

**IMPROVING STUDENTS GROUP ACTIVITY IN MATHEMATICS
LEARNING THROUGH COOPERATIVE LEARNING COMMUNITY
(CLC) APPROACH USING PEER TEACHING
(CAR In Grade VII Of SMPN 1 Surakarta Academic Year 2012/2013)**

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ABSTRACT

“IMPROVING STUDENTS GROUP ACTIVITY IN MATHEMATICS LEARNING THROUGH COOPERATIVE LEARNING COMMUNITY (CLC) APPROACH USING PEER TEACHING”

(Car In Grade VII Of SMP Negeri 1 Surakarta Academic Year 2012/2013)

By

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This research objective are: (1) improve students groups activity in mathematics learning through Cooperative Learning Community (CLC) approach using peer teaching, (2) improve learning outcomes/student achievement in mathematics learning through CLC approach using peer teaching so as to achieve the minimum passing grade. Subjects receiving action is student class VIID of SMPN 1 Surakarta totaling 26 students, the subject of implementing of action is researchers and helping subjects implementation are mathematics teachers and the principal. Techniques of collection data are test method and observation method as a principal method, as well as supporting method that include interviews, documentation and review. In this classroom action research, data analysis is descriptive qualitative. The results of this study showed a improving students group activity in mathematics learning. It can be seen from: (1) students learning cooperation currently before action of 50%, cycle I 76,92% and cycle II increase 100%, (2) the ability of students to understand the problem before action 57,69%, cycle I 76,92% and cycle II increase 88,46%, (3) questioning activity/expression of the material received before action 50%, cycle I 69,23% and cycle II increase 84,62%, (4) students activities on doing task 46,15%, cycle I 65,38% and cycle II increase 88,46%, (5) the ability of students in presenting/explaining problem solving in front of class before action 30,77%, cycle I 50% and cycle II increase 76,92%. The conclusion of this study is that the application of this Cooperative Learning Community (CLC) approach using peer teaching can improve students groups activity in mathematics learning.

Key words: *Learning Activity, Cooperative Learning Community (CLC) approach, Peer Teaching.*

A. INTRODUCTION

1. Background of Research

Education is dynamic things that requires a change or continuous improvement. The success of teaching can be measured by the success of the students in understanding the material after participating in learning activities, as demonstrated by the activity of the students during the learning process. shown by many students who do not meet the minimum criteria of completeness (KKM) in the midterm grade VIID SMP N 1 Surakarta level than the other four classes are shown in the following data, which: class VIIA who pass 21 students the percentage of completeness reached 80,76%, class VIIB who pass the 21 students with the percentage of completeness reached 80,76%, class VIIC who pass the 22 students with the percentage of completeness reached 84,61%, and class VIID students who pass the 18 students with the percentage of completeness reached 69,23%. The data above shows mathematics learning in class VIID does maximum results because it has not reached the minimum value of mastery both in the classical and individuals. KKM was set at 80 and the classical completeness 80 % of students in a class can be said to have reached KKM (complete). From the data above, teachers as researchers try to solve the problems in learning one way in which to through Cooperative Learning Community (CLC) approach using peer teaching.

2. Objective of Research

This study objectives to: 1) improve students' groups activities in mathematics learning especially in terms of cooperation, communication, and interaction among students, 2) improve learning outcomes (achievement) of students in learning mathematics through CLC approach using peer teaching in order to reach the minimum passing grade.

B. RESEARCH METHODOLOGY

1. Type of Research

This research is a Classroom Action Research (CAR), which includes qualitative research. The research was largely carried out in four steps: a) planning, b) acting, c) observating, d) reflecting. The research was conducted through a process of collaboration between the principal, mathematics teacher,

and researcher in improving students group activities learning through CLC approach using peer teaching.

