THE APPLICATION OF TPS (Think Pair Share) COOPERATIVE LEARNING MODEL TO INCREASE STUDENTS' ACTIVITIES AND LEARNING OUTCOMES OF X IPA 1SMA NEGERI 3 JEMBER

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ABSTRACT

Mathematics is a school subject that has abstract objects and is built based on the process of deductive reasoning. It is the concept of truth that is got as the logic result from the truth before. Mathematics approach learning is easy to be understood by students. The process of deductive reasoning is used for students to practice ways of systematic, logical, creative and consistent thinking. The problems of this research are: (a) How do teachers increase the students' learning outcomes by the application of TPS type of cooperative learning method? (b) What are the effects of TPS type of cooperative learning model on students' learning motivation? The purposes of this research are: (a) to know whether there is an increase of student learning achievement after the TPS cooperative learning model is applied. (b) to know the effects of students' learning motivation after the TPS cooperative learning model is applied. The research uses action research with three cycles. Every cycle consists of four steps, namely planning, observation, reflection and revision. The study target the students of X IPA1 of SMAN 3 Jember. The data is gained from the result of formative test and teaching-learning observation sheet. The result of the research is that the students' achievement increases from the first cycle up to the second, namely 45.16% in the first cycle with 17 students not completing the learning and 83.87% with 5 students not completing the learning in the second cycle. The research conclusion is that TPS cooperative learning model can effect positively to students' learning motivation to understand the material concepts so the students can reach the maximum achievement and that this learning model can be used as one of mathematics learning alternatives.
INTRODUCTION

Education is a medium that plays a role to create a quality and potential human being in the broad sense because through education there is a process of self-maturing in decision making to a problem faced with a great sense of responsibility. The increasing development of education demands educational institutions to be able to adjust to the development of science. Mathematics learning in schools is one way of improving human quality because mastery of mathematical thinking will enable the formation of paths to develop clear, precise and meticulous thinking.

Mathematics is one of the subjects taught at every level of formal education, from elementary school to college education. Mathematics is a subject in school that plays an important role in shaping quality students. Mathematics is a means of thinking to examine something logically and systematically. Thus improving the quality of mathematics education by improving students' mathematics learning outcomes in schools is necessary.

Mathematics is one of the subjects that is still considered difficult to be understood by students. Therefore, in the process of learning mathematics teachers require a variety of teaching methods. The use of teaching methods should not be the same for all subjects, because a particular teaching method may be appropriate for one subject but not suitable for the other. Students’ mastery of math materials is still relatively low when compared with the mastery of other subjects.

Students consider that the subject matter of the matrix is a difficult subject to understand. Teachers also find it difficult to deliver the material due to time constraints and the amount of material covered by the subject. The extent of material coverage with the application of lecture methods alone makes it very difficult for students to understand the material. This is indicated by the number of students who score below the minimum completeness criteria (MCC) of 75.

The students’ low learning outcomes of mathematics are influenced by various factors, including the inaccuracy of the learning models used. So far math teachers have been more likely to use the concept of teacher-centered learning. They usually only use lecture methods in classroom learning. This results in the students’ being less active and only listening to what the teachers explain. The low activity of students towards learning mathematics negatively impact on students’ learning outcomes. This can make students feel bored and find difficulty in learning mathematics materials. This condition is also very influential on students because attitudes, interests and learning motivation affect students’ learning outcomes.

Based on the above problems, teachers need to implement a learning system that involves the role of students actively in teaching and learning activities to improve student learning outcomes at every level of education. One of the learning models that involves active student roles is the cooperative learning model. Cooperative learning is a collaborative model of learning in a group to solve problems together with their peers and in which students engage to exchange opinions verbally and to express their thoughts about a particular subject on a regular basis.

