IMPLEMENTATION OF THE THINK PAIR SHARE COOPERATIVE LEARNING MODEL TO IMPROVE MATHEMATICS LEARNING ACTIVITY IN SMK

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ABSTRACT

Mathematics is a basic science that has an important role in the development of science and technology. With the intensity of continuous mathematics learning, students should be able to master these subjects well. However, in reality, there are still many students dents who think that mathematic are complicated subjects with the application of formulas and calculation, students are less interested in mathematics, the level of student activity in mathematics learning is still lacking, the student is afraid to ask a question and express opinions, lack of student responsibility for the assignment given. This research aims to obtain a description of the application of cooperative learning of Think Pair Share (TPS) to improve student activity in class X Animation State Vocational High School (SMK Negeri) 3 Kasihan Bantul. This research is a classroom action research, which refers to the Kemmis and Mc. Taggart's design, those are (1) planning, (2) action, (3) observation, and (4) reflection. This research consists of two cycles, and each of the cycles was held in two meetings. The research subjects in this research are students of class X animation SMK Negeri 3 Kasihan Bantul, amounting to 31 people. This research object is learning mathematics using the cooperative learning model of think pair share—data collection techniques gained through observation, learning outcomes test, interview, and documentation. The data analysis technique in this research is qualitative descriptive. The result of this research, including that through applying cooperative learning of think pair share, can improve student activity of the system of three variable linear equations in class X animation SMK Negeri 3 Kasihan Bantul. The first cycle's student activity is 54,84% (enough category), and in the second cycle, it increases to 69,35% (good category).

Keywords: Cooperative Learning, Activity in mathematics, studying model, Class action research, Think Pair Share.

INTRODUCTION

Mathematics is one of the main subjects tested in national exams. Mathematics is a basic science that has an important role in the development of science and technology. With the continuous intensity of learning mathematics, students are expected to be able to master these subjects well. But in fact, many students think that mathematics is classified into complex subjects by applying formulas and calculations. In addition, some students feel afraid and not interested in mathematics because the material being taught is abstract. As Herman Hudojo (2003: 36) states, mathematics is concerned with structured ideas whose relationships are logically arranged. This means that mathematics is very abstract. Namely about abstract concepts and deductive reasoning.

From several descriptions of mathematics, teachers must be creative in selecting and implementing various learning strategies which include techniques, approaches, methods, and learning models. The application of an appropriate learning model will affect student success in the learning process. Student success in learning is marked by the activeness of students in participating in teaching and learning activities. Lestari K.E. and Yudhanegara M.R. (2015: 99) states that active learning is the involvement of students in the learning process to succeed in learning. Student activity is any activity or activity carried out by students in the learning process in achieving these learning objectives. Hamalik, Oemar (2007: 179) suggests that active learning can be defined as activities that are given to learning in teaching and learning situations so that student activities will create active learning.

In simple terms, student learning activeness in the learning process can be seen from student learning efforts in the form of student enthusiasm for learning, student interaction with teachers and other students, student collaboration, student activity, and participation in learning process (Directorate of Middle School Development, 2010: 58). Based on observations made at SMK Negeri 3 Kasihan Bantul on January 3, 2018, that student learning activities are still relatively low, namely from 31 students only 39.92% of students are actively involved in learning activities in class, the remaining 60.08% students are less active in learning activities.

Low student activity can be seen in learning, including the lack of student attention to the teacher's explanation in front of the class, where 40.32% of students enthusiastically participate in learning in class. The lack of student interaction with the teacher where only 39.52% of students actively asked the teacher, namely students who were classified as creative who dared to ask questions or express opinions and respond to other students' opinions. In addition, many students who are not responsible if given assignments by the teacher often copy their friends' work. Observation data showed that only 41.13% of students could work together in groups, and 39.52% of students were active in group activities. In addition, student participation in concluding learning outcomes is still lacking, as many as 39.52% of students are actively involved in concluding the results of class discussions.