2. Place and Time of Research

a. Place of Research

This research was conducted at SMPN 1 Surakarta, located on Jl. M.T. No. Haryono 4 Banjarsari, Surakarta. Consideration elections this school because it was affordable to the campus where researchers to study making it easy to coordinate and consult improvements with the consultant.

b. Time of research

This study researcher done from October 2012 to February 2013. The details of this research are:

- 1) planning done for 12 weeks (early October - early December), which consists of identifying the problem, determining literature, draft research.
- 2) implementing done for 2 weeks (early January) with the action plan, the implementation of the action, reflection, analysis and result.
- 3) data analysis for 4 weeks (January).
- 4) the report for 4 weeks (February).

3. Subject of Research

The research subject of this class is a class VIID SMP Negeri 1 Surakarta. Grade VIID students as subjects who are action, totaling 26 students. Researchers and mathematics teachers as a subject giver action, as the principal subjects which help the process of research.

4. Variable of Research

1) Students Group Activity in Mathematics Learning

According to Sardiman (2009 : 97) activity is any activity carried out both spiritually and technically, and a student said to move when a series of learning activities active.

Hamalik (2008 : 27) argues that learning is a process of action and not just remembering and memorizing alone it's broader than that, instead received the study results, nor it's a result of exercise mastery, but rather changes in behavior that may result from learning.

Daniel Muijs and David Reynolds (2008 : 343) argue that mathematics is an important lesson because mathematics has a role in the acquisition of logical thinking skills widely implemented into everyday life.

2) Cooperative Learning Community Approach using Peer Teaching

Learning approach can be interpreted as a starting point or a point of view of the learning process, which refers to the view of the occurrence of a process that are still very common.

Learning Community is one of the seven components of effective teaching CTL (Contextual Teaching and Learning). According to Suprijono (2011 : 87) the concept of learning community suggest that the learning outcomes of the collaboration or collaborate with others by forming small groups and bring in an expert.

Keith J. Topping (2005 : 631) argues "*Peer Learning as the acquisition of knowledge and skill through active helping and supporting among of collaborative or community action, where there are someone as tutor*". In general, steps of peer teaching are: (1) determining how many students who have learning difficulties or have not achieved minimum mastery learning, (2) assigning the students who have more ability as a tutor, (3) creating a study group consist of 4-5 students, (4) tutor coaching in groups, (5) each group present the results of their discussion, while the other group responded, (6) the teacher gives the material being studied and conclusions with students to reflect on.

5. Techniques of Collecting Data

1) Principal Method

a. Test Method

Arikunto (2002 : 127) The test is a series of questions or exercises and other tools that are used to measure skill, knowledge, intelligence, ability or talent possessed by individuals and groups. The assessment result of each test is used as the data entered into the success of the learning process.

b. Observations Method

Sudjana (2005 : 114) argues observation is a data collection techniques by observing the behavior in certain situations. Observation in this study objectives to investigate the behavior of the student's mathematics learning follow an increase in the activity of student learning and achievement results of students' mathematics learning.

2) Supporting Method

a. Interview Method

Interview method is recording all the activities carried out by students and teachers during teaching.

b. Documentation Method

Arikunto (2002 : 206) argues Documentation is looking for data or variables in the form of notes, transcripts, books, newspapers, magazines, inscriptions, minutes of meetings, agendas, etc. Documentation is done in this study is photo learning process during the study.

c. Review

Review conducted by researchers to mathematics teacher to see what the mathematics teacher in writing of the change in attitudes and behavior of students in learning mathematics after the study is completed.

6. Techniques of Data Analysis

The technique of data analysis is descriptive qualitative. The technique of data analysis is divided into two, namely:

a. Data Evaluation/Test.

Data evaluation/testing on student achievement are analyzed by analysis mastery learning in accordance with the criteria set by the thoroughness of the school in which the writer conducts the research. Calculating the value of mastery learning students used the following formula:

$$\text{Percentage} = \frac{\text{number of students} - \text{number of students has not completed}}{\text{number of students}} \times 100\%$$

b. Data Non Test/Observation

The assessment criteria are provided with a descriptive overview shows the development/improvement of learning behavior better. In the

implementation of this observation, researchers used observation which is divided into 3 parts: observation act of study, observations act of teaching, and additional information relating acts of teaching and learning that has not been caught.

