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Improving Mathematics Learning Outcomes Using The Think Pair Share (TPS) Learning Model In Elementary School Students

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Abstract

This study aims to improve the mathematics learning outcomes of fourth-grade students through the implementation of the Think Pair Share (TPS) cooperative learning model. The research method used was classroom action research conducted in two cycles, each consisting of planning, action, observation, and reflection stages. The subjects of this study were 28 fourth-grade students of SDN 134/II Purwasari. Data were collected through tests, observations, and documentation, and analyzed using descriptive quantitative techniques. The results showed that: (1) the average score increased from 60 in the preliminary stage to 70 in Cycle I and 80 in Cycle II; (2) learning mastery improved from 43% to 68% and 89%; (3) student participation in learning increased. In conclusion, the Think Pair Share (TPS) model is effective in improving students' mathematics learning outcomes.

Keywords: Think Pair Share, learning outcomes, mathematics, cooperative learning, elementary school.

INTRODUCTION

Education is a crucial aspect in improving the quality of human resources. (Ningrum 2016) Through education, individuals not only gain knowledge but also develop critical, logical, and systematic thinking skills. One subject that plays a crucial role in developing these skills is mathematics. (Amanda et al. 2020) Therefore, learning mathematics in elementary school

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provides a crucial foundation for student success at subsequent levels of education.

However, in reality, learning mathematics in elementary school is often considered difficult and uninteresting by students. Many students struggle to understand abstract mathematical concepts, resulting in low learning outcomes. (Yolanita and Ruswendi 2024) Furthermore, a lack of student engagement in the learning process is also a factor contributing to poor understanding of the material.

This problem was also found at SDN 134/II Purwasari, particularly among fourth-grade students. Based on initial observations, it was found that students' mathematics learning outcomes were still relatively low, with average scores below the Minimum Completion Criteria (KKM). (Boas, Mulia Suryani 2025) Furthermore, students tended to be passive in learning, less willing to ask questions, and less active in discussions. This was due to the use of teacher-centered learning methods, which limited students' opportunities for active participation. (Sumarsya and Ahmad 2020)

Several previous studies have shown that implementing cooperative learning models can improve student learning outcomes. The Think Pair Share (TPS) learning model is one cooperative learning model that provides students with opportunities to think independently, discuss with partners, and share discussion results with the class. (Fransiska Maizora, Syafdi Yensy 2020) This model has been shown to improve student engagement, critical thinking skills, and learning outcomes. (Pangemanan 2019) Compared to previous research, most studies focused solely on improving student learning outcomes without simultaneously examining aspects of student engagement. Furthermore, research related to the application of the Think Pair Share (TPS) model to spatial geometry in elementary schools is still limited and has not been widely conducted contextually in public elementary schools. (Mariana Valianty 2019). Therefore, this study aims to fill this gap by examining the simultaneous improvement in student learning outcomes and engagement through the application of the TPS model. (Lasari, Z, and Widiyanto 2021).

Nevertheless, research related to the application of the Think Pair Share (TPS) model to spatial geometry in elementary schools is still limited, particularly that focused on simultaneously improving student engagement and learning outcomes. Therefore, research is needed that examines the application of this model in mathematics learning in elementary schools in more depth (Rahmawati et al. 2026). Based on the description, this study aims to improve students' mathematics learning outcomes through the application of the Think Pair Share (TPS) learning model. (Kurnia Nurvina Laila Alifah1 2026) The novelty in this study lies in the application of the TPS model to the material of spatial shapes in grade IV of elementary school with a focus on

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improving learning outcomes and student activity simultaneously. (Diansyah 2021).

RESEARCH METHOD

This research is a classroom action research (CAR) conducted in two cycles, each consisting of planning, implementation, observation, and reflection. The research took place at SDN 134/II Purwasari, Pelepat Ilir District, Bungo Regency. The subjects were 28 fourth-grade students. The material used in this study was geometric shapes in mathematics. Data collection techniques included learning achievement tests, observation, and documentation. The research instruments consisted of test questions and student activity observation sheets. Data analysis was conducted by comparing student learning outcomes in each cycle to determine improvements. Data from student activity observations were analyzed descriptively to determine changes in student activity during the learning process. Indicators of research success were determined based on the increase in the class average score and the percentage of learning completion in the classroom. The research was declared successful if ≥ 75% of students achieved the Minimum Completion Criteria (KKM). (Saadi 2025) Data validity was tested through technical triangulation. (Rifai, Rositasari, and Haryati 2024).

RESEARCH FINDINGS AND DISCUSSION

Based on the results of research with the application of the think pair share (TPS) learning model in mathematics learning for fourth grade students of State Elementary School 134/II Purwasari in the second semester of the 2025/2026 academic year, presented in Table 1.

