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# EFFORTS TO IMPROVE STUDENT LEARNING OURCOMES BY USING COOPERATIVE LEARNING TYPE OF STUDENT TEAMS ACHIEVEMENT DIVISION (STAD)

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## Abstract

Study the researchers did was an effort to improve student learning outcomes by using cooperative learning type Student Teams Achievement Divisions (STAD) that Classroom Action Research (CAR). This study aims to improving student learning outcomes after the use of learning model STAD. The subjects in this study were students of class VIII-H SMPN 1 Cianjur, which amounts to 46 people with a minimum completeness criteria of 70.00. Increased student learning outcomes are good, the first cycle of the average of 75.54 formative test increased to 76.09 in the second cycle, and than increased again in the third cycle becomes 79.46. While the formative test average of 77.03 for the third cycle and this can be seen also increase with the average cumulative test reached 80.54. The level of mastery learning students on the subject of geometry and geometrical measurements, the first cycles from 41 people increased to 43 people in the second cycle, and continued to increase in the third cycle to 46 people. So clasical increased absorption of the first cycles 59 % to 71.85 % in the second cycle, and became 78.91 % at the end of the third cycle or cycles obtained. The result show that Cooperative Learning type STAD, can be made as one solution to fix the future mathematics learning and improve student learning outcomes.

**Keywords:** Learning Outcomes, Students Teams Achievement Division

## INTRODUCTION

### A. Background

Indonesia is one country that is undergoing development and progress in all fields, especially the field of education according to the data found "...the year 1967-1968 International Bureau of Educational Affairs diagram UNESCO declared 45% dropout to one of Indonesia Asia..." (Miguel 1982, p.53),so that Indonesia puts education as the first beam in the development and construction efforts, as set out in the Acts No.20 of 2003 on destination about SISDIKNAS" ...the intellectual life of the nation and develop the whole person…".

In national education, the school as an educational institution with its presence in the midst of society are expected to realize the goal of education, and even more schools being at the forefront, so that its existence as a teacher put a decisive spearhead the implementation of teaching and learning activities. In the teaching and learning activities, mathematics is one of the basic science that must be mastered by the student, because mathematics can't be separated from everyday human life. Mathematics has always been progressing directly proportional to the advancement of science and technology. It is, mostly not realized by most students due to lack of information about what and how exactly the math, so math education needs to be continuously developed.

In mathematics education today faces many problems, including student learning outcomes are fairly low at this time. It is seen from the researchers conducted field observations on school research plan, with an interview (26/02/2008) before the implementation of the study, obtained the *Rintisan Sekolah Berbasis International* with a minimum completeness criteria or *Kriteria Ketuntasan Minimum* (KKM) is 70. According to a math teacher at school are still many students who are under the KKM at the Test Formative implemented previously. Most of the problem is caused because of the assumption that negative thoughts are embedded like the idea that math is a subject that is scary, stressful, boring because too many formulas, and sometimes there is a presumption, math should be people who have high intelligence and learning in mathematics monotonous is not varied.

One of the varied learning model, one of which is by using a method of Cooperative Learning Type Student Teams Achievement Divisions (STAD) in which students learn in groups with the help of worksheets, discuss and understand the concept of finding the correct result. STAD cooperative learning will spur students to work together to help each other in tranformation new knowledge with old knowledge he already has, and train students individually and in groups to build confidence on its ability to resolve the problems that it faces.

## B.     Problem Formulation.

The problems of this study are; Is the student learning outcomes after using cooperative learning type Students Teams Achievement Divisions (STAD) has increased?

## C.     Goal of  Research.

The purpose of this study to determine the learning outcomes of students after learning using cooperative learning model Students Teams Achievement Divisions.

## D.     Benefit Research.

The benefits of this research include:
1) For the teacher, learning math can provide an alternative to improve learning outcomes.
2) For students, an effort to reduce student difficulties in learning mathematics.
3) For researchers, provide a clear picture of the outcomes of learning mathematics with the use of cooperative learning model Student Teams Achievement Divisions (STAD).

