

The Implementation of the Cooperative Learning Model Type *Think Pair Share* (TPS) on Eighth Grade Students in Terms of Student Self-Confidence

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ABSTRACT

*This study aims to determine the relationship between the application of the Think Pair Share (TPS) cooperative learning model and the improvement of self-confidence among eighth-grade students at SMPI Ar-Rahman Perak. The research method used is a pre-experimental design with a one-group pretest-posttest design and a quantitative research approach. The subjects of this study are the eighth-grade students at SMPI Ar-Rahman Perak. The research instruments used are tests and non-tests. The test instruments include pretest and posttest essay questions, as well as a self-confidence questionnaire to measure the students' self-confidence after the application of the Think Pair Share (TPS) model. The non-test instrument used is an interview with the mathematics teacher of the eighth grade at SMPI Ar-Rahman Perak to understand the implementation of the learning process in the classroom. The data analysis technique used is hypothesis testing. Before conducting hypothesis testing, the data obtained were first subjected to normality and homogeneity tests. Based on the calculation of the paired sample *t*-test, the significance value obtained is 0.003. This significance value indicates $0.003 < 0.05$, thus it can be concluded that H_a is accepted. The acceptance of H_a means that there is a difference in the level of self-confidence among the eighth-grade students at SMPI Ar-Rahman Perak before and after the application of the Think Pair Share (TPS) learning model.*

Keywords: *TPS Learning Model, Student Self-Confidence.*

INTRODUCTION

The quality of mathematics education in Indonesia is still a major concern. Based on PISA (Program for International Student Assessment) data, the mathematical abilities of Indonesian students are still below the world average. Apart from that, there are still many problems found in the mathematics learning process, such as low student motivation, lack of student understanding of the material, and minimal application of innovative and interactive learning approaches. The success of education in a country is partly due to the role of teachers. A good teacher is a teacher who can determine and choose the right learning model, so that students can later appear active in the process of teaching and learning activities. According to the Regulation of the Minister of National Education of the Republic of Indonesia Number 22 of 2006, it is explained that the objectives of learning mathematics in schools include that students have the ability to understand mathematical concepts, explain the relationship between concepts, use reasoning, solve problems, and communicate ideas. Learning mathematics is said to be successful if students have the ability to solve problems, reasoning skills, understanding skills and other abilities that are used properly besides being able to take advantage of the benefits of learning mathematics in real life (Khuzaini & Nasrulloh, 2023).

The results of the researcher's interview with SMPI Mathematics Teacher Ar-rahman Perak found a problem where students had a low level of self-confidence. According to the mathematics teacher's explanation, when students were given practice questions, their responses immediately complained and gave up as if they couldn't do it, even though if they were willing to study the practice questions and were

confident they could do the questions. Students still often look at their friends' answers just to get good mathematics performance. This is in line with the results of research conducted Vandini (2016), This is in line with the results of research conducted. Self-confidence in learning achievement has a strong influence. Efforts that can be made to overcome students' low self-confidence are to adopt a cooperative learning model and choose the right approach, not just a teacher-centered approach.

The cooperative learning model requires students to be able to work together and trust each other positively (Simamora & Dalimunthe, 2014). There are various variations of Cooperative learning models available. One type that is expected to be able to overcome existing problems in mathematics learning is the *Think Pair Share (TPS)* learning model, because previous research conducted Fahrullisa (2018), shows that the *Think Pair Share (TPS)* learning model produces better learning outcomes compared to conventional learning models. According to Frank Layman, *Think Pair Share (TPS)* is an effective way to vary the atmosphere of class discussion patterns, where the procedures used in the *Think Pair Share (TPS)* learning model can give students more time to think to respond and help each other. (Simamora & Dalimunthe, 2014). The advantage of this learning model is that it can optimize student participation. In TPS type cooperative learning there are well-defined procedures, giving students more time to think, respond and help each other in their classmates. This method has a Think step, this stage allows students in the class to work independently to find information and a Pair stage, students work in groups to exchange ideas and information obtained. Next, at the Share stage, it provides opportunities for students to participate with friends and teachers and can present in front of the class. (Nasrulloh et al., 2024).

