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EFFORTS TO IMPROVE MATHEMATICS LEARNING OUTCOMES USING THE THINK PAIR AND SHARE LEARNING MODEL ASSISTED BY PAIR CARD MEDIA

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Abstract
The purpose of this study was to improve the learning outcomes for fifth-grade students at SDN 201/VI Lubuk Napal by using the Think Pair and Share learning paradigm with the help of Pair Card media. This kind of study is known as Classroom Action Research (CAR), in which the teacher and classmates observe while the researcher takes on the role of implementer. The two-cycle classroom action research paradigm is used in the research design. The study was conducted during the academic year 2025–2026's even semester. Thirteen fifth-grade children from SDN 201/VI Lubuk Napal served as the study's subjects. The study's focus was on students' learning outcomes and the process of learning. Techniques for gathering data included testing, documenting, and observation. Following a descriptive analysis, the data were shown in tables and graphs. The study's findings demonstrated that both the learning process and learning outcomes had improved. In Cycle I, the learning process achieved 84.61%, and in Cycle II, it reached 100%. Regarding the learning results, there was a 16.38% improvement from Cycle I, when 84.62% of students met the learning goal, to Cycle II, when 100% did. Consequently, fifth-grade students at SDN 201/VI Lubuk Napal can benefit from improved learning outcomes and a more efficient learning process when the Think Pair and Share learning paradigm is implemented in math classes with the help of Pair Card media.

Keywords: **Mathematics Learning Outcomes, Think Pair And Share Learning Model, Pair Card Media**

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INTRODUCTION

According to Apdoludin et al. (2022), education is a conscious effort that must be carried out by individuals to develop their potential both inside and outside of school, and it is a lifelong process. Literally, education means the act of educating, carried out by a teacher toward students. Adults are expected to serve as role models for children by providing guidance, instruction, direction, and moral development, as well as helping each individual to explore knowledge (Pristiwanti et al., 2022). In general, education is the effort of adults to educate children through example, guidance, and the development of knowledge and character.

Education is a topic that remains relevant for discussion. Fundamentally, education is a human endeavor to develop physical and mental potential in harmony with the values of the surrounding society and culture. According to Law Number 20 of 2003 about the

National Education System education providers must have a curriculum as a program that includes a collection of learning plans pertaining to objectives, content, and learning materials used in the learning process in order to meet the aims of national education. (Wati et al., 2024).

The curriculum in Indonesia has been revised and improved multiple times. These improvements have been made in response to technological advances, student development, and target standards. The current curriculum has evolved into the Merdeka Curriculum. The Merdeka Curriculum is designed by the government to develop students' interests and talents by emphasizing learning content, character building, and student excellence. With the help of this curriculum, teachers can select a range of educational resources to customize the learning process to each student's unique requirements and interests (Mahdiyalatif et al., 2023). One of the core subjects that students must master in school is mathematics.

Mathematics learning is a crucial part of scientific knowledge (Yanti & Fauzan, 2021). Mathematics is a subject taught at the elementary level, including topics such as addition, subtraction, multiplication, and division some of which are fundamental mathematical concepts. Mathematics plays a significant role in the development of science and technology, both as a tool for applying other disciplines and in developing mathematics itself (Avana et al., 2023).

Low achievement in mathematics learning is caused by various problems. One major issue is the perception among many students that mathematics is difficult and boring, which leads to a lack of interest. Both internal and external variables contribute to the challenges associated with learning mathematics. Internal factors include students' negative attitudes, low interest, and weak motivation. External factors include monotonous teaching methods, limited learning resources, and a lack of support from the home environment (Ayu et al., 2021). The perception that mathematics is hard and boring causes students to become disengaged and less motivated.

Initial classroom observations during the even semester in Grade V at SDN 201/VI Lubuk Napal showed that the learning process was still teacher-centered. Students were not actively engaged in the learning process, often felt bored, and teachers did not use learning media. There was no reciprocal interaction between teachers and students; teachers focused only on delivering material and assigning tasks. The instructional model used did not facilitate student participation. This was evident in student behavior many were passive, silent, and sometimes ignored the teacher's explanations. During classroom observations, it was seen that the teacher was teaching while asking students to take notes. The students, in turn, only copied notes silently; some chatted with their seatmates and disturbed others. Moreover, the teacher had not yet implemented group learning activities such as experiments, observations, or presentations.

Based on these findings, the researcher suspected that the learning process lacked connection to real-life situations and the surrounding environment. As a result, students' mathematics learning outcomes in Grade V at SDN 201/VI Lubuk Napal remained low. This was evident from the minimum completeness criteria (KKTP), which was set at 70 for thematic subjects.

