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THE EFFECT OF THINK PAIR SHARE (TPS) COOPERATIVE LEARNING ON STUDENTS' CONCEPTUAL UNDERSTANDING IN IPAS LEARNING AT SDN 28 KELAKIK

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Abstract
This study investigates how the Think Pair Share (TPS) cooperative learning strategy influences students' conceptual understanding in IPAS learning at the elementary level. Conceptual understanding is essential in enabling learners to interpret knowledge meaningfully and apply it across contexts. Nevertheless, classroom practices often remain teacher-centered, limiting student engagement and resulting in suboptimal learning outcomes. A quantitative approach was adopted using a pre-experimental one-group pretest-posttest design. The participants were 23 fifth-grade students of SDN 28 Kelakik in the 2024/2025 academic year, selected through purposive sampling. Data collection involved achievement tests (pretest and posttest), supported by questionnaires, observations, and documentation. The data were analyzed using a paired sample t-test with SPSS version 26. The findings indicate a notable improvement in students' conceptual understanding, reflected by an increase in the average score from 64.70 in the pretest to 77.26 in the posttest. Statistical testing revealed a significance value of 0.000 (< 0.05), confirming that the TPS model has a meaningful impact. These results align with previous studies highlighting the effectiveness of TPS in fostering critical thinking and collaborative learning. Hence, TPS can be considered a practical instructional strategy for enhancing conceptual understanding in elementary IPAS learning.
Keywords: Think Pair Share; Conceptual Understanding; Cooperative Learning; IPAS

1. INTRODUCTION

Education plays an important role in improving the quality of human resources and developing students' competencies in the 21st century. In elementary education, conceptual understanding is considered one of the essential learning outcomes because it enables students to analyze, interpret, and apply knowledge in everyday life. However, many learning activities in elementary schools are still dominated by conventional teaching methods in which teachers become the center of learning. This condition often limits student participation and interaction during the learning process. According to Siregar (2020), improving educational quality requires innovative and student-centered learning strategies that encourage active participation. In reality, many students still experience difficulties in understanding concepts, especially in IPAS learning, which integrates scientific and social concepts that require critical and analytical thinking skills.

Based on preliminary observations conducted at SDN 28 Kelakik, several students showed low conceptual understanding, particularly in ecosystem topics such as food chains, food webs, and energy transfer. Students tended to memorize information without fully understanding the relationships between concepts. In addition, classroom interaction was relatively low because learning activities were still dominated by lectures and individual assignments. To address these issues, an interactive learning approach is needed to actively involve students in the learning process. One alternative learning model is cooperative learning. According to Trianto (2009), cooperative learning emphasizes collaboration among students in small groups to achieve shared

learning objectives. Through cooperative learning, students are encouraged to communicate, exchange ideas, and solve problems together.

One cooperative learning model that supports active student engagement is Think Pair Share (TPS). Albar et al. (2021) state that TPS provides opportunities for students to think independently, discuss ideas with peers, and share their understanding with the class. This learning process not only improves conceptual understanding but also develops communication and collaboration skills. Furthermore, Latifah and Luritawaty (2020) explain that TPS can improve students' problem-solving abilities through structured discussions, while Meilana et al. (2021) found that TPS contributes significantly to students' critical thinking skills. Based on these conditions, the researcher is interested in examining the effect of the Think Pair Share (TPS) cooperative learning model on students' conceptual understanding in IPAS learning at SDN 28 Kelakik. This study is expected to contribute to the development of innovative and interactive learning strategies in elementary education.

2. METHODS

This study employed a quantitative approach using a pre-experimental design with a one-group pretest-posttest model. According to Sugiyono (2020), this design is used to determine the effect of a treatment by comparing students' conditions before and after the implementation of the learning model. The research was conducted in September 2024 at SDN 28 Kelakik. The participants consisted of 23 fifth-grade students selected through purposive sampling. The data in this study were presented in the form of descriptive and inferential statistics. Descriptive statistics included mean scores, minimum scores, maximum scores, and standard deviations obtained from students' pretest and posttest results. Inferential statistical analysis was conducted to determine whether there was a significant effect of the Think Pair Share (TPS) learning model on students' conceptual understanding. The findings were presented in tables and diagrams to facilitate interpretation and comparison of students' learning outcomes before and after treatment.

Data collection techniques involved both test and non-test instruments. The test instruments consisted of pretest and posttest questions designed to measure students' conceptual understanding in IPAS learning, particularly on ecosystem topics. The pretest was administered before the implementation of the TPS model to identify students' initial understanding, while the posttest was conducted after the treatment to evaluate improvement in conceptual understanding. In addition, non-test techniques included observation, questionnaires, interviews, and documentation. Observation was conducted to identify students' participation and classroom interaction during the learning process. Questionnaires were distributed to obtain students' responses toward the implementation of the TPS learning model. Interviews were carried out with teachers and selected students to gain deeper information regarding the learning process and students' difficulties in understanding concepts. Documentation techniques were used to collect supporting data such as photographs, lesson plans, and students' learning records.Before being administered, the research instruments were tested for validity and reliability to ensure that they were appropriate for data collection. Data analysis was conducted using SPSS version 26 through normality tests and paired sample t-tests to examine the significance of differences between pretest and posttest scores.

3. RESULTS

The results of this study were obtained from the analysis of pretest and posttest data of fifth-grade students at SDN 28 Kelakik after the implementation of the Think Pair Share (TPS) learning model in IPAS learning on ecosystem topics. Data analysis was conducted using descriptive and inferential statistics with the assistance of SPSS version 26. Descriptive analysis was used to describe students' learning outcomes before and after the treatment through mean scores, minimum scores, maximum scores, and standard deviations. The results showed that the

average pretest score was 64.70, which was categorized as low. After the implementation of the TPS model, the average posttest score increased to 77.26 and was categorized as high. This improvement indicates that students demonstrated better conceptual understanding after participating in learning activities using the TPS model. In addition, most students obtained higher posttest scores compared to pretest scores, indicating an improvement in learning outcomes after the treatment was applied.

