

STUDENT TEAMS ACHIEVEMENT TYPE COOPERATIVE LEARNING MODEL DIVISION FOR INCREASE RESULTS LEARN MATH ON STUDENT

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Abstract. This study aims to improve mathematics learning outcomes in Grade VII students of SMP N 10 Mimika with use method Problem based Learning (PBL). Study this is study class action, which was carried out in two cycles where the first cycle consisted of 4 meetings and II consists of 5 meetings the subjects in this study were grade VII students. A which amounts to 29 students. The variables in this study consisted of independent variables, namely the Problem Based Learning method (PBL) and the dependent variable is the result of learning mathematics, technical data collection using Data Analysis Techniques, namely analysis of observation results and analysis of test results. Based on research results could concluded that learning with method Problem based Learning (PBL) could increase results study on eye lesson mathematics on Theory arithmetic social, results before action was taken, namely in the pre-cycle only 8 students or 27.58% which is completed in cycle I increase Becomes 24 student or 82.75% which finished study mathematics and on cycle II increase again Becomes 29 student which finished study mathematics, research this said succeed because reach indicator performance that is 100% from whole student with KKM that is 60.

Keywords: PBL Method, Mathematics Learning Outcomes

Abstrak. Penelitian ini bertujuan untuk meningkatkan hasil belajar matematika pada siswa kelas VII SMP N 10 Mimika dengan menggunakan metode Problem Based Learning (PBL). Penelitian ini merupakan penelitian tindakan kelas, yang dilaksanakan dalam dua siklus dimana siklus I terdiri dari 4 pertemuan dan II terdiri dari 5 pertemuan subjek dalam penelitian ini adalah siswa kelas VII. A berjumlah 29 siswa. Variabel dalam penelitian ini terdiri dari variabel bebas yaitu metode Problem Based Learning (PBL) dan variabel terikatnya adalah hasil belajar matematika, teknik pengumpulan data menggunakan Teknik Analisis Data yaitu analisis hasil observasi dan analisis hasil tes. Berdasarkan hasil penelitian dapat disimpulkan bahwa pembelajaran dengan metode Problem Based Learning (PBL) dapat meningkatkan hasil belajar mata pelajaran matematika pada teori aritmatika sosial, hasil sebelum dilakukan tindakan yaitu pada pra siklus hanya 8 siswa atau 27,58% yang tuntas. pada siklus I meningkat menjadi 24 siswa atau 82,75% yang tuntas belajar matematika dan pada siklus II meningkat lagi menjadi 29 siswa yang tuntas belajar matematika, penelitian ini dikatakan berhasil karena mencapai kinerja indikator yaitu 100% dari seluruh siswa dengan KKM yaitu 60.

Kata Kunci: Metode PBL, Hasil Belajar Matematika

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INTRODUCTION

Lesson mathematics often considered by students as subjects that difficult and scary. Whereas student want to get information about things around him are in a state that. Learning mathematics on currently still considered boring. Attitude passive student in learning and system teaching which monotone has impact on results study student. According to Bambang Warsita (2008:268) strategy learning is a presentation technique that must be owned by the teacher to teach or present lesson materials to students with the aim of lesson which be delivered with easy understood with good by student. Choose strategy learning need conducted based on the suitability of the material to be delivered. So that could help increase learning activity and creativity student During process study teach take place and achieve the goals that have been designed (A. Rasul, 2020).

Learning methods problem-based learning is a method learning which serve various real problems in everyday life day student (of contextual) so that stimulate students to learn, based on observations and interviews of researchers with teachers' mathematics class VII JUNIOR HIGH SCHOOL N 10 Mimika year teachings 2019/2020, process learning mathematics still tend centered on teacher. Lots of student which passive in follow learning process such as: silence, and no want to ask to teacher, if not yet understand. So that Thing this impact on the learning outcomes still low. Researchers get information that KKM eye mathematics lesson is 60. From the value data daily test, there are 8 students who complete or 27.58% of 29 students, while which not yet finished as much 21 students or 72.41%.

