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Effectiveness of the Think Pair Learning Model, Experimental Method on Learning Outcomes of Class III Students in Kota Padang State Elementary Schools

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ABSTRACT

Through collaborative problem-solving and critical thinking, students engage in the Think-Pair-Share approach, or "TPS." The objective of this approach is to improve students' critical thinking, communication, and cooperative learning skills. Students are given time to reflect alone before being broken into pairs to debate and exchange ideas. Afterwards, they report back to the class on what they discussed (Arifin, 2020). The purpose of this research is to assess the TPS learning model's efficacy in improving third-grade students' learning outcomes at the State Elementary School in Kota Padang when applied through experimental approaches. The researchers will perform this study with experimental designs that include both treated and untreated random control groups. While the TPS learning model includes experimental procedures as independent variables, students' learning outcomes may be monitored through academic examinations and performance assessments. Some students graduate but do not pass the KKM; the KKM for the IPA courses is 70; students who pass have a higher score than KKM, whilst students who do not graduate have a lower score from KKM. The average comparison test is done using the t-test; produced thitung value = 2,4029 and ttable value = 1,9971 at a significant level α = 5%. Thitung is larger than ttable, hence H0 is rejected. Improve the quality of education by obtaining broad knowledge, such as the ability to use a learning model that is appropriate for the topic. Consider the learning model Think Pair Share (TPS). According to the study, experimental approaches in learning, particularly IPA, aid to improve learners' cognitive learning results.

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INTRODUCTION

Students learn to solve problems and think critically by collaborating with each other in the Think-Pair-Share, or "TPS" method. This method aims to improve students' abilities in thinking critically, communicating, and working together to achieve learning goals. First, students are given time to think alone (thinking), then they are divided into pairs to talk and share ideas (pairing), and finally they share the results of their discussion with the class (sharing) (Arifin, 2020). In the world of education, this method has been widely used to increase student participation, encourage active learning, and improve academic performance. TPS uses three stages. (1) Students think about the problem or question individually, (2) they talk and share their opinions with their partners, and (3) the pairs share the results of their discussions with the class. In several studies, the Think-Pair-Share method has been shown to improve student learning outcomes. For example, research by Erwidiya (2014) found that implementing the Think-Pair-Share model can improve cooperation and social studies learning outcomes. Another study, Kemari (2017), found that this method can improve cognitive creativity and student learning outcomes (Rosita & Leonard, 2015). However, the Think-Pair-Share method also has some disadvantages. One disadvantage is that this method can take longer to carry out, and requires teachers who are more active in monitoring and helping students in the learning process.

To improve student learning outcomes in elementary education, interest in collaborative learning strategies such as TPS—also known as "Think-Pair-Share"—has increased in recent years. TPS allows students to work together to solve problems and think critically. In short, this method consists of three stages. First, students think about the problem or question individually; second, they talk and share their opinions with their partner; and third, the pair shares the results of their discussion with the class. Studies have shown that the TPS method can improve student learning outcomes, especially in science and social studies subjects. For example, research by Erwidiya (2014) found that implementing the TPS model could improve students' social studies learning outcomes in grade IV elementary school. Another research by Kemari (2017) found that this method can also increase students' cognitive creativity and improve their social studies learning outcomes (Ryan et al., 2020).

In several studies, the TPS learning model has also been shown to increase student engagement and learning atmosphere. For example, research by Wirdatun Nasichah (2018) found that the application of the TPS learning model can increase learning achievements, teacher and student activities, and student learning outcomes in science subjects in class IV of SDN Suci Manyar Gresik. In short, the TPS method is an effective collaborative learning strategy that can improve student learning outcomes in elementary education by increasing student engagement, increasing student self-confidence, and allowing students to learn from other students.

This research aims to investigate the effectiveness of the TPS method in an experimental model on the learning outcomes of third grade elementary school students in Kota Padang, Indonesia. Specifically, this research will test whether the TPS method, compared to traditional teaching methods, can improve student learning outcomes in terms of problem-solving abilities,

critical thinking, and academic achievement. In synthesis, the TPS method has been applied in several previous studies to improve student learning outcomes, especially in science and social studies subjects. For example, research conducted by Erwidiya (2014) found that implementing the TPS model could improve social studies learning outcomes in grade IV elementary school. Other research by Kemari (2017) found that this method can improve learning outcomes and develop children's cognitive creativity (Nasichah, 2018).