Students who ignore teacher explanations and are less active in learning activities prefer to chat with their peers, play gadgets, do other tasks they like, and do other activities that do not support the mathematics learning process. In addition, in learning mathematics the teacher uses a direct learning model, where the learning process is teacher-centered, so that the teacher is more active than students. Students are also afraid to ask questions and express opinions. Only a few creative students dare to ask questions and express opinions, and students are less responsible for teacher duties.

It can also be seen from the End of semester exams (UAS) results for students of Class X Animation for the 2018/2019 school year. The results of the UAS can be seen in table 1.

Table 1. UAS Results for Class X Animation Students

Minimum completeness criteria (MCC)	Total students	Percentage	Achievement
≥ 70	8	25,81%	Complete
< 70	23	74,19%	Not Complete
Amount	31	100%	

(Source: Midterm Grade Exams Grade XI Animation Students of State Vocational School 3 Kasihan Bantul Academic Year 2018/2019)

Based on the presentation of table 1, it shows that student learning outcomes are still low, and there are still many students who have not been able to achieve the MCC value. This can be caused by several factors that affect student learning outcomes, both from students and teachers. Factors cause students such as laziness, lack of motivation, learning atmosphere that is not supportive, etc. While the teacher's factors include the ineffective learning model chosen, the teacher uses the direct learning model to be more active than students.

In this case, the teacher must choose a suitable learning model suitable for the material being taught and use an exciting learning model and design a varied learning environment to be interested in learning. Students can also more easily understand the material presented because selecting the right learning model will educate. Thus researchers conducted research using the cooperative learning model, a learning model where students learn and work collaboratively in one small group. The cooperative learning model is divided into the cooperative learning model of think pair share type. According to Lestari K.E. and Yudhanegara M.R. (2015: 43), Think Pair Shre is one type of cooperative learning that stimulates student thinking activities in pairs and sharing knowledge with other students. This means that the learning model demands student activity. By applying the cooperative learning model of think pair share type in the classroom learning process, it is hoped that it can improve student activity and learning outcomes. Based on the description above, the researcher is interested in researching the implementation of the cooperative learning model of think pair share type to increase the activeness and

student learning outcomes in mathematics at SMK Negeri 3 Kasihan Bantul in the academic year 2018/2019.

METHODS

This type of research is Classroom Action Research (CAR) that refers to Kemmis and Mc's research design. Taggart, namely: (1) planning, (2) implementing actions, (3) observation, and (4) reflection. Arikunto et al. (2017: 2) define classroom action research in three words that make up that understanding. Each of these words is explained as follows:

a. Research - refers to an activity looking at an object using specific methodological rules and methods to obtain data or information useful in improving the quality of something of interest and importance.

b. Action - refers to a movement of activities deliberately carried out with a specific purpose. In this case, cycle that repeatedly occurs for students subjected to action.

c. In this case, it is not related to the notion of a classroom but has another meaning. As it has been known for a long time, the educator Johann Amos Comenius in the 18th century, what is meant by class in the concept of education and teaching, is a group of students who, at the same time, learn the same thing from the same educator as well.

This classroom action research procedure consists of several activities carried out in a repetitive cycle, and the researcher acts as a teacher. Each cycle consists of four stages: planning, implementing actions, observing, and reflecting on observations and planning for further development. In detail, the class action research procedures for each cycle are described in the following figure:
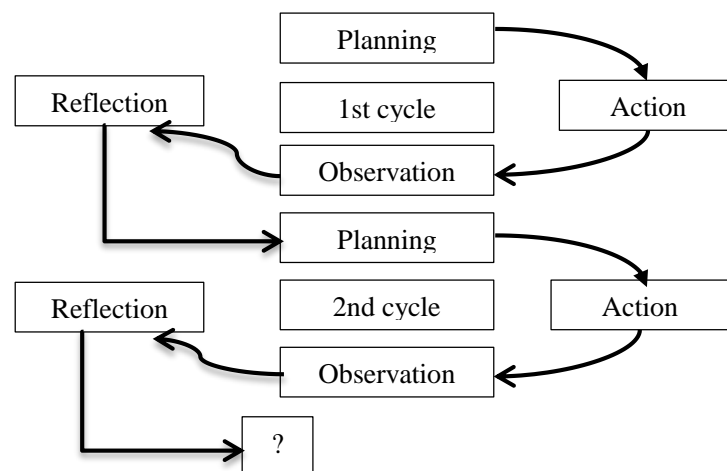
Figure 1. Research Cycle

