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Efforts to Improve Learning Outcomes through The Cooperative Learning Model Type Student Active Learning (SAL)

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Abstract

This study aims to improve science learning outcomes on heat and its transfer using the Student Active Learning (SAL) Cooperative model for class V students in the even semester of the 2023/2024 academic year. The research follows the Classroom Action Research method based on the Kemmis and Taggart model, conducted over two cycles, each consisting of planning, implementation, observation, and reflection. The study, conducted over three months (April–June 2024) with 27 students, collected data through tests, interviews, and observations. Results show an improvement in students' science learning outcomes, with test averages rising from 58.88 (pre-action) to 71.48 (cycle 1) and 86.66 (cycle 2). Interviews also revealed that students enjoyed learning science through the SAL model. In conclusion, the SAL Cooperative model effectively enhances science learning outcomes on heat and its transfer.

Keywords: *primary education, science learning outcomes, Student Active Learning (SAL)*

1 INTRODUCTION

Education is a conscious effort to preserve cultural heritage from generation to generation. It positions the current generation as role models for the teachings of previous generations. To this day, there is no comprehensive definition of education due to its complex nature, much like its goal—human beings. As a result, education is often referred to as the science of education. Education is the outcome of the educational process. Educational theory that emphasizes scientific thinking is closely aligned with the science of education. Education and the science of education are interconnected both theoretically and practically. Thus, in human life, both work together.

Education "is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble morals and skills needed by themselves, society, nation and state. (Pristiwanti, D., Badariah, B., Hidayat, S., & Dewi, R. S., 2022)

Student learning outcomes are achievements achieved by students academically through exams and assignments, active asking and answering questions that support the achievement of these learning outcomes. In academic circles, the idea often arises that educational success is not determined by a student's grades listed on a report card or diploma, but the measure of success in the cognitive field can be determined through a student's learning outcomes. (Dakhi, A. S., 2020).

Students should actively participate in the learning process, exploring and investigating material either individually or in groups, as is expected of students in school. Teachers are only responsible for assisting and guiding students to use their knowledge effectively. Students are expected to have the desire and ability to interact positively with each other

and with their educators during the learning process. They are also expected to express their opinions based on their understanding. However, student activity in learning remains low. This is evident from the lack of interest in group learning. Additionally, field-based group learning is still rare, and the results achieved are low. Most of the time, students remain passive. They only listen and receive what the teacher delivers, but are unable to ask questions, comment, or answer. Students lack the courage to respond to the teacher's questions (Adhimah, S., 2020)

Learning outcomes also serve as a benchmark for an educational institution in assessing its quality. Good learning outcomes will enhance the reputation of an institution if they are well-maintained. Learning outcomes are closely related to education itself, as defined in the concept of education (Nugraheny et al., 2019). IPA stands for "Ilmu Pengetahuan Alam," which in English is referred to as "Natural Science." 'Natural' means related to nature, and 'science' refers to knowledge. IPA discusses natural phenomena that are systematically arranged based on experiments and observations conducted by humans (Octaviary, Romdanih & Rahmad, 2020).

The essence of IPA learning is the interaction between learning components in the form of a learning process to achieve predetermined competencies. In this context, the process refers to the interaction of all components or elements involved in teaching and learning, which are interdependent in achieving the goals. IPA is specialized knowledge obtained through observation, experimentation, deduction, theory formulation, and so on, where different methods interrelate. IPA involves systematically exploring nature, making it not just the mastery of systematic collections of facts, concepts, or principles but also a discovery process. Therefore, science can also be referred to as the knowledge of nature or the study of natural events (Octaviary, Romdanih & Rahmad, 2020).

The Student Active Learning (SAL) model is a teaching approach that requires students to be fully involved in the learning process, including thinking, talking, investigating, and creating. Active learning in the classroom enables students to solve problems, tackle difficult issues, find solutions, and share their ideas in their own words through writing, discussion, and presentations. Studies show that active learning approaches are more effective for students compared to lecture-based methods. Maximizing all the resources students have to achieve the best learning outcomes is the true meaning of active learning. It is evident that this method is adapted to the students' characteristics, personalities, and learning tendencies. Active learning aims to keep students engaged. Active Learning is defined as learning that involves students in doing something and thinking about what they are doing (Slavin, 2014).

