



## **Improving Students' Learning Outcomes through Peer Tutoring with Cooperative Settings**

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### **Abstract**

This study found the low of student learning outcomes. This study aims to improve student learning outcomes through peer tutoring method of cooperative settings. The type of research is classroom action research (CAR) that consisting of: (1) planning, (2) implementing, (3) observing and (4) reflecting. This action research consisted of 2 cycles and each cycle consisted of 3 meetings. The subjects of this study are VIII.D Junior High School of Puriala 11, with the total consists of 28 students, 15 male and 13 female. Technique of collecting data used observation and tests. The data obtained that is analyzed descriptively. The results of data analysis showed that in cycle I,, students who get more than and equal to 65 is 17 students with the percentage 60.71 %. In cycle 2, the score has increased. There are 22 students who gained more than and equal to 65 as presentations reached 78.57%

**Keywords:** Cooperative, Learning Outcomes, Peer Tutors.

### **Abstrak**

Masalah yang ditemukan adalah rendahnya hasil belajar siswa. Penelitian ini bertujuan untuk meningkatkan hasil belajar siswa melalui metode tutor sebaya setting kooperatif. Jenis penelitian ini adalah Penelitian Tindakan Kelas (PTK) yang terdiri dari (1) perencanaan, (2) pelaksanaan tindakan, (3) observasi/evaluasi dan (4) refleksi. Penelitian tindakan ini terdiri dari 2 siklus, dimana setiap siklus terdiri dari 3 pertemuan. Subjek penelitian ini adalah siswa kelas VIII.D SMP 1 Puriala yang berjumlah 28 orang yang terdiri dari 15 orang laki-laki dan 13 orang perempuan. Teknik pengumpulan data dalam penelitian ini menggunakan observasi dan tes, data yang diperoleh akan dianalisis secara deskriptif. Berdasarkan hasil analisis data diperoleh hasil tes siklus I siswa yang memperoleh lebih dari sama dengan 65 sebanyak 17 orang siswa dengan presentase sebesar 60,71%. Pada siklus II mengalami peningkatan siswa yang memperoleh lebih dari sama dengan 65 sebanyak 22 orang siswa dengan presentase mencapai 78,57%.

**Kata kunci:** Kooperatif, Hasil belajar, Tutor sebaya.

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### **Introduction**

Mathematics is a field of science taught from basic education to higher education (Magfirah et al., 2015). In the daily life of mathematics plays an increasingly significant role. However, when looking at the teaching of mathematics in both elementary and secondary schools, it is far from expectation. The goal is to prepare students to be able to face a change of state and skilled and capable of addressing it. In this case, the mathematical learning that is applied in the school is a very important basis in the participation of the nation's life. In fact, what is happening today suggests that mathematics subjects are not so enthused by most students, only among certain students who love math lessons.

The learning of mathematics that has been impressed only involves the process of transferring the fact of the teacher to the students simply need to be eliminated. Students should be actively involved in building concepts and knowledge that relate to each lesson they learn. Students need to organize their reasoning, form a personality, and be able to use or apply mathematics in his or her future life according to his education level.

According to Sudjana (Indrianie, 2015), the learning results are a skill that the learners must

have after receiving the learning experience. Furthermore, according to Asep Jihad and Abdul Haris (Jakni, 2017), "The learning results are a change of student behavior in real after the process of teaching learning in accordance with the purpose of teaching". Learning outcomes will show the occurrence of behavioral changes in learners that can be observed and measured through changes in attitudes and skills, and the changes can be interpreted as a better improvement and development. Compared to previous conditions.

According to the fact based on the results of observations and interviews with one of the teachers of mathematics subjects found some disadvantages are the results of learning mathematics achieved by students is still low. The fact is shown by the average student mathematics learning value is still under the minimum submission criteria (KKM) as stipulated by the school concerned 65. The habits of students who need to get teachers' attention in every assignment to them are happy to gather to discuss and complete tasks together. This is what the teacher really needs to use, when the heterogeneous state of the students allows the teacher to choose a method he or she is able to help his friends in studying in the groups.

