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The Effect of Think Pair Share Learning Model Towards Student's Mathematics Learning Motivation at SMAN 1 Campalagian

*Kamaruddin[1]

[1] *Mathematics Education Master's Program, Universitas Negeri Makassar, Makassar, Indonesia*
Corresponding author. Email: kamaruddinciankns@gmail.com

ABSTRACT
The research aims to determine if the mathematics learning motivation of students taught using the learning model Think Pair Share (TPS) was higher than that of students taught using conventional learning models. The type of research was quasi-experimental with the nonequivalent control group design. The study was conducted in class X MIA SMAN 1 Campalagian, Class X MIA 1. The experimental class consists of 36 students, and class X MIA 5 as the control class consists of 36 students. The instrument used is the learning motivation questionnaire. The data analysis technique used descriptive analysis and inferential analysis. Descriptive statistical analysis used N-Gain with the average score of Students Mathematics Learning Motivation is 0,62 for the experimental class. For the control class, the average score obtained from Students Mathematics Learning Motivation is 0,30. Meanwhile, the hypothesis test analysis used the T-test (Independent Sample Test) with a significance value of 0.000 < 0.05. Then, it can be concluded that the mathematics learning motivation of students taught using the learning model Think Pair Share (TPS) is higher than that of students taught using conventional learning models.

Keywords: *Think Pair Share Learning Model, Learning Motivation, Mathematical.*

1. INTRODUCTION

Sirait [1] argues that education is a very important part of developing a nation and state because, without the support of education, the development of the Nation will not be set properly. For this reason, humans are required to continue the study, understand and master various disciplines to be applied in all aspects of life.

Education cannot be separated from science and technology. Nurlaeli et al. [2] argue that education is an absolute need for every human being that must be met because, without education, humans will be difficult to develop and can even be retarded. Education is an effort to improve human" resources' quality, both physically, mentally, and spiritually. The progress of a country can be seen from the level of knowledge possessed by the citizens of that country. One of the sciences closely related to the nation's progress and the improvement of human resources in mathematics is that mathematics is the queen or source of other sciences. Therefore, mathematics is a very important subject in education and must be studied at every level of education.

Yenni [3] argues that considering the importance of mathematics has been tested nationally. However, the government's efforts to advance education, especially mathematics, have not produced optimal results. This can be seen from the low learning outcomes of students' mathematics. one indicator that shows the quality of education in the country tends to be low is based on the results of the Trends in International Mathematics and science study (TIMSS) survey and the Program for International Students Assessment (PIZA) initiated by the Organization for Economic Co-operation and Development (OECD). Indonesia's ranking and average score are always at the bottom and differ much from year to year.

OECD in Nurlaeli et al. [2] stated that the results of the 2015 PISA test and evaluation showed that Indonesia was in position 62 out of 70 countries. Most of the Indonesian students who participated in the survey conducted by PISA could only solve problems below level 3. This is not much different

from the results of the TIMSS study, which placed Indonesia at 45th out of 50 countries. TIMSS records that the achievement level of students in mathematics is 50% for the low level, 20% for the intermediate level, 3% for the high level, and 0% for the advanced level.

Based on the data from the TIMSS and PISA results that have been stated above, it can be identified that the learning outcomes of Indonesian students are still very low. Sandi in [4] suggests that one of the factors that the low learning outcomes of Indonesian students are that the learning model used by teachers is still conventional. This causes a lack of students' motivation in learning, especially mathematics.

This lack of students' motivation is due to the monotony of the atmosphere in learning so that students are less interested in following the material presented by the teacher. As stated by [5], monotonous or conventional learning still dominates the way teachers deliver subject matter. The teaching and learning process that occurs is not student-centered but teacher-centered so that students become bored in receiving subject matter. Suppose this happens continuously, and there is no action to create an exciting and comfortable learning atmosphere and help facilitate student understanding. In that case, this will significantly affect student learning motivation, especially mathematics lessons, which will impact student achievement.

The problem above is closely related to the method and method of delivering the material used by the teacher. Syarifuddin [6] states the mathematics learning process requires a varied and innovative learning model to overcome the various problems above. Ekawati (2016) suggests that there are some types of cooperative learning models. One of the cooperative models that can help build students' self-confidence and motivation, give them more time to think, encourage students to communicate and interact in the classroom is the Think Pair Share (TPS) model.