Think-Pair-Share (TPS) is the core stage of this technique, which divides the learning in three times, namely "think time", "pair time", and "share time". In "think time" students are given the opportunity to work alone by doing their own tasks or problems and try to solve the problem individually. Furthermore, at the "pair time" stage students share their information or understanding of the problems provided by
pairing with colleagues. At this stage two students or more are interacting and exchanging information or even complementing each other or one another. Next is the "share time" that is sharing information to a wider area such as to other pairs or to the class.

Good learning provides an opportunity for students to pour their minds and to learn actively. It should also be accompanied by assessment techniques that are capable of measuring the abilities the student wants to achieve. Based on these ideas the researcher determines the title of "Application of TPS (Think Pair Share) Type of Cooperative Learning Model to Increase Student Learning Outcomes of X IPA1 Graders on Inverse Functions at SMA Negeri 3 Jember in The Academic Year of 2016/2017".

**METHODS**

The research was conducted in SMA Negeri 3 Jember with the research subjects of class X IPA1 on the subject of inverse function in the first semester of 2016/2017. The operational definition of the term referred to in this study is as follows: in the application of Think Pair Share (TPS) of cooperative learning students are given individual problems and then asked in pairs to discuss how to solve the problems, then the results of the discussion are presented in front of the class. This guarantees the total involvement of all students, and is an excellent effort to increase individual responsibility in group discussions.

1. Student activity in Think Pair Share learning involves listening to teacher instructions, thinking, asking questions, discussing or working in groups, responding to presenters, presenting the results of discussions, and doing tests.
2. Group activities observed included group seriousness in class discussions, presentation of discussion results, and group task collection.
3. Completeness of learning outcomes in this research is the percentage of success achieved by students after following the process of Think Pair Share (TPS) learning on the material of Function.

This research uses qualitative approach because this research produces descriptive data in the form of written and oral words from people and behavior that can be observed. Besides, this research is in accordance with the characteristics of qualitative research, namely using the natural environment as a source of logical data, and being analytically descriptive because the data obtained is not presented in the form of statistics but in the form of words or images that emphasize the process of the results.

The type of research used here is Classroom Action Research (CAR). Suharsimi, A. (2006: 91) states that classroom action research is a reflection of activities that are deliberately raised, and occur in the classroom. According to Hobri (2007: 2) classroom action research is an investigation and a systematic and planned study to improve learning by making improvements or changes and studying the consequences.

This study adopts the Hopkins scheme model, that is, a scheme model that uses work procedures that are seen as spiral cycles in planning, action, observation and reflection which then are followed by the next spiral cycle. Stages in the cycle of this research can be seen in Figure 1 below.
The method of data collection is something related to the steps that must be done in order to obtain the data. The data collection methods used in this study include tests, interviews, observation and documentation.

The test used in this study is intended to determine the level of ability of students in understanding and mastering the material of Function using mathematics learning through Think Pair Share (TPS) type of cooperative learning. This test is carried out at the end of the learning and given to the students in the form of an essay of 6 tests. The test is used to show individual student learning outcomes.

The type of interview used in this study is guided free interview, i.e. the interviewer brings the interview guidance in the form of an outline only, and the development is done during the interview. Interviews were conducted to teachers before and after the learning took place. Interview before the learning took place to find out the problems and what methods were used by teachers during the learning process. Interview after the learning was to know the response of teachers in the field after the implementation of Think Pair Share (TPS) type of cooperative learning. Interviews were also conducted to the students to find out the students’ responses to the Think Pair Share (TPS) type of cooperative learning that had been implemented after the end of the cycle. Interviews were conducted to each of the two students who scored high, low, and moderate based on the final grade.

Figure 1. Model of Hopkins Adaptation Research Scheme (Project Training Team of PGSM and Mashuri, 2007: 31)
Observations were made to observe the activities of teachers and students in the classroom during the lesson. Observation was intended to determine the suitability of planning and implementation of actions and activities of students and teachers. The observed student activities were listening to instruction or explanation from teacher, thinking, asking teacher questions, interaction or team work in group, responding to presenter, responding and presenting result of discussion and doing a test. The group activity observed was group involvement during class discussions. Activities observed in this study were group seriousness in class discussions, presenting the results of discussions and collecting group tasks.