Based on results analysis to low results study participant educate, Thing This is due to the learning process that dominated by learning traditional. On learning this atmosphere class tend teacher centered so that students become passive. By because that researcher offer strategy learning with use *problem-based learning* method (PBL), students are expected to be involved in research process that requires him to identify problems, collect data and use data for solve problem. Smith & Ragan (2002:3) as quoted by Viseser, said: that strategy learning with method *problem-based learning* (PBL) is effort for shape something process understanding contents something eye lesson on whole curriculum. And is draft study which use problem as context for student for study about method think critical, Skills solving problem, and for get draft essential from Theory lesson.

METHOD

This research was carried out with use type Study Action Class (PTK). This research uses approach quantitative and qualitative. Study this held in JUNIOR HIGH SCHOOL Country

10 Mimika. Subject in study this is a student of class VII A SMP NEGERI 10 Timika, covers 29 students of them consist from 13 student woman and 16 person man –man.

The research design which used is like on picture following this:

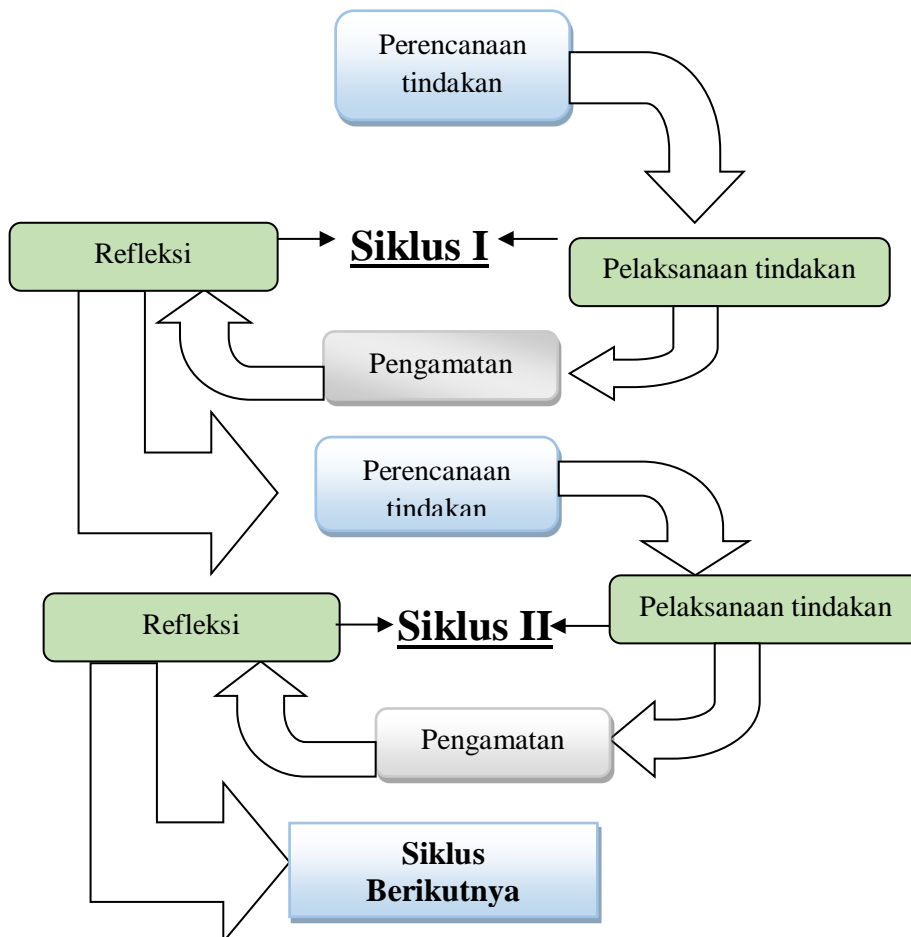


Figure 1. Classroom Action Research Model According to Arikunto (2013:17)

As for technique collection data which used in study this is test, observation, and document. Collection data in form test for disclose success results study student with using the problem-based learning method in learning mathematics. Collection data by using observation or Observations are generally aimed at the types of study descriptive or depiction. Collection data in form document using syllabus, exams and tests, reports Duty student, books learning and example essay which written student.