C. RESULT AND DISCUSSION

The study, conducted in SMPN 1 Surakarta was started in January 2013, which begins with a dialogue between researchers and teachers of mathematics. This research through two cycle. Improving student learning activities in the affected several indicators, such as: 1) students learning cooperation, 2) the ability of students to understand the problem, 3) questioning activity/expression of the material received, 4) student activities on doing task, 5) the ability of students in presenting/explaining problem solving in front of class. Based on the observations made by researchers who collaborate with mathematics teachers before action, cycle I and cycle II obtained data the percentage improving students group learning activities are shown in Table 4.3.

Table 4.3

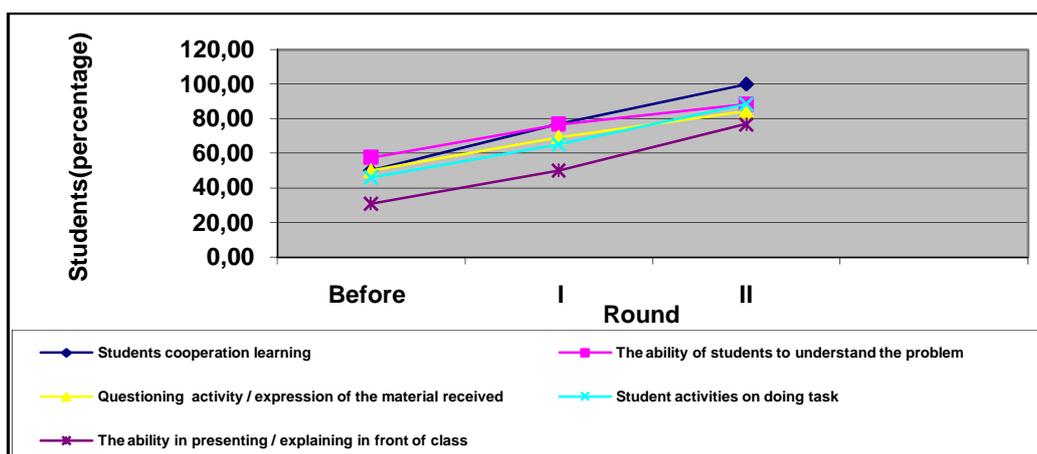
Data Improving Students Group Activities Actions Before and After
Class VIID SMP Negeri 1 Surakarta

Aspects of the observed	before action	Cycle I	Cycle II
1.Students cooperation learning	50 %	76,92 %	100 %
2. The ability of students to understand the problem	57,69 %	76,92 %	88,46 %
3.Questioning activity /expression of the material received	50 %	69,23 %	84,62 %
4.Student activities on doing task	46,15 %	65,38 %	88,46 %
5.The ability in presenting / explaining in front of class	30,77 %	50 %	76,92 %

From table 4.3 above it can be argued as follows:

- a. started cycle I to the cycle II of student activity levels of mathematics increased significantly.
- b. at the end of the study, students mathematics learning activities showed students learning cooperation reaches 100%.
- c. at the end of the study, students mathematics learning activities showed the ability of students to understand the problem reaches 88,46%.
- d. at the end of the study, questioning activity/expression of the material received reaches 84,62%.
- e. at the end of the study, students mathematics learning activities showed the Student activities on doing task reaches 88.46%.
- f. at the end of the study, students mathematics learning activities showed the The ability of students in presenting/explaining problem solving in front of class reaches 76,92%.

