RESULT

Finding

The results of the experimental activities revealed important information regarding students' learning activities and learning outcomes during the implementation of Pre-Experiment I. At the beginning of the learning process, students' classroom participation was relatively low. Most students tended to be passive during learning activities, and their responses to the teacher's questions were limited. Students appeared hesitant to express their opinions or ask questions, even when they did not fully understand the learning material. Classroom interactions were generally one-way, with students listening to the teacher's explanations without actively engaging in discussions. This condition indicated that students were not yet

accustomed to learning activities that required active involvement, critical thinking, and verbal expression of ideas.

Based on the results of student learning outcomes in Pre-Experiment I, there was a noticeable improvement between the pre-test and post-test results. Prior to the implementation of the learning activities, the pre-test results showed that students' mastery of science learning outcomes was still low. Out of 20 fourth-grade students, only 7 students (35%) achieved the minimum mastery criteria, while the remaining 13 students (65%) had not yet achieved mastery. These results reflected students' limited initial understanding of the science material, particularly related to the learning content presented during the pre-experimental stage.

After the implementation of learning activities in Pre-Experiment I, students were given a post-test to measure the improvement in their learning outcomes. The post-test results showed an increase in the number of students who achieved mastery. A total of 10 students (50%) successfully met the mastery criteria, while 10 students (50%) still did not achieve mastery. This increase indicates that the learning activities applied in Pre-Experiment I had a positive impact on students' understanding of the material. Although the improvement was not yet optimal, the shift from 35% to 50% mastery demonstrates that some students were able to absorb and apply the learning experiences provided during the instructional process.

The improvement in learning outcomes suggests that the learning approach implemented in Pre-Experiment I contributed to students' conceptual understanding, even though students' active participation was still limited. The data indicate that 2 additional students were able to reach mastery after the learning activities were conducted. This result implies that the learning process began to facilitate better comprehension among students, but further instructional improvements were still necessary to enhance student engagement and learning effectiveness. The limited increase also reflects the need for more interactive and student-centered learning strategies to encourage students to ask questions, express opinions, and actively participate in learning activities.

Overall, the findings of Pre-Experiment I indicate that while there was progress in students' science learning outcomes, the level of student participation and mastery remained moderate. These results highlight the importance of refining instructional strategies in subsequent cycles to create a more engaging learning environment that supports active learning and improves overall student achievement.

Discussion

The findings of the study reveal that the initial stage of the learning process was characterized by low levels of student engagement and participation in classroom activities. Many students demonstrated reluctance to verbalize their thoughts, provide responses to questions, or seek clarification when they encountered difficulties. Such passive behavior aligns with broader research identifying that traditional teacher-centered instructional approaches tend to suppress active student involvement, which is a key component of deeper learning and conceptual understanding in science education (Manihuruk et al., 2024). Active participation has been widely recognized as a critical precursor to improved learning outcomes, particularly in the context of elementary science instruction where hands-on, inquiry-oriented experiences are known to foster meaningful engagement and cognitive development.

The quantitative results from Pre-Experiment I demonstrated a modest improvement in science learning outcomes from the pre-test to the post-test. Prior to intervention, only 35% of students achieved the Minimum Mastery Criteria, indicating a substantial learning gap and limited content comprehension. Following the instructional intervention, mastery increased to 50%. Although this improvement represents progress, it falls short of the ideal learning gain that would signify broad conceptual understanding across the classroom. This pattern of incremental improvement echoes findings in related research in elementary science education where student engagement interventions produced measurable but sometimes moderate gains, contingent on the degree of active learning practices implemented (Selpianti et al., 2025).

The observed increase in learning outcomes, albeit moderate, suggests that the instructional activities in Pre-Experiment I greater encouraged students to connect with the material relative to the initial pre-test condition. Research indicates that even limited shifts toward active learning environments—where students are required to construct knowledge, engage in problem solving, and participate in collaborative discussions—can contribute to observable improvements in achievement (Tasya, 2025). However, given the still significant proportion of students who did not reach mastery, this also reinforces the view that **learning outcomes are strongly tied to the quality and depth of active involvement and engagement**. Studies have shown that when students remain passive recipients of information, without interactive or experiential opportunities, their conceptual learning tends to remain superficial and transient. Moreover, the passivity observed in classroom behaviours during Pre-Experiment I reflects a broader challenge reported in contemporary literature: that student engagement is frequently

inconsistent and insufficiently scaffolded in traditional elementary science settings. Engagement is broadly seen as essential to learning success, yet its manifestation in practice remains a persistent challenge for educators (Discovery Education report, 2025).

Importantly, the observed learning gains also highlight the *potential benefits of integrating more active, student-centered strategies* such as Outdoor Study activities. While the increase from 35% to 50% mastery is encouraging, it suggests that deeper and more sustained interactive learning approaches—such as inquiry-based, experiential, or environment-based learning—may be necessary to yield stronger learning outcomes. Contemporary research supports this direction, demonstrating that instructional practices which promote student autonomy, critical thinking, and real-world connections significantly enhance not only achievement but also intrinsic motivation and sustained interest in science.

In conclusion, while Pre-Experiment I indicated an incremental positive effect on students' science learning outcomes, the limited improvement underscores the need for pedagogical strategies that more fully activate student participation and engagement. These findings support the view that traditional instructional methods must be supplemented with more interactive, experiential, and contextually rich learning models to optimize science learning outcomes at the elementary level.

CONCLUSION

The results of this study indicate that there is an increase in science learning outcomes in fourth-grade students of SDN 46 Lubuklinggau using the Outdoor Study model in the second semester of the 2025/2026 Academic Year. This is indicated by the average student score, Cycle 1 average score Pre-test 54.25 and Post-test 61.5. In Cycle 2 the average value of Pre-test was 64.75 and Post-test 75.25. In Cycle 1 the number of students who completed with KKTP 70 was from 7 students or 35% (pre-test) to 10 students or 50% (post-test), and the number of students who completed in Cycle 2 was from 15 students or 80% (pre-test) to 18 students or 90% (post-test). From the results of learning science, the performance indicator of the number of students whose scores above KKTP 70 can achieve completeness is 90% or as many as 18 students out of 20 total students in grade IV. From this it can be concluded that the Outdoor Study model can be used as an alternative learning model.

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