## E.     Theory.
## E.1   Cooperative Learning Type STAD (Student Teams Achievement Divisions)

Slavin (1995) suggests, the three main concepts that became characteristic of cooperative learning groups that award, individual accountability and equal opportunity to succeed. In the cooperative learning students learn together in small groups to help each other. Classes are arranged in groups of 4 or 5 students, with heterogeneous capabilities. Heterogeneous group intent here is composed of a mixture of student ability, gender, race or so, it is beneficial to train students to accept differences and work with friends of different backgrounds.

In cooperative learning there are a few things that should be considered include : "positive interdependence, individual responsibility, face-to-face, communication between members, and the evaluation of group process" (Anita Lie , 2007 : 31). While studying a group of teachers must strive to instill democratic attitude of students, meaning classroom atmosphere should be expressed in such a way so as to cultivate students' personality can be expected of a democratic and open atmosphere with the habits of cooperation. Cooperative learning has many types, one of which the authors carefully this time, namely Type Student Teams Achievement Divisions (STAD).

STAD was developed by Slavin, which emphasizes the activity and interaction among students, all components, so that motivated each other and help each other in mastering the subject matter of the maximum. In the process of learning, STAD cooperative learning through five stages, among other things ; a). stage presentation of the material ($t_1$), b). stage of group work ($t_2$), c). stage of individual tests/quizzes ($t_3$), d). Stage of development of the individual score calculation ($t_4$), e). The award ($t_5$).

## E.2 Learning Outcome

Learning is an activity that can't be separated from human life. In essence, the learning outcomes achieved by students is the result of the interaction between the various factors. Sudjana (2004:39) suggests that factors affecting student learning outcomes of them, "a factor that comes from within the student and the factors that come from outside the student or the environment". Clark (Sudjana 2004: 39) said that "student learning outcomes in schools 70 % are influenced by the ability of students and 30 % are influenced by the environment ".

Jenkins and Uwin (Uno, 2011:17) said "...result of learning is a statement showing what might be done about student learning as a result of their studies...". Besides that Rasyid (2008:9) said "... if in terms of the measurement process, the ability of a person can be expressed with numbers..." and is in line with the opinion of Briggs (Put, 2003:17) is the result of learning the entire skill and results achieved through the process of teaching and learning in schools expressed with numbers-lift or value based achievement test. Of previous exposure seen, that the study results can be seen when it is through a process that is in the form of a test or so commonly expressed in the form of scores or grades to see the results of their learning.

## RESEARCH METHODS

### A. Method.

The method used in this study is Classroom Action Research or Penelitian Tindakan Kelas (PTK), through a system cycle of a variety of learning as much as three cycles, each cycle includes Planing, Action, Observation, and Reflection (Kemmis and Mc.Taggar). **Planing** is something basic initial stages that must be done before implementing teacher learning. **Action**, is an application or the application of what we have planned before. **Observation**, to see and document the effects resulting from the used research. **Reflection**, in which the presence of an analyzing, synthesis, interpretation, explain again and conclude. The results of this reflection will the presence of a revision to an implementation that has been implemented, which will be used again by teachers to improve teacher performance further.

### B. Subjects Research

In accordance with title and method of this study, the research subjects are assigned throughout the eighth grade students of SMP Negeri 1-H Cianjur school on year 2007/2008 the size of the subject as many as 46 people.

### C. Indicators of Success Research.

Indicators of success defined in this study is the average eighth grade math learning outcomes H exceeds the Minimum Criteria for completeness (KKM) Mathematics is 70 .

### D. Research Instruments .

The research instrument used in this study 1). Formative and cumulative tests to look at the overall development of each cycle and the end of the cycle. This test aims to analyze the results of students' mathematics learning after learning using cooperative learning type STAD

and implemented in order to reflect the learning that improvements in learning. 2). Documentation used as an evidence of the truth by researchers, such as visualization activities as a means of documentation that describes the existence.

### E.     Data Analysis Research

The data obtained from the tests in each cycle is calculated and then averaged to determine the category of the average value, analyzed and taken into consideration and suggestions for the implementation of the next cycle .

## RESULTS OF RESEARCH

This study refers to the action research, obtained the data and achievement test scores of students at the end of each cycle.