Researchers will apply the *Think Pair Share (TPS)* type cooperative learning model to Function material in class VIII SMPI Ar-rahman Perak. According to Sari & Purwaningsih (2018), One of the factors that influences students' success in understanding learning is their level of self-confidence. Students who have low self-confidence tend to participate less in the learning process and feel frustrated and hopeless more easily. To overcome this problem, teachers can apply the *Think Pair Share (TPS)* learning model. This learning model aims to increase social interaction between students and strengthen critical and creative thinking skills (Dewi et al., 2021). Research that evaluates the implementation of the TPS type cooperative learning model by paying attention to students' self-confidence factors is very important to carry out. In this way, it can be seen to what extent the TPS learning model can provide optimal benefits for students with different levels of self-confidence.

METHOD

This research was conducted at SMPI Ar-rahman Perak school. The research method used is pre-experimental (non-designs), indicating that this research is not yet included in the comprehensive experimental category because there are still external variables that can influence the dependent variable. The research design uses a "pre-test and post-test one group design" approach, where only one experimental class is observed without any comparison or control class.. The research paradigm according to Sugiyono (2015) can be seen in the table below:

Table 1. Pre-test and Post-test One Group Design Scheme

Group	Pretest	Treatment	Post-test
Experiment	O ₁	X	O ₂

Explanation :

- O₁ : Pretest
- X : Treatment
- O₂ : Posttest

The population in this study were all class VIII students at SMPI Ar-rahman Perak. The sample in this research is a saturated sample, all members of the population are Class VIII students at SMPI Ar-Rahman Perak. Data collection techniques use Pretest-Posttest tests, documentation, observation and questionnaires. Data on students' self-confidence was obtained by interviewing subject teachers, giving pretest-posttest questions to measure the extent of students' understanding before and after implementing the TPS type cooperative learning model, in accordance with research conducted Vandini (2016) Self-confidence on learning achievement has a strong influence where increasing self-confidence will also be followed by increasing mathematics learning achievement.

Meanwhile, the research instrument uses the Learning Implementation Plan (RPP) as a reference in implementing the learning model. Observation sheet to determine the achievement of syntax in the TPS

learning model and test instrument consisting of pretest-posttest and non-test questions in the form of a questionnaire. To strengthen the data obtained, at the end of the learning process students were asked to fill out a self-confidence questionnaire. Before these instruments are used for research, a validation test is carried out first by two experts to determine the validity of the instrument content. Next, the instrument was tested on students. From the validation test results, the instruments used were declared valid. Hypothesis testing can be carried out if prerequisite tests have been carried out, namely reliability, normality, homogeneity and hypothesis tests. This test was carried out using the Microsoft Office Excel 2010 and IBM SPSS Statistics 21 applications.

RESULT AND DISCUSSION

Result

This research uses several instruments which include learning materials and lesson plans, test instruments in the form of pretest-posttest questions, as well as non-test instruments in the form of questionnaires and observation sheets. The results of the validator's validation of the teaching material showed a percentage of 91%, so it was declared very valid for use in this research. Furthermore, the results of the validation of student activity observation sheets obtained a percentage of 94% of all aspects assessed, and were also declared very valid. This high validation shows that the activity observation sheet is able to provide an accurate picture of student involvement and participation during the learning process. For the validation results of the pretest-posttest test instrument, a percentage of 92% was obtained, so it was declared very valid. This shows that the pretest-posttest questions used in this research can be relied upon to measure changes in students' understanding and abilities before and after treatment. Apart from that, the validation results of the student self-confidence questionnaire obtained a percentage of 91% and were declared very valid. This questionnaire is used to measure students' level of self-confidence in the context of mathematics learning, and high validation shows that this instrument is able to capture accurate and reliable data. Thus, all instruments used in this research have gone through a strict validation process and met high validity standards, so that the research results can be trusted and relied upon.