Based on observations and interviews conducted in the odd semester of the 2023/2024 academic year with teachers at SDN Kelapa Dua Wetan 03 Pagi, several learning difficulties were identified: students lacked cooperation with their peers, lacked responsibility, and were not active during learning sessions. The most significant learning difficulty was student inactivity during science lessons. According to information and science material in grade V, students particularly struggled with the topic of heat transfer in everyday life. The results showed that 17 students (63%) had not met the learning objectives, while 10 students (37%) had. The passing score (KKM) was 70. Several factors influence student engagement, including the lack of teacher involvement in the learning process. Learning has generally been teacher-centered, which tends to make students feel bored and unmotivated to engage in the ongoing lessons. When students are passive, they experience the learning process without curiosity, questions, or interest in learning outcomes. This presents a challenge for teachers, who are required to be more creative in preparing their lessons.

Based on the above explanation, the researcher feels it is important to conduct research on this issue. Therefore, efforts to improve students' science learning outcomes will be carried out through Classroom Action Research under the title: "Efforts to Improve Learning Outcomes on Heat and Its Transfer Through The Student Active Learning (SAL) Cooperative Model In Grade V Students at SDN Kelapa Dua Wetan 03 Pagi"

2 RESEARCH METHODS

The method used in this research is Classroom Action Research (CAR). Classroom Action Research involves the components within a classroom, such as students, teachers, materials, lessons, educational tools or facilities, learning outcomes (cognitive), learning environment, and management. CAR can be defined as the process of reviewing learning in the classroom through self-reflection in an effort to solve problems by taking various planned actions in real situations and analyzing the effects of those actions. This research follows the Classroom Action Research model developed by Kemmis and McTaggart (1993), using 2 cycles. Each cycle consists of four stages: planning, acting, observing, and reflecting (Priansa,2014:319). The research subjects are 27 fifth-grade students in the second semester.The data collection instruments in this research are tools that the researcher uses in the data collection method. These instruments are the best tools for organizing and facilitating the data collection process. The survey tools include observation, tests, documentation, field notes, and interviews.

This research uses the following data collection methods:

1. Observation: This technique is used to observe students' learning activities. To ensure data accuracy, researchers should allow the teacher and students to act naturally during observation.
2. Tests: To gather data on the learning outcomes of fifth-grade students, the researcher uses pre-tests and post-tests consisting of 10 multiple-choice questions. The indicators include explaining heat transfer, conductors and insulators, contraction and expansion, and identifying examples of heat transfer in daily life. A test grid is based on cognitive abilities.
3. Documentation: Data from documentation includes photos taken during the research to complement and reinforce data from observations and tests.
4. Field notes: Field notes are used as intermediary tools between what is seen, heard, felt, and touched and the actual notes in the form of written field notes. This process should be done immediately after observations or interviews to avoid mixing information and due to the limited nature of human memory.
5. Interviews: Interviews are conducted to obtain in-depth information about students' perceptions, views, knowledge, or personality aspects. Interviews are usually accompanied by an interview guide to make them more focused. A good interview is in-depth, meaning that by interpreting the students' answers, much information can be obtained that may not be found through other methods Bambang Hari Purnomo, 2019:254).

The success criteria in this research are determined by an improvement in students' learning outcomes after applying the SAL model in science lessons on heat and its transfer. This is marked by an increase in the average score and mastery of learning, based on the school's Minimum Mastery Criteria (KKM) of 70. Additionally, the number of students meeting the KKM standard should increase to at least 80% of the total students.

3 RESULT AND DISCUSSION

The Classroom Action Research was conducted by a teacher as a collaborator and a student completing a thesis based on classroom action research. The collaborator acted as a peer, providing input to the researcher by observing and evaluating the research process. This study was carried out at SDN Kelapa Dua Wetan 03 Pagi, starting with observation and pre-action activities. The subjects of the study were 27 fifth-grade students, consisting of 12 female students and 15 male students. The research was conducted in two cycles aimed at improving students' learning outcomes in science through the Student Active Learning cooperative learning model. Each cycle involved stages of planning, implementation,

observation, and reflection. The research findings showed results on the students' learning outcomes in science regarding heat and its transfer for fifth-grade students in the second semester of the 2023/2024 academic year at SDN Kelapa Dua Wetan 03 Pagi.

3.1 Sub Research Result

Based on the pre-cycle results, the average science score of the students was below the minimum mastery criteria (KKM), with a score of 58.88. Out of 27 students, only 10 students, or 37%, met the mastery criteria. The researcher aimed to improve student learning outcomes by enhancing the quality of teaching. Therefore, the observer chose to implement the Student Active Learning (SAL) cooperative learning model to improve the learning outcomes of the fifth-grade students.