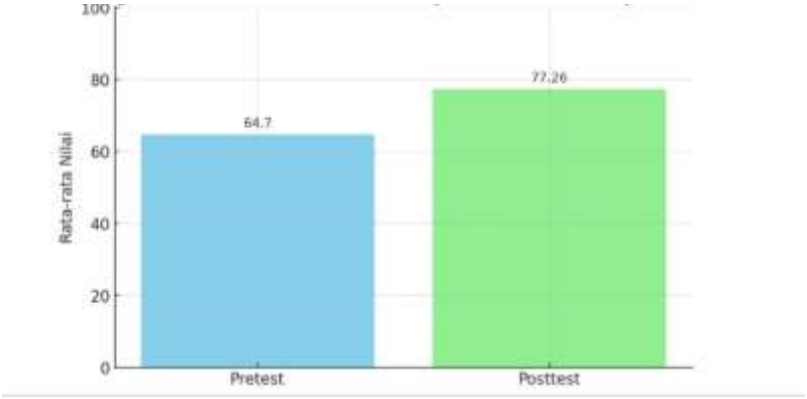

Figure 1. The Comparison Of Results

Before conducting hypothesis testing, a normality test using the Shapiro-Wilk test was conducted to determine whether the research data were normally distributed. The normality test results showed that the significance values of both pretest and posttest data were greater than 0.05, indicating that the data were normally distributed and met the requirements for parametric testing. Furthermore, hypothesis testing was conducted using a paired sample t-test because the data originated from the same group tested under two different conditions, namely before and after the treatment. The results of the paired sample t-test showed a significance value (2-tailed) of 0.000 < 0.05. This result indicates a significant difference between students' pretest and posttest scores. Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted, indicating that the Think Pair Share (TPS) learning model had a significant effect on students' conceptual understanding in IPAS learning.

In addition to the test results, classroom observations during the learning process showed that students became more active and engaged after the implementation of the TPS model. Students appeared more confident in expressing opinions, discussing ideas with peers, and participating in learning activities. During the think stage, students attempted to understand the material independently. In the pair stage, students discussed and exchanged ideas with their partners, while in the share stage, students presented the results of their discussions to the class. These findings indicate that the TPS model not only improved students' conceptual understanding but also enhanced students' participation, communication, and collaboration throughout the learning process.

4. DISCUSSION

The findings of this study indicate that the implementation of the Think Pair Share (TPS) cooperative learning model contributes positively to the improvement of students' conceptual understanding in IPAS learning. This improvement does not merely reflect a quantitative increase in scores, but also signifies a qualitative shift in how students construct and internalize knowledge in a more meaningful way. This suggests that learning processes involving active interaction enable students not only to receive information but also to process and connect it with their prior knowledge and learning experiences. From a theoretical perspective, the effectiveness of the TPS

model can be explained through a constructivist approach, which emphasizes that knowledge is actively built by learners through interaction and reflection. In the TPS model, students are first encouraged to think independently, then validate and refine their understanding through paired discussions, and finally communicate their ideas within a larger group setting. This sequence promotes deeper cognitive processing, allowing concepts to be better understood and retained.

Furthermore, the TPS model enhances student engagement throughout the learning process. Increased participation, confidence in expressing ideas, and the ability to collaborate effectively with peers indicate that a collaborative learning environment fosters both social and academic development. Such conditions are essential for creating meaningful and student-centered learning experiences. These findings are consistent with Trianto (2009), who argues that cooperative learning facilitates interaction among students, thereby improving conceptual understanding. In addition, Latifah and Luritawaty (2020) highlight that TPS effectively enhances problem-solving skills through structured discussion activities. Similarly, Meilana et al. (2021) found that TPS contributes to the development of students' critical thinking skills, as learners are encouraged to analyze and evaluate information actively.

In the context of IPAS learning, particularly on ecosystem topics, the TPS model provides opportunities for students to discuss abstract concepts such as food chains, food webs, and energy transfer. Through peer interaction, students can clarify misconceptions and develop a more comprehensive understanding of the subject matter. This represents a key contribution of the study, demonstrating that cooperative approaches like TPS not only improve learning outcomes but also deepen the quality of conceptual understanding. However, this study has several limitations. The use of a pre-experimental design without a control group restricts the generalizability of the findings. Additionally, the relatively small sample size limits broader application. Therefore, future research is recommended to employ more robust experimental designs and larger samples to obtain more comprehensive and generalizable results. Overall, this study provides valuable insight that the Think Pair Share (TPS) cooperative learning model can serve as an effective instructional strategy to enhance students' conceptual understanding, as well as to develop their critical thinking and collaborative skills in elementary IPAS learning.

5. CONCLUSION

The results of the data analysis indicate that the average pretest score of fifth-grade students at SDN 28 Kelakik in IPAS learning (Chapter II: Ecosystem Harmony) was categorized as low, with a mean score of 64.70. Many students had not yet mastered key concepts such as food chains, food webs, and energy transfer. After the implementation of the Think Pair Share (TPS) learning model, the average posttest score increased to 77.26, which falls into the high category, indicating a better level of conceptual understanding compared to the conventional method. Statistical analysis using a paired sample t-test with SPSS version 26 showed a significance value (2-tailed) of 0.000 (< 0.05), confirming a significant difference between pretest and posttest scores. Therefore, the Think Pair Share (TPS) learning model has a positive effect on students' conceptual understanding in IPAS learning in this class.

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