### A.     The Planning Phase

At each cycle of the planning is done the same , namely to prepare the entire instrument to be used in every meeting, plans were made at the beginning of this cycle seen from the syllabus and lesson plans are made, the model used is a cooperative learning type Student Teams Achievement Division (STAD). Then besides the systematic planning or action stages that will be executed. Once it's set up the entire instrument to be used when the learning takes place, as well as with regard to the material given, and divide the group in accordance with the specified heterogeneity. Then set up a tools used to practice and bring examless woke up space, and more importantly no student worksheets that serve as a reference and guidance in learning.

### B.     The Action Phase

In this phase, the same action performed at each cycle, which has been planned and run in accordance with lesson plans that have been made, with the learning scenarios which has been designed in accordance with the stagess STAD specified. Actions taken at each stage as follows:

i.     Stage presentation of the material ($t_1$),

This stage there are several points including :

1) teachers conditioning class designed by design. (figure 1).
2) teachers motivate students to learn mathematics with STAD.
3) grouping consisting of 4 or 5 people are heterogeneous , and the heterogeneity specify to use the example " absent even - odd numbers " (figure 2) .
4) the division of Student Worksheet has prepared lessons for each group.
5) the delivery of basic competencies and learning indicators to be achieved.
6) aperseption to remind students of the material prerequisites that have been studied, so that students can incorporate the material will be presented with the knowledge that he already has



Gambar     Penyampaian Indikator

figure 1



Gambar     Penyampaian Apersepsi

figure 2

ii.    Stages of group work ( $t_2$ )

This phase each student was given a task sheet material to be studied . In the focus groups students share tasks , mutual help provide a solution to enable all members of the group can understand the material covered , and the sheet was collected as a result of group work , and one representative eachs group revealed the correct answer with reason, and lumped together with answers from other groups (figure 3).

iii.    Stages individual tests / quizzes ( $t_3$ )

This stage is to determine the extent to which learning has been achieved, individually conducted on material that has been discussed. At this stage, the individual test quiz shaped end of the meeting held on the second or third depending on the material discussion, each for 10 minutes , so that the students can show what they have learned individually for working in groups. Score this individual gains being recorded and archived, which will be used in the calculation of gain scores to see the ability of the group. documentations of student activity in the group quiz that is done, (figure 4);

iv.    Stage individual score ( $t_4$ )

Phase calculations were calculated based on initial scores , at the end of each learning group score a test / quiz . Based on the initial score of each student has an equal opportunity to contribute the maximum score for the group and then dikumulatifkan based on test scores obtained by all members of the group.

v.    Stage award ( $t_5$ ).

This was the last stage stage and given a score of awards based acquisition-which are categorized into groups mean good, great and super group. Each group is entered into the above criteria, the award is given in the form of prizes, certificates, and so on, so that students feel more motivated and more in the spirit of learning. see the documentation for the award as motivation to learn, in addition to figure 5;

Learning activities by teachers terminated along-together with the students, after completion of all stages are determined then summarize and give conclusions about the material already learned, and then at the end of each-each cycle formative teachers give tests that are given for each cycle to determine student learning outcomes.

**C.    The Observation Phase**

**Cycle I**

In this cycle the students liked the presence of new teaching methods, the initial meeting of the group perceived unfavorable conditioning because it is still considered new, so the atmosphere was rowdy student learning activities that lead to other disturbed. Students feel more comfortable with the practice that worked with the group, they can interact and exchange more thoughts. In the first cycle after a given formative test, the results are enough, of which there are 46 students, 41 students achieve mastery of learning and 5 students who have not been completed, so it needs to be fixed in the next cycle.

**Cycle II.**

In this cycle the students began to like the method used, students feel motivated and enthusiastic to carry out further study. In this cycle, after being given a formative test result was improved to better than 46 existing students, 43 students achieve mastery of learning and there are 3 students who have not completed, so needs to be fixed in the next cycle.

**Cycle III.**

In this cycle the students more aware of the direction of the method used, students feel motivated and enthusiastic to undertake further learning and not feel familiar in the learning process. In this cycle after being given a formative test result was improved to better than 46 existing students, 46 students achieve mastery of learning, it shows all of the students have achieved mastery.