Cycle I was conducted in two sessions. In this cycle, the average science test score of the class increased but did not yet reach the desired learning target of 80%. The learning outcomes in Cycle I reached 70%, still below the expected KKM of 70.

Cycle II was also conducted in two sessions. In Cycle II, the students' learning outcomes improved, with the class average reaching 86.66. In this cycle, 24 students (89%) met the KKM, while 3 students (11%) did not. The results showed that learning outcomes increased, and the target was achieved. Most students enjoyed learning using the SAL cooperative learning model, as it made it easier to understand the material and learn in groups.

3.2 Sub Discussion

This classroom action research was conducted on 27 fifth-grade students in the second semester. The researcher acted as both the planner and the implementer in the classroom. The following data were obtained from the research results:

Table 1. Average Learning Outcomes of Pre-Cycle, Cycle I, and Cycle II

Category	Average score	Percentage of students not yet complete	Percentage of students Already complete
Pre Cycle	58,88	63%	37%
Cycle I	71,48	30%	70%
Cycle II	86,66	7%	93%

The results of the research can be presented in the form of a diagram:

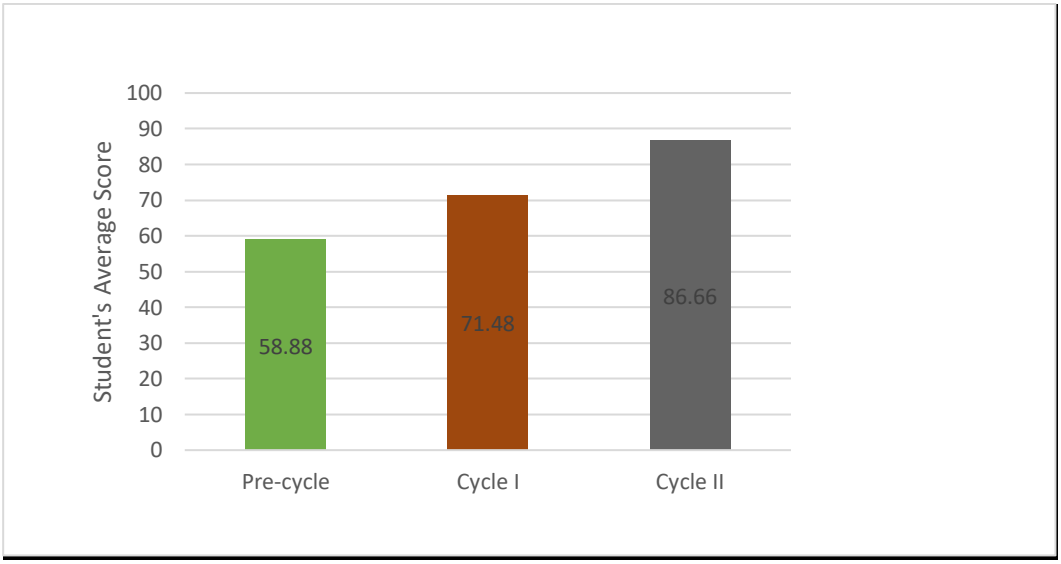

Figure 1. Diagram of the average learning outcomes in the pre-cycle, cycle I, and cycle II