Arjanggi (Rosanti, 2018), said that the method of peer tutor is a method of learning that is done by empowering students who have high absorption from the group of students themselves to become tutors for their friends, where Students who become tutors are tasked to provide learning and training materials to their friends (Tutee) who have not been aware of the material/exercises provided by the teacher with the rules agreed upon by the group Will awaken the learning atmosphere of a cooperative group.

Peer Tutor is one type of cooperative learning. (Kaharuddin and Magfirah, 2018), suggests cooperative learning is a teaching system that gives students the opportunity to cooperate with their fellow students in structured tasks. (Kaharuddin, 2013) cooperative learning is teaching system student centered. Also according to (Indrianie, 2015), defining Cooperative Learning is a learning strategy that emphasizes on common attitudes or behaviors in working or assisting among each other in a regular cooperative structure in Groups, consisting of two or more people. A student is easier to receive the caption by the friend because of the absence of a reluctant or embarrassment to ask, so students gain knowledge and skills because he is associating with other learners, as Presented by Satryaningsih (Sinambela E, 2014) said the one who is referred to as a student tutor who was appointed or assigned to help his friend who had difficulty learning, because the relationship between friends in general is closer than Teacher and student relationships.

In order to process the learning to accommodate the science throughout the students well, then it can be applied the method of the cooperative settings peer. In a group way, students can discuss with each other, students can exchange information and smart students can help the less clever students, namely by utilizing clever students to transmit their skills to the students who Lower ability. So through peer method of this cooperative setting, students will be more active in learning mathematics where students will learn through small groups by discussing fellow group members in that class. In addition, through the method of peer tutor cooperative settings can overcome students who are reluctant or embarrassed to ask the teacher can freely ask his friend himself because in each group is guided by his peers in that class Who has better abilities than his classmates, but also his interest in learning more mathematics and students will not be reluctant or embarrassed again asking things that they do not understand the reason for being a tutor or The Tutorer is his peers.

## **Method**

This type of research is Classroom Action Research that can be interpreted as a process of assessing learning problems in the classroom through self-reflection in an effort to solve these problems by carrying out various planned actions in real situations and analyzing each effect of the

treatment (Sanjaya, 2017: 22 ).

The research instruments used in this study were Teacher Activity Observation Sheet Managing Learning, Student Activity Observation Sheet, Student Worksheet (LKS), Learning Implementation Plan (RPP), and learning achievement test questions consisting of end of cycle test questions (Post-end of cycle test). Data collected in this study are (1) observations during the learning process guided by the observation sheet, (2) results of tests conducted at the end of each cycle, (3) documentation in the form of photographs of teacher and student activities during the learning process. Data from observations made will be analyzed descriptive

## Result and Discussion

### Result

#### 1) The Implementation of action

The implementation of the action in this research is the implementation stage of the learning process.

##### A) First cycle

In this cycle was performed three times during the meeting. This class action research consists of cycle I and cycle II which each cycle consists of 3 times the meeting. The following student learning outcomes are obtained in the first cycle:

Table 1. Student learning outcomes of class VIII. D  
Junior High School of Puriala 1 on cycle I Data Cycle I

| Data                  | Skills I |
|-----------------------|----------|
| Total students        | 28       |
| Maximum score         | 89       |
| Minimum Score         | 35       |
| Total of score        | 1.868    |
| complete              | 17       |
| Incomplete            | 11       |
| Average               | 66,71    |
| Classical Firecracker | 60,71    |

The results of cycle I test students complete learning as many as 17 students or about 60.71% of students have a value of 65 and above with an average of 66.71. This suggests that student learning results have not increased in the I cycle.