Teacher activities observed were opening lessons, conveying learning objectives, explaining the methods and learning steps used, dividing the students into groups heterogeneously, sharing and explaining the steps of working out the Student Worksheet, guiding group work, motivating students to engage in groups, giving awards to the group's presentations in front of the class, guiding students to make conclusions about the material they had learned, giving homework, final tests and closing lessons.

Research data that were taken through the documentation were the data about students that contains the name, gender, and daily marks of the previous lessons. The data were used to determine the group heterogeneity that would be formed during the application of Think Pair Share (TPS) cooperative learning and to determine the level of each student's ability before implementing the learning.

RESULTS AND DISCUSSION

Preliminary Actions

Interviews with school subject teachers were conducted to determine the research classes, the constraints faced by the teachers during the lesson, the agreement on the timing of the study, and the methods to be used during the study. The next action was to observe teacher activities in the field of study of mathematics in learning. Based on the observations and interviews it was known that teachers were teaching by using lecture method. At the time the material was explained, the students just listened and recorded the teacher's explanation on the blackboard, without any questioning. Students tended to feel bored with the way the teachers do. After the materials were delivered, students were given examples of problems and questions to be done independently and teachers did not ask students to present their work. Student involvement in learning was still low because teachers tended to dominate learning activities.

Implementation of Cycle I

In this cycle there were four stages, namely planning, action, observation, and reflection. Based on the results of observation of learning during preliminary actions, it was known that students looked passive in teaching and learning activities. Student activities and task completion processes were also not included in the student's ability assessment so that students tended to emphasize only good test results rather than the process. In the implementation of cycle I the teacher planned lessons with cooperative model of TPS type that demanded students to be active in teaching and learning activities and involved assessment of student activities in student learning outcomes. Implementation of this cycle was conducted on September 12, 2016, namely Learning 1 and Test 1. During the learning, activities of students were observed by 3 observers while teacher activities were observed by the mathematics teacher. In the model of TPS (Think Pair Share) cooperative learning this test was given to know the extent to which
students’ understanding of the material that had been studied. Awards were given to groups who were active in learning. Percentage of teacher activity score on Learning 1 was 82.05%.

In Learning 2 the teacher activity scores that were still low included: to convey the learning objectives, to explain the methods and the learning steps used, to divide the students into several groups heterogeneously, to motivate students to engage in groups, and to determine the order number for presentation. The percentage of teacher activity score on Learning 2 was 87.18%. The percentage of teacher activity score increased compared to Learning 1.

In Learning 1, activities of student which included listening to instruction or explanation from teacher was 64.52%, discussion 59.14%, asking questions 58.06%, interaction in group 66.67%, presenting result of work in front of class 59.14% , and solving the quiz question 73.12%. In the 2nd Learning all activities seemed to decrease except for activities of discussion and asking questions. This happened because in Learning 2 the materials were more difficult, so students were more difficult in applying the formula into a problem. Activities during Learning 2 included listening to instructions or explanations from the teachers which scored 62.37%, discussing 59.14%, asking questions 58.06%, interaction in group 60.22%, presenting the work in front of the class 51.61%, and completing quiz 67.74%.

Percentage of problem mastery was obtained from the score of each number divided by the maximum score of the number and then multiplied by 100%. The highest percentage of achievement in question number 1 was 50.65% and the lowest in question number 2 was 38.39%. Student difficulties on problem number 2 was applying the formula to a problem. In the first quiz the highest student score was 100 which was obtained by the student of number 6 while the lowest score was obtained by students of number 3 and 9 with score of 10.