This research was conducted at SMK Negeri 3 Kasihan Bantul in the Academic Year 2018/2019. The subjects in this study were students of class X Animation at SMK Negeri 3 Kasihan Bantul. The object in this study is the process of learning mathematics by using cooperative learning models with a think pair share type. Data collection techniques were obtained through observation, learning achievement tests, interviews, and documentation. The data analysis technique used in this research is descriptive qualitative analysis.

RESULTS AND DISCUSSION

The classroom action research conducted in cycle I and cycle II regarding mathematics learning using the cooperative learning model TPS type showed an increase in student learning activities followed by an increase in student learning outcomes in mathematics learning. This can be seen from the analysis of the results of observations and student learning activities in cycle I and cycle II, which have increased.

The first cycle of mathematics learning, which was carried out using the TPS type's cooperative learning model, was already going quite well. This can be seen from the average percentage at the first

and second meetings, where each indicator of student learning activities get a percentage of students learning enthusiasm in participating in learning activities by 60.89%, interaction between students and teachers by 60.48%, interactions between students of 58.06%, student cooperation of 56.45%, student activities in groups of 58.87%, and student participation in delivering the results of the discussion of 58.06%. Then obtained the percentage of the success of student learning activities in the first cycle of 58.80%. The percentage shows that the learning activities of students in the category are sufficient. Then the researcher must proceed to cycle II.

In cycle II after reflecting, there were deficiencies in cycle I that needed to be fixed, including: (1) There were 39.11% of students less enthusiastic about participating in learning activities that took place, it was caused by some students still confused with learning mathematics using cooperative learning model type think pair share. Based on the interview results, some students claimed to pay less attention to the teacher's explanation because while copying the material being explained and chatting with their classmates. (2) As many as 39.52% of students lacked interaction with teachers, students and teachers did not blend in applying cooperative learning models of think pair share type. Only students who were cleverly dared to ask questions and express opinions during the learning activities took place. Based on the interview results, some students claimed to prefer asking friends rather than asking the teacher, and only answered the teacher's questions if the students understood. (3) As many as 41.94% of students interact less with other students, some students are more engrossed in their respective activities as some students do other work such as sketching or drawing. Based on the interview results, some students have done a good discussion, but a small number of students are less responsible for the given task. (4) As many as 43.55% of students lack cooperation in groups. Some students are good at doing assignments independently without discussing with peers in groups. Besides that, based on interviews, several groups focus on the distribution of tasks that have been determined so that they do not want to help other friends when they have finished working on their parts. (5) As many as 41.13% of students were less actively participating in group activities. Some students did not participate and were less responsible for the group assignments given. Based on the interview results, students have several students who interact with other groups of friends in one group cannot complete the given task. Some groups only match the answers. (6) As many as 41.94% of students did not participate in summarizing learning outcomes, students were still afraid of conveying and responding to others' opinions. Based on the interview results, no students dared to take the initiative to express themselves express opinions individually. From some of the problems found by researchers in the first cycle, it can be concluded that the cooperative learning model of think pair share type can run quite well but is not optimal.

In cycle II the researchers made improvements to the shortcomings in cycle I by: (1) Practicing teaching to be more confident in conveying material to students more interestingly, the researcher also repeated the stages of the cooperative learning process to students, so students better understand the learning process with a suitable model type of TPS. (2) Researchers also try to be more integrated with students so that the interaction between students and teachers can be well established. (3) Guiding or directing students to solve a given problem, especially at the pair stage. (4) Guiding students who have understood the material presented to teach peers who do not understand so that interactions between students are correctly established. (5) Invite students to be actively involved in groups. (6) Guiding students to express their opinions and conclude learning outcomes.