Table 1. Learning outcomes

No	Description	Nilai Pre-Cycle	Cycle I	Cycle II	Improvement
1	Total	1.680	1.960	2.240	560
2	Average	60	70	80	20
3	Absorption Capacity	60%	70%	80%	20%
4	Learning Completion	43% (12 Student)	68% (19 Student)	89% (25 Student)	46%

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Based on Table 1, the total student score in the pre-action phase was 1,680, then increased to 1,960 in Cycle I, and again to 2,240 in Cycle II. Correspondingly, the average student score also increased, from 60 in the initial phase to 70 in Cycle I and 80 in Cycle II.

Furthermore, student absorption showed a gradual increase, from 60% in the pre-action phase to 70% in Cycle I and 80% in Cycle II. The percentage of student learning completion also increased significantly. In the initial phase, learning completion was only 43%, or 12 students. After implementing the actions in Cycle I, learning completion increased to 68%, or 19 students. Furthermore, in Cycle II, learning completion increased to 89%, or 25 students who had met the Minimum Completion Criteria (KKM). (Boas, Mulia Suryani 2025).

In addition to improving learning outcomes, student activity during the lesson also experienced significant changes. In the pre-action phase, most students appeared passive and less engaged in discussions. However, in Cycle I, student participation began to increase, although not evenly. In Cycle II, almost all students were actively involved in learning activities, both in thinking, discussing, and presenting discussion results to the class.

Overall, the data indicate an improvement in student learning outcomes in each cycle. Although in Cycle I, the improvement did not reach the expected classical mastery target, in Cycle II, student learning outcomes met the established success indicators. (Muhammad Hafid 2025)

The results of the study indicate that the implementation of the Think Pair Share (TPS) cooperative learning model significantly improved fourth-grade students' mathematics learning outcomes. This improvement was evident in the increase in average student scores and the percentage of students achieving learning mastery in each cycle. In the pre-action phase, students still experienced difficulty understanding the concept of geometric shapes and tended to be passive during the lesson. After implementing the TPS model, students began to show changes in learning behavior, becoming more active and participatory. (Balqisfa Salsabilla Hidayat, Helen Veronica, Zulfah Hayatunnisa 2025)

In addition to improved learning outcomes, student activity during learning also experienced significant changes. In the pre-action phase, most students appeared passive and less engaged in discussions. However, in Cycle I, student participation began to increase, although not evenly. In Cycle II, almost all students were actively involved in learning activities, both in the thinking phase, discussion phase, and presentation of discussion results to the class.

This improvement in learning outcomes is inseparable from the characteristics of the Think Pair Share model, which provides students with opportunities to think independently (think), discuss with a partner (pair), and share discussion results with the class (share). In the think phase,

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students are trained to understand problems individually, thereby improving critical thinking skills. (Wahyuni, Purnama, and Budiman 2025) Furthermore, in the pair phase, students discuss with partners, resulting in an exchange of ideas and a better understanding of concepts. The sharing phase provides students with the opportunity to convey discussion results, thus fostering courage and communication skills. (Risma 2024)

The increase in student engagement and learning outcomes in this study demonstrates that social interaction in learning plays a crucial role in building conceptual understanding. This aligns with cooperative learning theory, which emphasizes the importance of collaboration among students in the learning process. Through these interactions, students can exchange ideas, clarify understanding, and construct knowledge collaboratively. Therefore, the Think Pair Share (TPS) model functions not only as a learning strategy but also as a means to optimally develop students' critical thinking and communication skills.

These findings align with previous research that suggests that cooperative learning models can enhance student engagement and learning outcomes through social interaction and group collaboration. (Daiyah, Ramadhani, and Farhurohman 2024) Through discussions, students not only receive information from the teacher but also construct knowledge collaboratively. This aligns with constructivism theory, which states that learning will be more meaningful if students are actively involved in the learning process. (Handoyo 2025)

Furthermore, the increase in learning completion in cycle II indicates that the improvements made after the reflection on cycle I were effective. (Muhemin 2024) Teachers were more effective in managing the class, forming heterogeneous pairs, and providing guidance.

CONCLUSION

The implementation of the Think Pair Share (TPS) cooperative learning model has been proven to significantly improve fourth-grade students' mathematics learning outcomes. This improvement is evident in the increase in students' average scores from 60 in the pre-action phase to 70 in Cycle I and 80 in Cycle II, as well as an increase in learning completion from 43% to 89%. Key findings in this study indicate that the TPS model not only impacts cognitive learning outcomes but also enhances students' activeness, critical thinking skills, and self-confidence during the learning process. This success is influenced by the stages of individual thinking, pair discussions, and sharing of results, which encourage active student engagement.

The novelty of this study lies in the application of the Think Pair Share (TPS) model to the subject of geometric shapes in elementary schools, emphasizing the simultaneous improvement

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of learning outcomes and student engagement. This demonstrates that the TPS model can be used as a learning solution that focuses not only on results but also on the student learning process.

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