In the execution of quiz 2, students were seen doing their own work but there were still some who only saw and copied the work of their friends. Teacher immediately rebuked the students when the atmosphere in the class became rowdy. In the 2nd quiz there were 2 questions that students had to finish. The highest percentage of achievement in problem number 1 was 78.71% and the lowest in question number 2 was 50.65%. Student difficulties on problem number 2 was applying the formula to a problem. The highest student score was 100 which was obtained by students of number 5, 6, 10, 11, 16, and 28 while the lowest score was obtained by the student of sequence number 12 with the score of 15.

Implementation of Cycle II

Based on the results of cycle I, teachers planned to improve the activities that were low, increase the intensity of guidance to the group, and improve the Lesson Plans on the activities of teachers and students during cycle I so that learning was more successful. By increasing the intensity of guidance to each group, students were expected to master the material and work on the quiz questions better. Learning cycle II was held on Thursday 26 September 2016 which included Learning 3 and was followed by Learning 4.

Teacher activity in Learning 3 and 4 continued to increase compared with those in Learning 1 and 2. Low activity scores in Learning 1 and 2 had been improved on Learning 3 and 4. The increase could be seen from the percentage of teacher activity
scores on Learning 3 and 4, which rose to 89.74% and 92.31%. The increased activity was dividing the students into several groups in a heterogeneous way. Teacher activity to determine the number of presentations also increased because in Learning 4 there was still plenty of time for students to present the work of the group.

Based on the results of the student activity analysis on the second cycle, the learning atmosphere seemed to be conducive, student activity seemed to increase compared to the learning cycle I. Percentages of student activity during the learning were: listening to teacher instruction or explanation 81.72%, discussion 78.49%, asking questions 63.44%, interaction in group 72.04%, presenting the results of work in front of class 56.99% and completing the quiz problems 76.34%. Activities of student during Learning 4 were listening to instruction or explanation of teacher 79.57%, discussion 76.34%, asking questions 79.57%, interaction in group 74.19%, presenting result of work in front of class 61.29% and finishing quiz 77.42%.

In the 3rd quiz the students appeared to be more confident compared to the 1st and 2nd quizzes. The students were seen seriously working on the 3rd quiz because they wanted to get better grades than quizzes 1 and 2. This quiz consisted of 2 questions. The highest percentage of achievement in question number 2 was 82.45% while the lowest number 1 was 69.35%. The highest student score was 100 which was obtained by the student of number 6 whereas the lowest score was obtained by the student of number 7 with the score of 43.

In the 4th quiz the students seemed to be serious about doing it because they wanted to get a better score than the 3rd quiz and the quiz consisted of 2 questions. The highest percentage of achievement was the number 1 of 80.39% and the lowest was the number 2 of 65.68%. In quiz 4 the highest student score was 90 which was obtained by students with sequence number 6, 10, 20, 21, 26, and 28, while the lowest score was obtained by the students of number 1 and 16.

Data Analysis

Data analyzed from result of research included observation activity data, result of Student Worksheet, quiz result, and result of learning mastery. The data analyzed in this research were:
1). Student activity during the learning. To find the percentage this formula was used:

\[
P_a = \frac{A}{N} \times 100\%
\]

Notes:
P_a = Percentage of student activeness
A = Scores obtained by the students
N = Total score

According to Depdiknas (in Sukardi, 1983: 100) student activity criteria can be seen in Table 1 below.

<table>
<thead>
<tr>
<th>Percentage of Activeness</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P_a \geq 95%)</td>
<td>Very Active</td>
</tr>
<tr>
<td>80% (\leq P_a &lt; 95%)</td>
<td>Active</td>
</tr>
<tr>
<td>65% (\leq P_a &lt; 80%)</td>
<td>Adequately Active</td>
</tr>
<tr>
<td>50% (\leq P_a &lt; 65%)</td>
<td>Less Active</td>
</tr>
</tbody>
</table>
2). Teacher activity is the ability of teachers to manage learning. The percentage of teacher activity was calculated using the formula:

\[ Pg = \frac{G}{M} \times 100\% \]

Notes:
Pg = Percentage of teacher activity
G = The score obtained by teacher
M = Total score

According to Depdiknas (in Sukardi, 1983: 100) the criteria of teacher activeness can be seen in Table 2 below.