The data increase student learning activities in a group in a graph as follows:



Graph 4.6 Improving Students Group Learning Activities through CLC approach using Peer Teaching

Discussion :

Based on Figure 4.6 Graphical improving student learning activities with the following explanation: 1) line graph with the blue color showed improvement

in student cooperation learning from before action, cycles I to cycles II. The data shows that before action 50%, the cycles I 76,92%, the cycles II 100%, 2) line graph with the pink color showed improvement in students ability to understand the problems of the before action, cycle I to cycle II. The data show before action 57,69%, the cycle I 76,92%, the cycle II 88,46%, 3) line graph with the yellow color showing improvement in questioning activity/expression of the material received from before action, cycle I to cycle II. The data showed before action 50%, the cycle I 69,23%, the cycle II 84,62%, 4) line graph with the green color showing improvement student activities on doing task before action, cycle I to cycle II. The data show before the action 46,15%, the cycle I 65,38%, the cycle II 88,46%, 5) line graph with the purple color showed improvement the ability in presenting/explaining in front of class before action, cycle I to cycle II. The data show before action 30,77%, the cycle I 50%, the cycle II 76,92%.

D. CONCLUSION, IMPLICATION, SUGGESTION

1. Conclusion

Based on the analysis and discussion that has been done in the previous chapter, the researcher took several conclusions as follows:

a. Mathematics Learning Process

The process of learning through Cooperative Learning Community (CLC) approach using peer teaching performed as follows: 1) before the start of the lesson, the teacher reviewed the matter after discussing homework with students then explained a little about the material to be learned, 2) to assign study group consist of 4-5 students and choose the one that feels capable tutor. Then the teacher gives a problem to work/student discussion, 3) each group member has the duty and responsibility of the same in the group that should understand the material and problems, 4) after completion of the discussion, the results of the discussion to be presented in front of the class and other groups give responses, 5) the end result of the discussion was concluded each group, 6) end of the learning activity the teacher gives the final conclusions of the material being taught.

b. Improving Students Group Activity in Mathematics Learning

Application through CLC approaches using peer teaching can improve students group activity in mathematics learning. Data of improving students group activity can conclude as follow: 1) students learning cooperation, cycle I as many as 20 students (76,92%), in cycle II as many as 26 students (100%), 2) the ability of students to understand the problem, cycle I as many as 20 students (76,92%), in cycle II as many as 23 students (88,46%), 3) questioning activity asking/expression, cycle I as many as 18 students (69,23%), in cycle II as many as 22 students (84,62%), 4) students activities on doing task, cycle I as many as 17 students (65,38%), in cycle II as many as 23 students (88,46%), 5) the ability of students in presenting/explaining problem solving in front of class, cycle I as many as 13 students (50%), in cycle II as many as 20 students (76,92%).

2. Implication

Based on the above conclusions provide imply that: a) the teacher teaches through CLC approach using peer teaching were applied in this study has a major role in improving student learning activities in groups, b) difficulties in learning can be solved by the application of CLC approach using peer teaching in mathematics learning to enhance students learning activities within the group.

3. Suggestion

a. For Mathematics Teacher

Mathematics teachers should be make innovation in the learning process, should be approached emotionally to students, and monitor student behavior more deeply during the learning process.

b. For Next Research

Next research can further investigate the influence through CLC approach using peer teaching better again, and continued research on improving students mathematics learning activities in the group needs to be done by the next study.

E. BIBLIOGRAPHY

- Arikunto, Suharsimi. 2002. *Prosedur Penelitian Ilmiah*. Jakarta : Rineka Cipta
- Hamalik, Oemar. 2008. *Proses Belajar Mengajar*. Jakarta : Bumi Aksara
- Sardiman. 2009. *Interaksi dan Motivasi Belajar Mengajar*. Jakarta : Rajawali Press
- Sudjana, Nana. 2010. *Penilaian Hasil Proses Belajar Mengajar*. Bandung : PT. Remaja Rosdakarya.
- Suprijono, Agus. 2011. *Cooperative Learning Teory dan Aplikasi PAIKEM*. Yogyakarta : Pustaka Pelajar.
- Topping, Keith. 2005. *Trends in Peer Learning*.
<http://ctldec.ntu.edu.au/journals.htm> (Diakses tanggal 24 Oktober 2012 pukul 20.00)