#### Reflection of the first cycle

At this stage, researchers with teacher subjects discussed the weaknesses found in the implementation of the cycle I actions that will be corrected in cycle II. The weaknesses are as follows:

1. Teachers are still not able to organize the time well, because there are still stages of learning scenarios that are not implemented.
2. at meeting I the teacher did not perform the activity of the apertion, did not conclude the outcome of learning.
3. The teacher directly gives an example answer to the question without giving the students an initial opportunity to give the idea of solving examples.
4. Teachers do not give direction or guidance to students who have difficulty. Consequently, many students are still wrong in resolving the matter.

In addition, there are still many students who do not focus on the learning process, there are still many students who are less attentive, then dare not raise the difficulty in solving the problem and still a few students who are able to express their opinions In group discussions. Students do not develop their ideas and thoughts in resolving the problems given. Given the many weaknesses that occur in the

implementation of the cycle I action, then this research continues in cycle II to further improve the learning outcomes of students through the method of cooperative settings peer. Teachers are expected to better seek improvement on the implementation of cycle II actions.

#### b) Second cycle

In this cycle II researchers made improvements consisting of 3 times the meeting. The following student learning outcomes are obtained in the second cycle:

Table 2. Student learning outcomes of class VIII. D  
Junior High School of Puriala 1 on cycle II

| Data                  | Siklus II |
|-----------------------|-----------|
| Total students        | 28        |
| Maximum score         | 93        |
| Minimum Score         | 30        |
| Total of score        | 1.945     |
| Complete              | 22        |
| Not complete          | 6         |
| Average               | 69,46     |
| Classical Firecracker | 78,57     |

Cycle test Results II gained an increase of 22 students from 28 students or about 78.57% of students gained a score of 65 upwards with an average of 69.46. It can be said that compared to the test results on the cycle I occurred increased in the II. Thus it has reached a predetermined indicator of success. From the cycle test results of II showed an increase, the researchers suffice reached the II cycle.

#### Reflection of the second cycle

At this stage, researchers with teacher subjects discussing the things that were findings on the implementation of cycle II actions are as follows:

- 1) Teachers have been able to organize the time so that learning scenarios can be carried out well.
- 2) At each teacher's meeting showed considerable effort in providing direction or guidance to the students thoroughly.
- 3) There is an increase in the number of students who are able to express their opinions in group discussions even less.
- 4) Many students are enthusiastic in asking, raising their difficulties.
- 5) Tutors perform their job well.

In general the weaknesses in the implementation of the cycle I action have been corrected in cycle II. Although there are still some students who are less focused but this does not interfere with the learning process.

#### Discussion

Peer Tutor method was a method that can improve student learning outcomes because students who have not understood the material but do not have the courage to ask the teacher can ask the classmate who has been appointed as a tutor by the teacher. This is in line with the opinions of Arjanggi in Rosanti (2018:3), saying that the method of peer tutor is a method of learning that is done by empowering students who have high absorption power from the group of students themselves to Be a tutor for his friends, where the students who become tutors are tasked to provide learning and training materials to his friends (Tutee) who have not been aware of the material/exercises given the teacher with the agreed upon rules Together in the group so that it will awaken the learning atmosphere of a cooperative group. In addition to these opinions, Abu Ahmadi and Widodo

Supriyono in Akbar A (2016:88) stated that the method of peer tutor is a method in which the teacher appoint a peers (classmates) who are considered to be assigned to help his friend who Have difficulty learning, this is because the relationship between friends is generally closer than the relationship between teachers and students.

Peer Tutor is one of the types of cooperative learning, according to Jaelani in Isrok and Rosmala (2018:127), said that cooperative learning gives students opportunities for different backgrounds and conditions, to work with each other Relying on each other over joint assignments, and through the structure of the rewards can learn to appreciate each other.