However, this research focuses on the effectiveness of the TPS method in improving the learning outcomes of third grade elementary school students in in Kota Padang, Indonesia, and compares it with traditional teaching methods. In synthesis, this research can help increase knowledge about the effectiveness of TPS methods in improving student learning outcomes and contribute to the development of more effective learning strategies in different educational environments. In synthesis, this research can help increase knowledge about the effectiveness of the TPS method in improving student learning outcomes and contribute to the development of more effective learning strategies in different educational environments (Anugrah et al., 2023).

in Kota Padang is the center of education in West Sumatera, Indonesia, with a number of State Elementary Schools which are the backbone in providing basic education to children. Despite great efforts to improve the quality of education, challenges such as students' interest in learning and effective teaching methods remain the main focus (Aimah, 2013; Fathoni, 2021). In synthesis, grade 3 is the initial stage in formal education where students begin to expand their understanding of various concepts in various subjects. However, in conventional learning experiences, difficulties are often found in maintaining student engagement and ensuring deep understanding (Kumparan.com, 2022; Syafnidawaty, 2020).

TPS (Think-Pair-Share) is a collaborative learning method that encourages students to think critically and share what they understand with their partners. In 3rd grade, this model can help students interact with each other, increase their engagement in class, and improve their understanding of concepts. Experiments give students the opportunity to learn directly. It can improve their understanding of scientific and mathematical concepts as well as improve their information retention and problem-solving skills by performing simple experiments.

The aim of this research is to evaluate how effective the TPS learning model implemented through the experimental method is on student learning outcomes in third grade at State Elementary Schools in in Kota Padang. By looking at how collaborative approaches and hands-on learning experiences impact, this research hopes to find more efficient methods for improving student learning outcomes at the elementary level. With this background, this research can provide useful insight into how the TPS learning model using experimental techniques can improve student learning outcomes in grade 3 at State Elementary Schools in in Kota Padang and make a positive contribution to improving the quality of education in the area.

METHODS

Researchers will conduct this research using an experimental design involving a randomized control group that is treated and a random control group that is not treated. This experimental design will allow researchers to directly assess how the application of the Think Pair Share (TPS) learning model in an experimental approach impacts student learning outcomes. This research involved grade 3 students at state elementary schools in in Kota Padang. The research sample will be randomly selected from various elementary schools representing various areas of the city. Each school will be randomly selected to form an experimental group and a control group. The dependent variable is student learning outcomes which can be measured through academic exams and performance evaluations. Meanwhile, the TPS learning model uses the experimental method as an independent variable. Before the intervention, a pre-test will be conducted to measure students' initial understanding; after the intervention, samples from elementary schools in in Kota Padang were randomly selected; pretest data were collected before the intervention to measure students' initial understanding; and after the intervention, a post-test will be conducted to evaluate changes in student learning outcomes. A post-test will be conducted after the intervention period to evaluate student learning outcomes. The data collected will be analyzed using statistical methods to compare learning outcomes between the experimental and control groups.

RESULTS

1. Control Class Pretest and Posttest Results

Table of Pretest and Posttest Results for Control Class

Criteria	Pretest	Posttest
The highest score	70	88
Lowest value	44	64
Amount	**2008**	**2544**
Average	**60.84**	**77.09**

2. Test results in the experimental class and control class

Table of experimental and control class results

Criteria	Posttest	
	Experiment	Control
The highest score	92	88
Lowest value	68	64
Amount	**2752**	**2544**
Average	**80.94**	**77.01**

3. **Pretest and posttest normality test results**

Table of Normality Test Results

Class	L count	L table	Ket.	Test decision
Control pretest	0.1173	0.15	L count < L table	
Control posttest	0.1269	0.15	L count < L table	Normally
Experimental pretest	0.1101	0.14	L count < L table	distributed
Experimental posttest	0.1418	0.14	L count < L table	

4. **Pretest and Posttest Homogeneity Test**

Table of Homogeneity Test Results

Statistics	Pretest		Posttest	
	Experiment	Control	Experiment	Control
F count	0.9744		1.2429	
F table	1.7165		1.7165	
Conclusion	Homogeneous		Homogeneous	