Instrument which used in study this in the form of test which consist of pretest and posttest. Pre-test serves to assess to what extent students have mastered ability which have before conducted research. Post-test works for evaluate ability participant educate about Theory lesson after conducted research.

Technique data analysis used in this research is quantitative analysis by calculating the value of each student's activity indicator and percentage student active by classic. Classroom action research success this can be measured from the minimum level indicator student activity and learning outcomes. Every eye lesson in school has standard different thoroughness. the school that used by researchers that is SMP N 10 Mimika has determined that the Completeness Criteria Minimum (KKM) for eye lesson mathematics is 60. KKM this will used as researcher as barometer learning success of class VII students. A on Social Arithmetic material. This means that if the test results student has reach completeness 100 % at least 75% of the total number of students get score 75 or appropriate on KKM which has determined, then learning in research conducted by researchers can said succeed, if criteria completeness on cycle first not yet reach target which has determined so will held cycle second and so also with next until completeness which expected Correct- Correct achieved.

RESULTS

Results Implementation Pre-cycle

Based on the results of Pre-Cycle observations from 29 persons student which follow learning only 8 person which capable managed to achieve the value (60 – 100) and students which not yet succeed reach score (40-54) amount 21 student on Pre-cycle could seen through Table criteria research test formative Pre-cycle in lower this:

Table 1. Criteria Test Formative Pre-cycle

Letter Value	Value Interval	Number of Students	Predicate
A	85-100	1	Excellent
B	70-84	5	Good
C	60-69	2	Enough
D	40-59	21	Less
E	0-39	0	Very Lacking
Number of Students		29	
Class Average		54,65%	
Completeness Rate		27,58%	

From results data score test formative before the repair in the Table above could said that researchers have not succeeded in learning. Remember only 8 students, from the number of 29 students who can be declared complete. Whereas 21 students are declared incomplete. So that researcher tries repair process learning which more good on Cycle I with make and arrange plan repair learning which more perfect.

Results Study Cycle I

Based on results data score test formative after held repair cycle I it can be said that there is an increase in results learning. Based on table on could seen in table as following this:

Table 2. Criteria Evaluation Test Formative Cycle 1

Letter Value	Value Interval	Number of Students	Predicate
A	85-100	1	Excellent
B	70-84	6	Good
C	60-69	7	Enough
D	40-59	5	Less
E	0-39	0	Very Lacking
Number of Students		29	
Class Average		68,82%	
Completeness Rate		82,75%	

From results data score test formative after held repair on cycle I could said that there is an increase in yield study student. Thing this showed with increase in formative test results, which was originally complete only 8 student or (27.58%) to 24 students (82.75%). While students who does not finished amount 5 students. Observation which conducted covers student activities and results used to knowing obstacles which faced During follow process study teach results observation more as following:

Table 3. Observation student cycle I

The Meeting	Criterion					Number of Students	Classically Active Percentage
	Very Active	Active	Simply Active	Less Active	Passive		
Meeting 1	1	6	22	-	-	29	24,13%
Meeting 2	1	11	17	-	-		41,37%
Meeting 3	1	18	10	-	-		65,51%

Table in on could is known that activities in the mathematics learning process especially in the Social Arithmetic material on cycle I on meeting one, two, and three quite active, this can be seen in table 4.5 it is seen that it still does not meet the standard which there is because rated achievement on cycle I still not enough, so researcher continue to cycle II.

Results Study Cycle II

On Cycle II, student which value completed has increased from 24 students (82.75%) to 29 students or (100%). On Cycle II temporary which no finished amount 0 student (0%).