Thus, the method of peer-to-peer tutoring settings applied can be carried out well and can achieve the expected goal depends on the students who are the Tutornya. Tutors here serve as a substitute for teachers to help their friends understand the lesson. Teachers have chosen students to become tutors with their criteria of mastering the material being taught and having good and friendly emotional relationships with other students. The tutors that have been selected will be given training by the teacher in the form of a material supply to be taught and the skills to explain the material to his friends outside the lesson hours before learning in class using Peer method of cooperative setting. This is in line with Paul Suparno's opinion in Akbar A (2016:89) stating that there are some clues in preparing peer tutor, among them are teachers giving instructions to students who are selected as tutors on how to Approached his friend and helped his friend. This activity aims to make the tutor better prepared and able to master the material to teach his group friends during the ongoing learning that will have a good impact on increasing levels of group member material understanding, minimizing Misconduct and understanding of the material, and the increasing learning outcomes of all students.

Group formation on the learning method of peer tutor was arranged so that the students pair heterogeneous, in the sense of students who are highly skilled together with students who are low-skilled. This is done in order to equalization in the learning outcomes, so that the less-skilled students will be assisted by students with moderate or high-ability. Because in group work, students work as a team in completing something to achieve a common goal. Then the group will be selected by a student as a tutor. Peer Tutor is a person who is not a teacher but is able to give an understanding of a concept or teach a concept to others. Learning with peers is helpful to students who have difficulty learning. Peer Tutor who deeply understands the difficulties of his friend will be very helpful in overcoming his difficulties. Learning difficulties happened among them because there was less explanation from the teacher. This peer method of cooperative setting gives students time to think and respond and help each other. There is a tendency that students will more easily receive and understand information from peers than the explanation of the teacher.

At the time of learning the tutor method of the cooperative settings The teacher took the role of guiding the students if anyone has difficulty in solving the problem given, and at the end of learning teachers with students conclude Materials that have been studied. By learning the Tutor method of peer-to-peer settings, student learning results will increase as students are trained to construct their own knowledge so that the concepts will be understood by students more deeply and more durable.

After carrying out the steps of the method of peer tutor seen there is an increase of the average value of students and the number of students who have achieved more and more. This is known from the results of cycle I test students who complete learning as many as 17 students or about 60.71% of students have a value of 65 and above with an average of 66.71. By fixing the weaknesses found in cycle I, the student learning outcomes of cycle II showed a significant increase in the test result of cycle II gaining an increase of 22 students from 28 students or about 78.57% of students obtaining Value of 65 and above with an average of 69.46. This demonstrates the increase in student learning outcomes compared to the I-cycle test results.

The results of this research in line with the research conducted (1) Nurlita (2017), concluded that the outcome of learning mathematics on the main material of the operation calculate form of algebra of Junior High School of Puriala 1 can be improved through a peer tutor approach. It is known by the increase of student learning outcomes on each cycle test. At Cycle I The average success of students was 50.09% which succeeded only 6 people or about 27.27% of students gained a value of 60 and above. The student learning results increased again on the test results of the average II cycle of success reaching 63.22% where 19 students increased or about 86.36% of students gained a value of 60 and above. This showed an increase in student learning outcomes of 13 students compared to 1 cycle test result. (2) Neneng Cahyati (2015), concluded that the results of students' study increased on trigonometric subject matter through learning method of tutor in cooperative setting in class X M. A Fastabiqul Khairat DDI Ladongi. (3) Syafwan (2014), concluded that students' mathematical learning results were increased on the equation of material and linear nonequality of one variable through cooperative learning strategies of peer-type tutor. It is known for students who complete their study in cycle I as much as 15 students (71.43%) So that it can not reach the survival of classical learning. While in the cycle II students who complete learning has reached 18 students (85.71%) So it can be said to have achieved classical learning.

### Conclusion

Learning using peer tutor method of setting cooperative can improve the learning outcomes the students of class VIII.D in Junior High School of Puriala 1. It has known by the increased from cycle I to cycle II. On the average I cycle of learning results of 66.71 students who succeed only 17 people or about 60.71%. Student learning results increased on the average II cycle of success reaching 69.46 where 22 students increased or about 78.57% of students gained a value of  $\geq 65$ . In accordance with the research indicators that the success of this research is seen from a minimum of 75% students complete with a value of KKM 65, so the research said to be successful and discontinued in Cycle II.

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