<table>
<thead>
<tr>
<th>Percentage of Activeness</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pg ≥ 95%</td>
<td>Very Active</td>
</tr>
<tr>
<td>80% ≤ Pg &lt; 95%</td>
<td>Active</td>
</tr>
<tr>
<td>65% ≤ Pg &lt; 80%</td>
<td>Adequately Active</td>
</tr>
<tr>
<td>50% ≤ Pg &lt; 65%</td>
<td>Less Active</td>
</tr>
<tr>
<td>Pg ≤ 50%</td>
<td>Inactive</td>
</tr>
</tbody>
</table>

The percentage of teacher activeness was obtained in the same way as the percentage of student activeness but the teacher activity was different from student activity. The teacher activity was seen from teacher activity during the learning.

**Final Student Rating**
The final score achieved by the student was expressed by \( N_A \)

\[ N_A = \frac{N_1 + N_2 + N_3 + 2N_4}{5} \]

Notes:
\( N_A = \) Final Score
\( N_1 = \) Score of individual activity
\( N_2 = \) Score of group activity
\( N_3 = \) Score of Student Worksheet
\( N_4 = \) Score of test

Student's learning completeness after applying Think Pair Share (TPS) type of cooperative learning method was seen from student's final score \( (N_A) \). To find students' learning mastery this formula was used:
Teripena: The Application of TPS (Think Pair Share) Cooperative ...

\[ P = \frac{n}{N} \times 100\% \]

Notes:
P = percentage of classical learning mastery
n = total number of students who have completed the learning (NA ≥ 70)
N = total number of students.

According to Depdiknas (2004) students' learning completeness criteria is shown by:
a. Individual absorption
A learner is said to be complete (in learning) if he has reached the score = 75 from a maximum score of 100.
b. Classical absorption
A class is said to be complete if at least 75% of students have achieved the score = 75 out of a maximum of 100.

**Observation Data Analysis**

I. Analysis of Teacher Activity
Teacher activities are all teacher activities undertaken during the learning process which were observed by the mathematics teacher. These activities can be seen in Figure 2 below.

![Percentage of Teacher Activity](image)

Figure 2. Graph of Percentage of Teacher Activity

The picture above shows that the percentage of teacher activity in each learning increased. Teacher activity in Learning 1 was 82.05%, in Learning 2 was 87.18%, in Learning 3 was 89.74%, and in Learning 4 was 92.31%. The percentages of teacher activity increased because the teacher already understood how to apply the TPS (Think Pair Share) type of cooperative learning with constructivist nuance.

II. Analysis of Student Activity
Observation was done on teacher activity in learning activity. The observer was assisted by a mathematics teacher. The observer evaluated the teacher's activity in each lesson. Observations were made to the activities of teachers and students in learning activities. Observation on activities of students was assisted by observers who were MGMPS colleagues of mathematics subject. In each lesson, the observer evaluated the activity of each student individually. The results of student activity analysis are presented in Table 3 below.

Table 3. Results of Student Activity Analysis

<table>
<thead>
<tr>
<th>Aspects of Student Activity Assessment (%)</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Cycle I</td>
<td></td>
</tr>
<tr>
<td>Learning 1</td>
<td>64,52</td>
</tr>
<tr>
<td>Learning 2</td>
<td>62,37</td>
</tr>
<tr>
<td>Cycle II</td>
<td></td>
</tr>
<tr>
<td>Learning 3</td>
<td>81,72</td>
</tr>
<tr>
<td>Learning 4</td>
<td>79,57</td>
</tr>
</tbody>
</table>

Notes:
A = Listening to Teacher's Instructions
B = Discussion
C = Asking Questions
D = Interaction
E = Presentation
F = Completing Quiz Problems

Figure 3. Graph of Student Activity Percentage in cycle I and II
From Figure 3 we can see that cycle II looks better than cycle I. This happened because students were getting used to the applied learning method.