To view the test results, can be seen in the analysis of the data processing section. At the next meeting of the student is directed to solve the other forms before being given a cumulative test. Then after all the meetings held on the third cycle, students are given tests to see the cumulative results of students learning abilities after the final meeting of the third cycle, and it turns out the results of the test cumulative increase of 77.03 into 80.54. To see the learning outcomes of each cycle shown in the table after the observation phase .

**D.    Phase Reflection (Reflection)**

**Cycle I**

Having analyzed the data from the observations in the first cycle , then a few things that should be reflected by the results of the above observations on the first cycle. Teachers should explain more about the learning methods to use next firm and consistent with the time, explaining the purpose and benefits of the presence of Student Worksheet, and motivate students in their learning.

**Cycle II**

Some things that should be reflected by the results of the above observations on the second cycle, among others, teachers must streamline time, guiding students who are still active and have difficultys in learning, and motivated so as to cooperate with others, and give more attention to students who still do not achieve mastery, and explore the cause.

**Cycle III.**

Having analyzed the data from the observations in this cycle, all students have achieved mastery learning, so do not do the next cycle, the cumulative test will be conducted but in the third cycle the results are as expected, improving student learning outcomes, all achieve mastery as well as interactions between students and students or teachers go well. To see the learning outcomes of each cycle shown in the graph below figure 6 and figure 7.

figure 6



figure 7
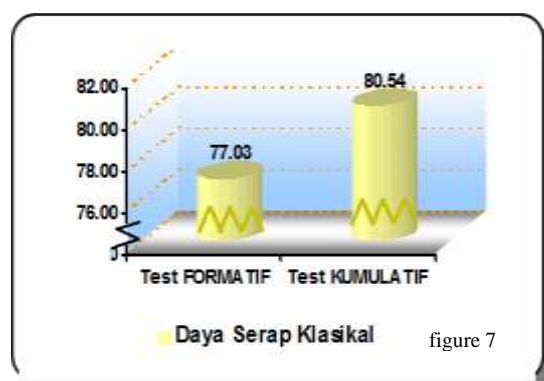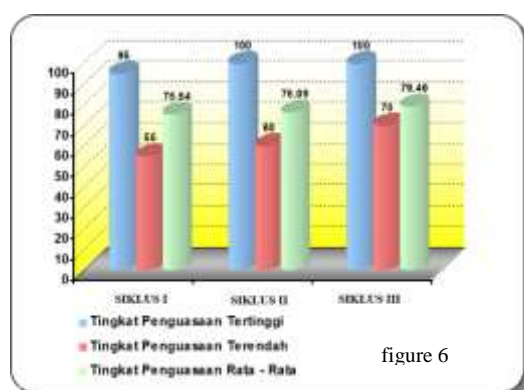
## CONCLUSIONS AND RECOMMENDATIONS

### A.    Conclusion.

Based on the research that has been done, it can be concluded after the learning results of students' learning using cooperative learning type Students Teams Achievement Divisions (STAD), experienced good improvement. It can be seen from the results of each test are given in each cycle, as well as a comparison between the averages formative test given by the cumulative test. Average of the first cycle test average of 75.54 formative increased to 76.09 in the second cycle, and increased again in the third cycle becomes 79.46. While the formative test average of 77.03 for the third cycle and this can be seen also increase with the averages cumulative test reached 80.54.

The level of mastery learning students on the subject of geometry and geometrical measurements, after learning using cooperative learning type students teams achievement divisions (STAD) also increased. This can be seen in each cycle, the first cycle increased 41 to 43 people in the second cycle, and continued to increase in the third cycle to 46 people. So clasical increased absorption of the first cycles 68, 59 % to 71.85 % in the second cycle, and became 78.91 % in the third cycle or the end of the cycle. Cooperative skills of students seen as each member has a sense of togetherness that is shown by the students to help each other in solving a problem, helping her work and mutual understanding barter mind that every student all the same as seen in the visual documentation .

### B.    Advice

The use of cooperative learning model Students Teams Achievement Divisions (STAD) to make a solution to improve student learning outcomes, so as to achieve a minimum completeness criteria specified school. Then the mathematics learning conducted in a classroom does not have to be monotonous, but much better again be varied, one of them with the use of cooperative learning model students teams achievement divisions (STAD) as one solution fix future math learning.

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