TPS learning consists of three stages, Think, in pairs, and Share; with these three stages, it is hoped that it can help students to more readily accept learning techniques that allow students to work alone and collaborate with others.

Several previous studies have conducted research related to the think pair share learning model. Among them are [9], wherein their research explains that there are two main principles in applying the TPS model in mathematical instructions, namely the selection of group members and the determination of group members. Group members should consist of students who already know each other well but may not have the same abilities. Other than that, [8] in their research have concluded that the TPS learning model can improve students' mathematical communication.

Based on the description above and the problems experienced by class X students of SMA Negeri 1 Campalagian, the researcher is interested in researching the cooperative learning model. This is limited by examining the effect of applying the Think Pair Share Type Cooperative Learning Model on the Mathematics of Class X SMA Negeri 1 Campalagian students.

2. RESEARCH METHODS

This research was conducted in class x mia sma negeri 1 campalagian. The research method used is the experimental research method. In this research, the type of research is quantitative research in the form of quasi-experimental, there 2 classes, that is the experimental class and the control class. The experimental class is given learning using the think pair share learning model, and the control class uses the conventional learning model (direct learning) on trigonometry material. Furthermore, a pre-test (initial questionnaire) is given to each class before learning, and a post-test (final questionnaire) is given to each class after the learning is carried out. The population in this research s all students of class X MIA SMA NEGERI 1 Campalagian, which consisted of 5 classrooms, where all classes had the same level of ability. In this research, the number of students is 36 students for the experimental class and 36 students for the control class. The research instrument used is a learning motivation questionnaire whose validity has been tested. A learning motivation questionnaire is used to measure students' mathematics learning motivation. Data hypothesis testing was performed after testing normality and homogeneity on mathematics learning motivation data. Data analysis for testing hypothesis research is using parametric with a significance level of 5%.

3. RESULT AND DISCUSSION

3.1. Research result

Descriptively, data on students' motivation to learn mathematics In the experimental class and control class were taken from the pretest results given to a sample of 22 statements. Obtained data as follows:

Table 1. Pretest Data for experimental class and control class

Data	Experimental Class	Control Class
Highest Score	66,00	60,00
Lowest Score	45,00	41,00
Mean	52,3333	50,3611
Median	52,0000	50,0000
Mode	52,00	50,00
Standard Deviation	4,94542	4,14145
Variance	24,457	17,152

Source: processed data using SPSS 20

Based on the data above, it can be seen that the comparison of the descriptive value of the experimental class with the control class can be seen. It can be concluded that the results of the experimental class data have the same trend value as the control class. The data from the posttest results for the experimental class and the control class can be seen in the following table:

Table 2. Posttest data for experimental class and control class

Data	Experimental Class	Control Class
Highest Score	84,00	77,00
Lowest Score	63,00	50,00
Mean	74,7500	62,2778
Median	74,5000	62,0000
Mode	70,00	50,00
Standard Deviation	6,28547	8,08035
Variance	39,507	65,292

Source: processed data using SPSS 20

Based on the data above, the experimental class's average value (mean) is higher than the average value of the control class and the median and mode values. Thus, it can be concluded that the result of the experimental class data is better than the control class.

After obtaining *pretest* and *posttest* data from each group, the *N-Gain* score was calculated based on the *pretest* and *posttest* scores. From the results of data processing with the help of *SPSS 20*, the average *N-Gain* score can be seen in the following table:

Table 3. *N-Gain* Category Experiment Class and Control Class

Category	**Frequency *N-Gain* student's motivation to study**	
	Experiment Class	**Control Class**
Very high	7	0
Tall	13	3
Currently	10	10
Low	6	10
Very low	0	13
Average	0.62 (High)	0.31 (Low)
Many students	36	36

Source: processed data using SPSS 20

In the experimental class, 20 students get the *N-Gain* score of students' mathematics learning motivation in the high and very high category, while the *N-Gain* score in the control class is in the high and very category only 3 students. This shows that the experimental class's *N-Gain* score is higher than the control class's *N-Gain* score, meaning a better effect using the *Think Pair Share* learning model than using only conventional learning models.