Table 1.1
Mathematics Daily Test Results of Grade V Students at SDN 201/VI Lubuk Napal

No	Name	KKTP	Score	Achieved	Not Achieved
1	An	75	60		Tt
2	Ed	75	55		Tt
3	M.Ar	75	55		Tt
4	M.Sw	75	55		Tt
5	Msf	75	80	T	
6	Ma	75	60		Tt

7	Ml	75	80	T	
8	Rv	75	60		Tt
9	Rj	75	60		Tt
10	Sa	75	80	T	
11	Ss	75	55		Tt
12	Vr	75	55		Tt
13	Zba	75	80	T	

Source: Daily Test Results of Grade V Students, SDN 201/VI Lubuk Napal

Based on Table 1.1, the mathematics test scores of Grade V students at SDN 201/VI Lubuk Napal showed that only 4 students (30.77%) achieved scores above the KKTP, while 9 students (69.23%) scored below the KKTP. A student is considered to have achieved the standard if their score meets or exceeds the KKTP.

The low learning outcomes were due to several shortcomings in the learning process, such as the suboptimal use of learning models and teaching media. Given these issues, research on the application of suitable learning models is required to enhance mathematics learning results, particularly for pupils in Grade V..

Masana et al. (2022) stated that a solution lies in teachers understanding, developing, and applying appropriate models or strategies in teaching mathematics. This aims to enable students to learn actively and increase their motivation in learning mathematics. Think Pair Share (TPS), a cooperative learning approach, is one such paradigm that can enhance learning outcomes in mathematics.

To improve students' mathematics learning outcomes, the Think Pair and Share (TPS) model can be used. This model is considered effective because it encourages student independence and active participation, which ultimately enhances learning outcomes.

According to Marlina (2014), the cooperative TPS learning method places students in pairs to complete learning tasks in three phases: Think, where students reflect on the topic individually; Pair, where they discuss their thoughts with a partner; and Share, where they present their ideas to the class (Damayanti & Yulistiana, 2021). The TPS model encourages all students to participate, making the learning process more engaging and less teacher-centered.

The advantages of the TPS model include giving students more time to think, respond, and help one another. Its application improves students' confidence and ensures that everyone has an opportunity to participate (Masana, 2022). In addition, TPS supports enjoyable and personal knowledge transfer between pairs, reduces anxiety when sharing in groups, stimulates thinking skills, motivates students, and positively affects learning outcomes (Rachmawati & Erwin, 2022).

RESEARCH METHOD

This study employed a Classroom Action Research (CAR) design. CAR is a scientific approach conducted by teachers within the classroom learning context by implementing specific actions aimed at improving the quality of instruction:

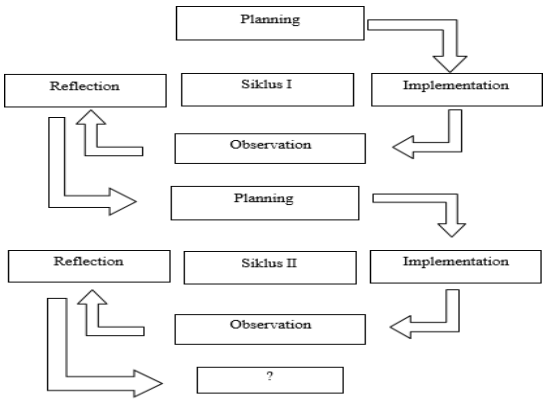
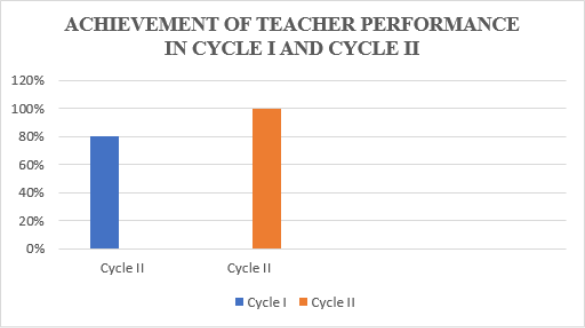


Chart 1
Classroom Action Research Flow (Arikunto et al., 2019)

This classroom action research was conducted in the fifth grade of State Elementary School 201/VI Lubuk Napal. This setting was chosen based on the consideration that State Elementary School 201/VI Lubuk Napal had problems with low student learning outcomes in mathematics. According to the academic calendar, this study was carried out during the second semester (even) of the 2024–2025 school year. This is because classroom action research (CAR) necessitates multiple cycles in order to accomplish its goals, which include an efficient learning process in the classroom. This Classroom Action Research was conducted at SDN 201/VI Lubuk Napal in the Mathematics (MTK) subject for class V with 13 students, 6 boys and 7 girls. The goal of this classroom action research project is to enhance the learning outcomes for mathematics in class V of SDN 201/VI Lubuk Napal by implementing the Think Pair and Share learning model with the help of Pair Card media. methods for gathering data that include testing, documenting, and observation. Both quantitative and qualitative data analysis methods are employed.