In cycle II the type of collaborative learning process TPS can run well and maximum. After researchers correct the first cycle's deficiencies in learning mathematics using cooperative learning models, think pair share type. Student learning activities begin to increase. This is consistent with research conducted by Azizah, Dewi (2013) in SMP 2 Wiradesa that the application of the structural approach to the TPS method in learning mathematics circle material can significantly increase students' mathematics learning activities.

This can be seen from the percentage of each indicator of student learning activities, namely student enthusiasm in participating in learning activities by 66.94%, the interaction between students and teachers by 64.92%, the interaction between students by 62.10%, student collaboration by 63.71 %,

student activities in groups of 67.74%, and student participation in delivering the results of the discussion amounted to 63.71%. Then the percentage of the success of student learning activities obtained in the second cycle amounted to 64.85%, which is included in both categories. Thus the research may be stopped. Analysis of the results of observations can be seen in table 2

Table 2. Analysis of Observation Results of Student Learning Activities Cycle I and II

No	Indicator	Percentage		Category
		Cycle I	**Cycle II**	
1	Enthusiastic students participate in learning	60,89%	66,94%	Increase
2	Student interaction with the teacher	60,48%	64,92%	Increase
3	Interaction between students	58,06%	62,10%	Increase
4	Student collaboration	56,45%	63,71%	Increase
5	Student activities in groups	58,87%	67,74%	Increase
6	Student participation in concluding the results of the discussion	58,06%	63,71%	Increase

Based on table 2 seen an increase in student learning activities. Overall, it can be concluded that using cooperative learning models of think pair share type can be used to increase student activity in mathematics class X animation subjects of SMK Negeri 3 Kasihan Bantul in the odd semester of the 2018/2019 school year. Thus the hypothesis of classroom action through cooperative learning with think pair share type can increase student learning activities.

CONCLUSION

Based on the study results, the conclusions in this study are as follows:

1. An increase in student enthusiasm in participating in the first cycle of learning was 60.89% and in the second cycle was 66.94%. Students' interaction with teachers in the first cycle was 60.48%, and in the second cycle, it increased to 64.92%. The interaction between students in the first cycle was 58.06% and in the second cycle increased to 62.10%. Group cooperation in the first cycle was 56.45% and in the second cycle increased to 63.71%. In the first cycle, the group's student activity was 58.87%, and the second cycle increased to 67.74%. Student participation in concluding the first cycle discussion results amounted to 58.06% and in the second cycle increased to 63.71%. While the activities in the first cycle amounted to 58.80% (enough) and in the second cycle increased to 64.85% (good).

2. Mathematics learning using cooperative learning model type think pair share gets a positive response from students, which means students can follow and accept well and are interested in following mathematics learning. This is evident from the results of interviews with students, which showed a positive response from students.

REFERENCES

Arikunto, S., Suhardjono dan Supardi. (2017). *Penelitian Tindakan Kelas*. Jakarta: Bumi Aksara.

Azizah, Dewi. (2013). *Penerapan Pendekatan Struktural Metode Think Pair Share (TPS) Pada Materi Lingkaran Untuk Meningkatkan Aktivitas Belajar Matematika Siswa*. *Delta*. 1, (2),115-199.

Hamalik, Oemar. (2007). Proses Belajar Mengajar. Jakarta: Bumi Aksara.

Herman, Hudojo. (2003). *Pengembangan Kurikulum dan Pembelajaran Matematika*. Malang: Universitas Negeri Malang.

Kementrian Pendidikan Nasional. (2010). *Juknis Penyusunan Perangkat Penilaian Afektif Di SMA*. Jakarta: Direktorat Pembinaan Sekolah Menengah Atas.

Lestari, K.E. dan Yudhanegara, M.R. (2015). *Penelitian Pendidikan Matematika*. Bandung: PT Refika Aditama.

Shoimin, A. 2014. *68 Model Pembelajaran Inovatif dalam Kurikulum 2013*. Yogyakarta: Ar-Ruzz Medi