After the N-Gain test was carried out, it continued with the prerequisite test: the normality and homogeneity tests for the experimental and control classes. The results of the normality test for the experimental class and control class can be seen in the following table:

Table 4. normality test results

Class	**Sample**	***Pre***	***Post***	**Conclusion**
		Sig.	**Sig.**	
Exp.	36	0,200	0,089	Normal
Control	36	0,107	0,200	Normal

Source: Processed data results

Based on table 5 above, the significant value obtained in all data is greater than the 0.05 significance level. Thus it can be concluded that the population data in both groups are normally distributed. The results of the homogeneous test of the data are as follows:

Table 5. Homogeneity Test Results

Mark	**Significant**	**Conclusion**
Pretest	0.240	Homogeneous
Posttest	0.058	Homogeneous

Source: processed data using SPSS 20

Based on table 6 above, obtained significant values for all data greater than 0.05 significance level. Thus it can be concluded that the two data have homogeneous variance.

After conducting the prerequisite test for data analysis, it was found that both groups were normally distributed and had homogeneous variance. Then the hypothesis test was carried out using the *independent sample t*-test so that the value of Sig 0.000 < 0.05 was

obtained, then H_0 was rejected, and H_1 was accepted. Thus, it can be concluded that the motivation to learn mathematics in class X MIA SMA Negeri 1 Campalagian, who uses the *Think Pair Share* learning model, is higher than the motivation to learn mathematics in class X MIA SMA Negeri 1 Campalagian using conventional learning models.

3.2. Discussion

In this research, the researcher acts as an educator in implementing the Think Pair Share learning model in class X MIA SMA Negeri 1 Campalagian as an experimental class, while in class X MIA 5 SMA Negeri 1 Campalagian as a control class, the teacher uses conventional learning models (direct learning). Before applying the Think Pair Share learning model, the researcher first gave a pretest to the two classes; then, at the end of the meeting, a posttest was given. From the result of pretest and posttest, descriptive and inferential analysis was carried out.

Through descriptive analysis data with the help of the SPSS 20 application for the experimental class, an average posttest score of 74.7500 was obtained. In contrast, for the control class, an average posttest score of 62.2778 can be seen as the average score of learning motivation in the control class. This shows that the influence of the Think Pair Share learning model is better than the conventional learning model. In addition, the result of the descriptive analysis shows that the average N-Gain score of mathematics learning motivation using the Think Pair Share learning model is 0.06 > 0.31, the average N-Gain of mathematics learning motivation using conventional learning models (direct learning). It can be seen that the average N-Gain score of students' mathematics learning motivation in the experimental class is 0.62 based on the N-Gain criteria including in the high category. Meanwhile, the average N-Gain score students' mathematics learning motivation in the control class was 0.31, which was included in the low category. This shows that the experimental class N-Gain result is higher than the control class N-Gain results. There is a better effect using the Think Pair Share learning model than using only conventional learning models.

Based on hypothesis testing with the help of the SPSS 20 application, it was obtained that the significance value for the posttest experimental class and control class was 0.000, smaller than the 0.05 significance level, which means that the average score of the experimental class was higher than the average score of the control class after being given treatment. This shows that H_1 is accepted and H_0 is rejected, which means that the motivation to learn the mathematics of students taught using the Think Pair Share learning model is higher than the motivation to learn the mathematics of students taught using conventional learning models. This is in line with the result of previous research by Januartii (2o16), which has proven a positive or better effect between motivation to learn mathematics and the Think Pair Share learning model. There is a high increase in the learning model. There is a high increase in learning motivation in classes that apply the Think Pair Share learning model. This method aims to increase students' interest in mathematics and enthusiasm for learning mathematics, thus encouraging increased student motivation. Ekawati [7] suggests that one of the cooperative models that can help build students' self-confidence and motivation, give them more time to think, encourage students to communicate and interact in the classroom is the Think Pair Share (TPS) model. The goal of TPS is to minimize individual teaching that proves to be less effective. In addition, it is also intended to increase students' enthusiasm in learning mathematics by studying in groups or pairs.

Based on the above, it can be concluded that the use of the Think Pair Share learning model can be applied in the learning process that aims to increase students' motivation to learn mathematics because with high students' learning motivation it will be able to have a positive effect on students' abilities and learning outcomes of mathematics.

4. CONCLUSION

The motivation to learn mathematics in class X SMA Negeri 1 Campalgian who is taught using the Think Pair Share learning model is higher than the motivation to learn mathematics at class X SMA Negeri 1 Campalgian who is taught using the conventional learning model. This is based on the average N-Gain score that has been obtained previously.

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