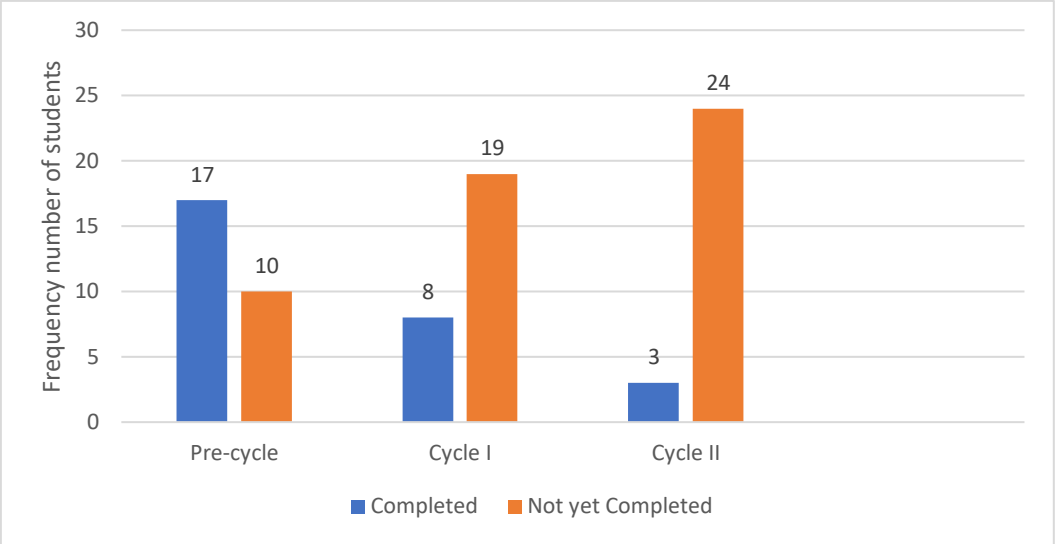

Figure 2. Recapitulation diagram of learning outcomes for all cycles

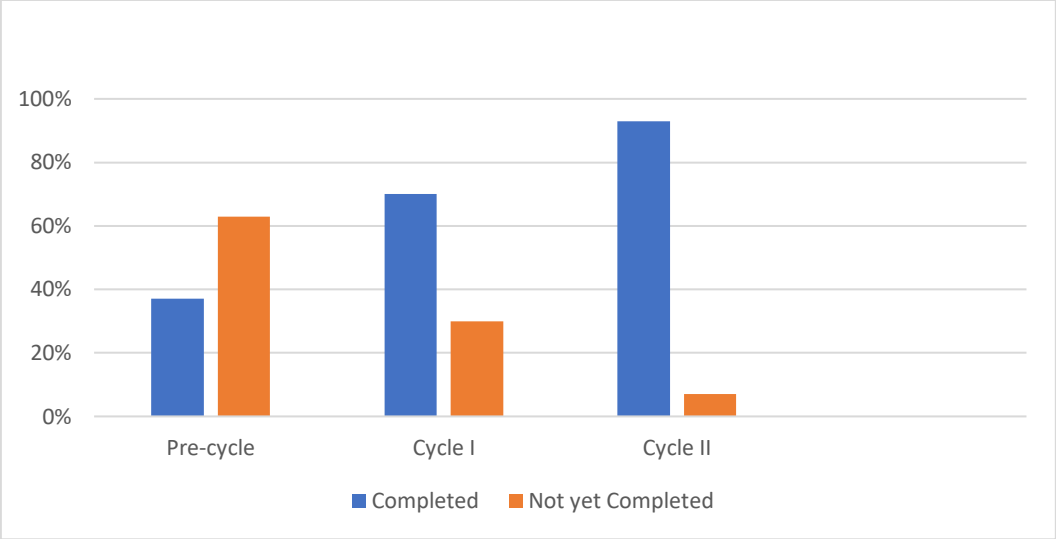

Figure 3. Percentage diagram of all student learning outcomes

Based on the table above, it shows that there is an increase in learning outcomes for heat material and its transfer in each cycle. In pre-action, 37% of students reached the KKM or completed it and 63% of students did not complete it or students who had not yet reached the KKM and the average score was 58.88. In cycle 1 there were students who reached the KKM or 7% of students who had not reached the KKM or who had completed it as many as 70% and 30% of students who had not reached the KKM or had not yet completed it and the average score was 71.48. In the second cycle, there were 93% of students reaching the KKM or those who had completed it and 7% of students who had not reached the KKM or who had not yet completed it and the average score was 86.66.

4 CONCLUSION

Based on the results of the research and discussion, it can be concluded that the use of the cooperative learning model, specifically the Student Active Learning type, can improve the science learning outcomes on the topic of heat and its transfer for fifth-grade students

at SDN Kelapa Dua Wetan 03 Pagi. The improvement in learning outcomes is reflected in the increase in the average scores for each action. In the pre-action phase, the average score was 58.88, while in cycle 1, the average score increased to 71.48, indicating an improvement of 12.6 points. In cycle 2, the average score reached 86.66, resulting in a further increase of 15.18 points. The percentage of students achieving mastery also increased in each action. In the pre-action stage, 37% of students reached the mastery level, while in cycle 1, 19 students (70%) achieved mastery, and in cycle 2, 25 students (93%) reached mastery. Additionally, the improvement in students' learning can be observed as most students enjoyed learning science, preferred group work, collaborated well, and demonstrated skill, diligence, and enthusiasm in completing their assignments. Students competed to present the best answers in their assignments.

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