5. **Test the research hypothesis (T-test)**

Table of Experimental and Control Posttest T Test Results

Test	Characteristics		Results	Ket.
	T count	T table		
Posttest	2.40	1.99	Tcount ≥ Ttable	H0 is rejected

DISCUSSION

In the pretest, the highest score achieved was 70, while the lowest score was 44. The total score obtained was 2008, and the average score was 60.84. In the posttest, the highest score achieved was 88, while the lowest score was 64. The total score obtained was 2544, and the average score was 77.09. From these results, it can be seen that there were several students who passed and did not pass the KKM, where the KKM in science subjects was 70. Students who passed the KKM had higher scores than the KKM, while students who did not pass had higher scores. lower than KKM.

The significant increase in scores from pretest to posttest shows that the learning model used has a positive effect on student learning outcomes. Thus, the learning model used can be considered an effective strategy in improving student learning outcomes. However, it should be noted that there are some students who do not pass the KKM. This shows that the learning model used still needs to be improved and perfected in order to achieve better results. Therefore, this research can be used as

a reference for teachers and educators in developing more effective learning strategies and improving student learning outcomes (Binus University School, 2016).

The research statement shows that there is a difference in the average test scores obtained in the experimental class and the control class. The average test score in the experimental class was 92, while in the control class it was 88. Thus, the test score in the experimental class was higher than the control class. This difference shows that the learning model used in the experimental class has a positive effect on student learning outcomes. The learning model used in experimental classes can improve students' ability to think critically and improve their learning outcomes. This can be caused by more active and interactive interaction in the experimental class, as well as the use of more innovative and effective learning methods.

In synthesis, the difference in average test scores between the experimental class and the control class shows that the learning model used in the experimental class has the potential to improve student learning outcomes. Therefore, the results of this research can be used as a reference for teachers and educators in developing more effective learning strategies and improving student learning outcomes.

This research aims to find out whether the Think Pair Share (TPS) learning model assisted by experimental methods can improve students' cognitive learning outcomes. To achieve this goal, this study used an experimental design with two groups: a control group and an experimental group. The control group received traditional learning, while the experimental group received TPS learning assisted by experimental methods. The research results show that there is a significant influence between students' cognitive learning outcomes using the TPS learning model assisted by the experimental method. Based on the calculations for testing data analysis requirements, Tcount (2.4029) is greater than Ttable (1.9971), so H0 is rejected. This means that it can be concluded that the TPS learning model assisted by experimental methods has a significant influence on students' cognitive learning outcomes.

The influence of the TPS learning model assisted by experimental methods on cognitive learning outcomes can be explained through several factors. First, the TPS learning model allows students to think critically and share their understanding with their partners, thereby increasing students' ability to collaborate and think critically. Second, the experimental method allows students to have direct experience and understand concepts in more depth, thereby improving their information retention and problem-solving skills. In synthesis, this research shows that the TPS learning model assisted by experimental methods can be an effective strategy in improving students' cognitive learning outcomes. Therefore, the results of this research can be used as a reference for teachers and educators in developing more effective learning strategies and improving student learning outcomes (Putri, 2011).

According to the test results, students had a good response. Science learning outcomes can be improved with the Think Pair Share (TPS) learning model assisted by experimental methods. Research shows that this model can help students to participate actively in the learning process and measure the extent to which they understand material about changes in the shape of objects.

Students' responses when given treatment using the TPS model assisted by this experimental method. One of the reasons why the Think Pair Share (TPS) learning model assisted by the experimental method works well for the learning outcomes of class III students in the science subject of changes in the shape of objects is because this model involves various stages of activities that allow students to participate actively in the learning process. .

CONCLUSIONS

The results of the research show that the Thnk Piar Share (TPS) learning model is an effective experimental method for improving the learning outcomes of class III students at Padang City Elementary Schools in the science subject of changes in the shape of objects. The Thnk Piar Share (TPS) experimental method was used for the experimental class, and the Snowballing learning model was used for the control class. In the final stage, the average comparison test was carried out using the t-test; The obtained value of tcount = 2.4029 and ttable = 1.9971 at the significance level α = 5%, and tcount is greater than ttable, so H0 is rejected. So, the results of experiments at the Dasae School in in Kota Padang show that the Think Pair Share (TPS) learning model helps class III students in the science subject material on changes in the shape of objects.

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