RESEARCH RESULTS AND DISCUSSION

Achievement of Educator Performance in Cycle I and Cycle II



Gambar 1 Ketercapaian Kinerja Pendidik Siklus I dan II

The bar chart illustrates the improvement in teacher performance achievement from Cycle I to Cycle II. In Cycle I, the teacher performance achievement reached 80%, indicating that most learning components had been implemented, although some aspects were not yet fully optimized. In contrast, in Cycle II, the achievement increased to 100%, meaning all components outlined in the teacher observation sheet were successfully applied.

The 80% score in Cycle I reflects that the teaching implementation did not entirely align with the lesson plan. Several challenges encountered during this cycle included suboptimal time management, ineffective group task distribution, and limited active student interaction. These issues formed the basis for reflection and prompted the researcher to design more targeted improvements for Cycle II.

In Cycle II, the researcher applied more refined strategies. The Think Pair and Share learning model assisted by Pair Card media was implemented more consistently and systematically. The researcher also reinforced group assignments, provided active guidance to students during discussions, and ensured a more balanced evaluation process. These improvements directly impacted the increase in performance achievement.

The 100% achievement in Cycle II indicates that all indicators in the teacher observation sheet were carried out excellently. The researcher successfully maximized all learning components—including the opening, core, and closing activities—according to the principles of the Think Pair and Share model with Pair Card media. As a result, the learning process became more active, enjoyable, and student-centered.

This achievement not only reflects the improvement in teacher performance but also contributes significantly to student success in learning Mathematics. Students' enthusiasm for learning increased, their teamwork skills developed, and their understanding of the material deepened. Thus, teacher performance achievement plays a crucial role in enhancing the quality of instruction.

Overall, the diagram demonstrates that evaluation and improvement from Cycle I to Cycle II can enhance the overall quality of teaching and learning. The Think Pair and Share model assisted by Pair Card media has proven effective not only in improving student learning outcomes but also in encouraging teachers to perform their roles optimally in managing the instructional process.

With the teacher performance achievement reaching 100% in Cycle II, it may be inferred that teaching mathematics to fifth graders using the Think Pair and Share paradigm with the use of Pair Card media is successful. This success makes a positive contribution to the attainment of learning objectives and to the overall improvement of educational quality in the classroom..

Achievement of Student Learning Process in Cycle I and Cycle II

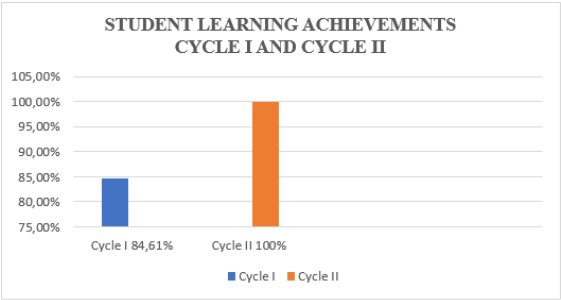


Figure 2 Achievement of Student Learning Process

Diagram 4.2 presents data on the achievement of the students' learning process in Cycle I and Cycle II. Based on the diagram, it is evident that the achievement level in both cycles reached the maximum score. This indicates that all students in the class participated in the learning activities according to the established success indicators, including participation, engagement, and task completion.

In Cycle I, the implementation of the Think Pair and Share learning model assisted by Pair Card media succeeded in creating an active and enjoyable learning environment. Students showed enthusiasm in participating in learning stages such as group discussions, answering questions, and interacting with their group members. These results demonstrate that the learning model had a positive impact on student engagement from the outset.

Although the learning process achievement in Cycle I was already optimal, the researcher still carried out reflection to refine the instructional strategy. Improvements made in Cycle II included more focused instructions, clearer role distribution during group discussions, and more efficient time management. These efforts aimed to maintain and enhance the overall quality of the learning process.

In Cycle II, students again achieved 100% engagement in the learning process. This means all students remained active, participated fully, and completed all learning activities successfully. This consistency shows that the Think Pair and Share model assisted by Pair Card media is not only effective in improving learning outcomes but also in maintaining student motivation and engagement throughout the learning process.