1. Analysis of Results of Student Worksheet

![Score of Student Worksheet](image)

**Figure 4. Graph of Student Worksheet Scores in cycles I and II**

Result of analysis of Student Worksheet showed a decrease, that was 83.55 in cycle I and 83.39 in cycle II. This happened because according to the students the material in cycle II was more difficult than the material of cycle I. The results of the analysis of Student Worksheet are presented in appendix 29.

**Quiz Result Analysis**

Quizzes were given at the end of each lesson. Results of the first cycle analysis showed that students had difficulty in doing quizzes 1 and 2 on problem number two. The student's mistakes for number two was due to the lack of students' understanding in applying the formula to the problem. Percentage of score achievement for question number two on quiz 1 was 38.39% and in quiz 2 was 50.65%. Achievement score for question number one in quiz 1 was 50.65% and at quiz 2 was equal to 78.71%. The percentage of classical quiz of cycle I was (quiz percentage 1 + quiz percentage 2) / 2 = 54.60% (appendix 33).

The results of cycle II analysis showed that students on quiz 3 had difficulty in doing problem number one while in quiz 4 students had difficulty in doing problem number two. Students’ mistake on quiz 3 number one was applying the formula into the problem in the form of images whereas in quiz 4 number two was a mistake on applying the formula into the problem. Percentage of score achievement for question number one in quiz 3 was 69.35% and in quiz 4 was 80.39%. Achievement score for question number two on the 3rd quiz was 82.45% and on the quiz 4 was 65.68%. Percentage of classical quiz cycle II was (percentage of quiz 3 + quiz percentage 4) / 2 = 74.47%.

The data above shows that there was an increase in the percentage of classical quiz from cycle I to cycle II. And this shows that the implementation of TPS (Think Pair Share) type of cooperative learning model with constructivist nuance can improve
students' understanding in deepening a learning material so as to improve student ability in doing quiz questions given by teacher.

**Analysis of Student Learning Completeness**

Based on the analysis of student learning outcomes of class X IPA1, the percentage of classical completeness in cycle I was 45.16%. In cycle II, the percentage of classical mastery reached 83.87%. Classically, in the first cycle, X IPA1 did not reach the completeness of learning outcomes while in cycle II they achieved mastery of learning outcomes.

**Discussion**

This research is a classroom action research that aims to know the implementation of TPS (Think Pair Share) type of cooperative learning model with constructivist nuance on the sub subject of inverse function and how the student learning activity during the learning process of mathematics using TPS (Think Pair Share) type of cooperative learning model with constructivist nuance and mastery of student learning outcomes in the application of such learning are.

Based on research on TPS (Think Pair Share) type of cooperative learning model with constructivist nuance, cycle I was not yet in line with expectation. In the first cycle the students did not yet reach the completeness of learning in the class and the application of learning looked ineffective because the students were still not familiar with the applied learning. The other obstacles in the application of this learning was the lack of student interaction with a group of friends, lack of concentration in learning, and time constraints. This learning did require more time than ordinary learning, whereas teachers were required to complete the material with the existing syllabus. However, time constraints could be minimized by making Student Worksheet to assist students in understanding the material. In cycle II, the deficiencies that occurred in cycle I were improved by way of working out the Student Worksheet. Improvements in cycle II were expected to improve learning outcomes in quizzes 3 and 4. In cycle II the implementation of learning phases looked better.

Activity of teacher in teaching observed at Learning cycle I and II (based on data obtained in appendix 32) continued to increase from Learning 1 cycle I to Learning 4 cycle II. Increased teacher activity occurred because teachers were getting used to implementing TPS (Think Pair Share) type of cooperative learning with constructivist nuance, despite the low activity. The activity was still low due to the readiness level of teachers who were still lacking in teaching methods. Teachers should be more prepared if using this model of learning in the next lesson.