The next step is to conduct a limited trial of the research instrument in the form of individual test questions. This test was tested on 27 students who had previously received learning about relations and functions using a *Think Pair Share* type cooperative learning model. After the data from the test results were obtained, validity and reliability tests were carried out using the Microsoft Office Excel 2010 application. Based on the results of the validity test of the protest-posttest questions, the value of $r\text{-count} > r\text{-table}$ was obtained so that the test questions were declared valid. To determine the reliability of the questions, a reliability test was carried out using the Cronbach's Alpha method.

Tabel 2. Reliability Test Results for Pretest Post-test Questions

Question	Cronbach's Alpha	N of Item
<i>Pretest</i>	.631	5
<i>Post-test</i>	.771	5

The reliability test results show that the Cronbach's Alpha value is 0.631 for the pretest questions and 0.771 for the post-test questions. Because the Cronbach's Alpha value is more than 0.60, it can be concluded that the test questions are reliable and can be used for research. From the data obtained, normality and homogeneity tests were then calculated as a prerequisite for parametric statistical hypothesis testing.

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		27
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	11.79807633
Most Extreme Differences	Absolute	.229
	Positive	.171
	Negative	-.229
Kolmogorov-Smirnov Z		1.190
Asymp. Sig. (2-tailed)		.118

Picture 1. Normality test results

Based on the normality test results above which show a significance value greater than 0.05, it can be concluded that the observed data tends to be normally distributed. This indicates that the data meets the requirements for further statistical analysis assuming a normal distribution. After the data is considered to have a normal distribution, the next step is to carry out homogeneity testing. The results of this homogeneity test were obtained through analysis using the IBM SPSS Statistics 21 application.

Test of Homogeneity of Variances

Hasil

Levene Statistic	df1	df2	Sig.
.594	1	52	.444

Picture 2. Homogeneity test results

Based on the test results which show a significance value of 0.444, where the significance value is > 0.05 , it can be concluded that the data analyzed is homogeneous. Data that has passed the homogeneity test and shows a normal distribution has higher reliability in statistical analysis. Therefore, the appropriate analysis method is the Paired Sample t test or two paired sample t test. Examples of relevant samples are pretest and post-test which are used to measure changes before and after an intervention. Further information about the results of the paired two-sample t test can be found in the following table image, which provides a more detailed statistical picture.

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PRE TEST - POST TEST	-8.29630	13.21658	2.54353	-13.52460	-3.06799	-3.262	26	.003

Picture 2. Paired Sample t-test results

Based on the test results obtained, the significance value is 0.003. Significance $0.003 < \text{significant level } 0.05$, so it can be concluded that H_0 is rejected and H_a is accepted. Acceptance of this H_a means that there is a relationship between the implementation of the *Think Pair Share* (TPS) type cooperative learning model and increasing the self-confidence of class VIII students at SMPI Ar-rahman Perak.

Discussion

This research aims to identify the relationship between the application of the *Think Pair Share* (TPS) type cooperative learning model in relationship and function material at SMPI Ar-rahman Perak with increasing students' self-confidence. The self-confidence indicators used are in accordance with the Ministry of Education and Culture (2015) as follows: 1). Having an opinion or carrying out an activity

without hesitation; 2). Able to make decisions quickly; 3). Not easily discouraged; 4). Not awkward in acting; 5). Dare to present in front of the class; 6). Dare to have an opinion, ask, or answer questions.