Thus, Diagram 4.2 serves as strong evidence that the implementation of the Think Pair and Share model assisted by Pair Card media is highly effective in creating equitable student engagement. The 100% success rate in both cycles also indicates that the learning process was well-designed and implemented optimally, making it a valuable recommendation for application in other classes or different subjects.

Student Learning Outcomes

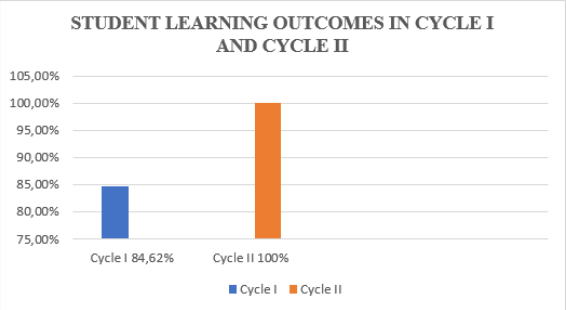


Figure 4.3 Learning Outcomes of Cycles I and II

The bar chart above illustrates the students' learning outcomes in Cycle I and Cycle II. It shows that in Cycle I, 84.62% of students achieved mastery, but improvements and evaluations were still necessary, resulting in 100% mastery in Cycle II. This achievement clearly indicates the success of the learning process implemented using the Think Pair and Share model assisted by Pair Card media.

Although there was improvement in Cycle II, the quality of the learning process in each cycle differed. In Cycle I, learning mastery was achieved, but students still required substantial guidance from the researcher, and some were less active in group discussions. In contrast, in Cycle II, students' engagement increased they participated more actively, showed greater confidence in answering questions, and demonstrated a better understanding of the material.

The Think Pair and Share learning model assisted by Pair Card media significantly contributed to improving student engagement. Through this technique, students were not only listening to the teacher's explanation but also trained to collaborate, discuss, and be individually accountable for their understanding. In this process, each student felt valued and responsible for their group's learning, which positively impacted concept mastery and evaluation results.

The outcomes of Cycle II not only reflect quantitative mastery but also indicate an improvement in the quality of learning. Group discussions were more dynamic, students were more focused, and instructional time was used more efficiently. This improvement was made possible by the refinements conducted during the reflection phase after Cycle I, such as clearer instructions, enhanced learning media, and increased motivation provided by the researcher.

As the quality of the learning process improved in Cycle II, students were able to achieve deeper understanding of the material and showed development in social and critical thinking skills. They answered evaluation questions with greater confidence and accuracy, as evidenced by test results and classroom observations.

The improvement in learning outcomes shown in the chart also reinforces the finding that the Think Pair and Share model assisted by Pair Card media is well-suited for teaching mathematics, especially at the elementary level. This model not only enhances cognitive outcomes but also supports the development of students' affective and psychomotor domains through discussion and hands-on activities.

Therefore, it can be concluded that the consistent and optimal implementation of the Think Pair and Share learning model assisted by Pair Card media can holistically improve student learning outcomes both in cognitive performance and active classroom

engagement. The chart serves as concrete evidence that innovative learning strategies can create effective, enjoyable, and meaningful learning experiences for students.

CONCLUSION

Based on the descriptive analysis above, it can be concluded that:

1. Based on the results of the classroom action research conducted over two cycles, the achievement of teacher performance showed a significant improvement. In Cycle I, the teacher's performance reached 80%, indicating that some aspects of the learning process had not been fully optimized. After reflection and improvements were made in Cycle II, performance increased to 100%. This proves that better planning, the implementation of more structured learning strategies, and the active involvement of the researcher in guiding students can enhance the overall quality of the learning process.
2. The students' learning process also showed optimal results. All students actively participated in the learning activities in both Cycle I and Cycle II. The implementation of the Think Pair and Share learning model assisted by Pair Card media was proven effective in increasing student participation, interaction, and responsibility during learning activities. In Cycle I, student engagement reached 84.61% and increased to 100% in Cycle II after evaluation and improvement. Through this method, the classroom atmosphere became more dynamic, students were more focused, and they were able to collaborate and understand the material more deeply.
3. Students' learning outcomes also improved, as indicated by 100% mastery learning in Cycle II. Furthermore, the quality of the learning process in Cycle II was much better, with students becoming more confident, actively participating in discussions, and being able to answer questions with greater understanding. In Cycle I, student achievement was at 84.62% and increased to 100% in Cycle II. Therefore, it can be concluded that the Think Pair and Share learning model assisted by Pair Card media not only improves students' academic achievement but also fosters meaningful, active, and enjoyable learning experiences.

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