Activity of student in learning was made on the activities of students, namely listening to instructions, discussing, asking questions, interacting, presenting the results of the discussion, and finishing the quiz, the student activity as a whole showed improvement in every learning. However, the assessment of questioning activity had the lowest percentage in learning 1 and 2 in cycle I when compared to the percentage of other student activity assessments. Many students were still passive during the learning process. This happened because they were still embarrassed and unaccustomed to asking and expressing opinions in learning. In addition, an assessment of the activity of presenting the results of the discussion had the lowest percentage in learning 3 and 4 in
Teripena: The Application of TPS (Think Pair Share) Coooperative ...

cycle II when compared with the percentages of other student activity assessments. This happened because when students presented the results of the discussion they were still unsure of the correctness of the work of the group. Increased student activity resulted in the fact that the average score of Student Worksheet was quite high. Student Worksheet that had to be done by students was Student Worksheet which was done in group. Results of Student Worksheet from cycle I to cycle II obtained the average succession of 83.55 and 83.39 while the average quiz score was 54.60 and 74.47.

Increased student activity also affected the mastery of student learning. Some students who did not complete on the first cycle like Ahmad Imam Gozali and Edi Prasetyo, were able to improve their achievements during the second cycle of learning so that both of them finally completed the learning. The success of the learning process made by students was seen from the analysis results of student completeness on cycle 2 that had shown mastery classically while in cycle 1 they did not reach classical mastery.

The above description shows that the application of learning with TPS (Think Pair Share) type of cooperative learning model with constructivist nuance improved student learning outcomes. In addition, the learning model can improve students' understanding of triangular and rectangular materials. Therefore, this learning can be an alternative in learning mathematics in the classroom.

CONCLUSION
The results of the research and discussion summarize the things as follows:
1). The application of TPS (Think Pair Share) type of cooperative learning model on the matrix material of Class X IPA1 at SMA Negeri 3 Jember ran in accordance with the objective of increasing the activity and the students' learning outcomes. Think Pair Share (TPS) activities can be done at every stage. As for the Think stage, students immediately think about what to do to complete the Student Worksheet given by the teacher. In stage of Pair students seem to seriously discuss and unite opinions with members of their group. In the third stage that is Share, students seem enthusiastic to present the results of group discussion.

2). Student activity tends to increase in every lesson. In the first lesson, the score of the students listening instruction or explanation from the teacher was 64.52%, discussion was 59.14%, asking questions 58.06%, interaction in group 66.67%, presenting result of discussion 59.14% and finishing quiz 73.12%. In learning 2, the score of the students listening instruction or explanation from the teacher was 62.37%, discussion was 59.14%, asking questions 58.06%, interaction in group 60.22%, presenting result of discussion 51.61% and solving problems of quiz 67.74%. Cycle II included learning 3 and 4. In learning 3, the score of the students listening instruction or explanation from the teacher was 81.72%, discussion 78.49%, asking questions 63.44%, interaction in group 72.04%, presenting result of discussion 56.99% and completing quiz problems 76.34%. In learning 4, the score of the students listening to the instruction or explanation from the teacher was 79.57%, discussion 76.34%, asking questions 79.57%, interaction in group 74.19%, presenting result of discussion 61.29% and solving problems of quiz 77.42%.

3). Percentage of student mastery increased from cycle I until cycle II that reached 45.16% in cycle I with 17 students not complete while in cycle II it reached 83.87% with 5 student not completing the learning.
Based on the conclusions obtained in this study, suggestions are given as follows:

For teachers: With the increased activity and students’ understanding on the material given, the teacher should be able to apply the model of TPS (Think Pair Share) type of cooperative learning on other appropriate subject.

For students: Students should be more concentrated in understanding the material, understand the problem better, and re-examine the answers that have been done.

Other researchers are expected to develop this research to discover something new and lead to improvement until it can actually benefit teachers to improve student achievement outcomes.

REFERENCES