The learning process using the TPS model has several core stages. These stages include: 1.) Introduction, To enrich the learning experience, the researcher chose to use Power Point as a tool to convey this information. This approach aims to increase students' interest and enthusiasm for learning, while at the same time utilizing technology so that learning does not feel monotonous. Thus, it is hoped that through the application of modern media, the learning process will be more dynamic and effective, so that students can more easily understand the concepts being taught and be actively involved in the teaching and learning process. 2.) Think, the process begins by starting the session by providing questions, problems or relevant topics to students. Students are then given the opportunity to reflect on and develop answers, solutions, or ideas personally. By providing sufficient time, students can explore various points of view, consider different aspects, and ultimately achieve a more comprehensive understanding. This approach also allows students to hone their analytical skills and improve critical thinking skills in responding to the intellectual challenges they face. 3.) Pair, In this stage, students are invited to collaborate with classmates to form groups, where they will discuss the results of the previous thinking stage and share ideas with each other and find solutions together to solve problems. Collaboration in groups also allows students to learn from their classmates' perspectives, broaden their horizons, and enrich their understanding of the topics discussed. Thus, this stage not only strengthens communication skills, but also promotes cooperation and trust between students. 4.) Share, In the final stage, namely the sharing process where a number of students are selected to present their answers and reasons to all class members. By participating in these presentations, students have the opportunity to demonstrate their deeper understanding and develop their public speaking skills. Through this experience, it is hoped that students can improve their ability to convey ideas and opinions clearly and convincingly to others. 5.) Evaluation, researchers work together with students to make corrections to the results of the test questions that have been prepared. Apart from that, students also carry out a thorough evaluation of the questions that have been tested. The correction process includes in-depth analysis of student answers and identifying potential errors or deficiencies in the questions.

Based on the assessment results, there is a significant difference in the level of students' self-confidence before and after implementing the *Think Pair Share* (TPS) cooperative learning model on the topic of relationships and functions. This difference is reflected in the pretest and posttest scores, which show a significant increase. Before applying the TPS model, the average pretest score was 74.59, while after applying the model, the average post-test score increased to 82.89. This indicates that the use of the TPS model positively contributes to increasing students' self-confidence in the context of mathematics learning, in line with the results of research by Sari and Purwaningsih (2018), that one of the factors that influences students' success in understanding learning is the level of students' self-confidence, an increase in self-confidence will also be followed by an increase in learning achievement.

The results of the Paired Sample t test using the IBM SPSS Statistics 21 application reveal further information regarding changes in students' self-confidence levels before and after implementing the *Think Pair Share* (TPS) learning model. The experimental class significance value of 0.003 indicates that there is a significant difference, with a significance value of less than 0.05. Therefore, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. These findings confirm a significant increase in students' self-confidence levels after implementing the TPS learning model. This research uses supporting data to strengthen the results of the impact of TPS learning on junior high school students' self-confidence in learning mathematics on high school relationship and function material, namely the results of the self-confidence questionnaire instrument. Questionnaires were distributed to 27 class VIII students after the students applied their learning and worked on posttest questions.

Based on the explanation above, it can be concluded that there is an increase in students' confidence when implementing TPS type cooperative learning on relationship and function material, where after being taught with TPS learning, the level of self-confidence is higher than before implementing TPS learning. This is relevant to research conducted by Vandini (2016) Self-confidence greatly influences students' learning achievement. while research conducted by Yanti (2018) shows that the implementation of the *Think Pair Share* (TPS) type cooperative learning model gives students the opportunity to express their own ideas or thoughts and ask questions so as to create learning that actively involves students. Usman & Rahmadani (2018) said that *Think Pair Share* type cooperative learning can improve the learning process, increase student activity and response in mathematics learning.

CONCLUSIONS (font size 12pt)

Based on research and analysis in parts I to IV, there is a significant difference in the level of self-confidence of class VIII students at SMPI Ar-Rahman Perak before and after implementing the *Think Pair Share* (TPS) cooperative learning model. This finding is supported by the paired t test with a significance result of 0.003, which is lower than the 0.05 error level that has been set, indicating acceptance of the alternative hypothesis that there is a difference in students' self-confidence before and after implementing the TPS model. This difference is reflected in the increase in the average post-test score compared to the pretest score. Therefore, it can be concluded that the TPS learning model is effective in increasing students' self-confidence in learning mathematics, relations and functions in class VIII.

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