Table 4. Criteria Evaluation Test Formative Cycle 2

Letter Value	Value Interval	Number of Students	Predicate
A	85-100	4	Excellent
B	70-84	23	Good
C	60-69	2	Enough
D	40-59	0	Less
E	0-39	0	Very Lacking
Number of Students		29	
Class Average		74,93%	
Completeness Rate		100%	

Based on results data score test formative after repair (Cycle II) it can be said that there is an increase in results learning. Thing this showed with increase in formative test results, which was originally complete only 24 student (82.75%) Becomes 29 students (100%). Based on observation on Cycle II is student active in follow learning as well as in doing discussion on group work. It turns out that through Problem Based Learning method (PBL) in improving student learning outcomes has in accordance with plan which has expected. Observation to student carried out to find out learning activities student, result like listed in Table following this:

Table 5. Observation Student Cycle II

The Meeting	Criterion					Number of Students	Classically Active Percentage
	Very Active	Active	Simply Active	Less Active	Passive		
Meeting 1	2	20	7	-	-	29	75,86%
Meeting 2	3	20	6	-	-		79,31%
Meeting 3	5	21	3	-	-		89,65%
Meeting 4	9	20	-	-	-		100%

From table observation could is known that activity student on process learning mathematics, on Theory Arithmetic social increase almost all student active participate in process learning. On Step beginning observation and researcher interview with class teacher, researcher get information that there are still many students whose scores are below the KKM so that researcher want to stage repair on results study on student class VII A researcher start with Pre-cycle where action beginning researcher teach and give question pre-test for get results beginning for continue to cycle next from results Pre-cycle the researcher get that results study student very low so that need existence repair based on results processing student data before repair or Pre-cycle before gurgle method learning Problem Based Learning (PBL) in class VII A semester 2 of SMP Negeri 10 Mimika Years teachings 2019/2020, show that from

29 students who achieve mastery learning only there are 8 students or 27.58%, it means there are 21 students or 72.41% of students who have not finished then need repair was held learning.

On base problem the, for increase results study mathematics on social arithmetic material in Class VII A researchers to do repair learning through pattern Study Action Class (CAR) on repair learning Cycle I. After held repair learning Cycle I could it is stated that there is an increase in student learning outcomes of the 29 students of Class VII A who were originally only there were 8 students in Pre-cycle, now in Cycle I increased to 24 students whose grades in accordance KKM or on KKM. Enhancement results study student because researcher in doing activity repair learning use method learning Problem Based Learning (PBL), with use method this completeness student learning outcomes indicated by the percentage of completeness increased from 27.58% Becomes 82.75%. Based on processing data, to complete research student learning outcomes stage repair again on Cycle II which the results show a better improvement, on repair Cycle I from 29 student which get score 60 to on which again 24 students or 82.75% in Cycle II increased be 29 students or 100% reach level completeness.

Cycle I and Cycle II of upgrade better student learning outcomes in Cycle II this because in activity process improvement of learning using the method Learning Problem Based Learning (PBL) in learning which interesting attention students and in accordance with the learning material. Besides that, repair also conducted on method teaching, besides method Learning Problem Based Learning (PBL) as focus study, like lecture, assignment, ask answer so that process learning no monotone and that class faced make atmosphere life. based on analysis data in on, could concluded that the increase in learning outcomes student because researcher, in carry out repair activities learning with use method learning Problem Based Learning (PBL), in learning with use method this completeness results study student which showed with percentage completeness increase to 100 %.

Enhancement always learning outcomes increase on every cycle because after teacher stage process study teach, teacher always stage reflection for repair mistakes or deficiency on cycle previously and enhancement results study student this caused by method Learning Problem Based Learning (PBL) which has applied. On process learning, the researcher provides an explanation on Theory Arithmetic social with relate some examples of everyday life day before giving a chance to student researcher share student in six group each group consist from five until six person here researcher provide opportunities for students to direct involved in process study that is participant educate observe question LKS and next researcher give opportunity for students or groups that have been divided for present results work and other students respond or ask activity this could make student more active for find out the

problem of the example is given by teacher (Kemdikbud , 2013).

From the test results that have been achieved by students and the results of observations that have been made namely the observation of student activities learning process has increased from pre-cycle, cycle I to cycle II, especially in Cycle II has achieved complete learning classical and the activity of researchers and students in learning belong to good. Existence enhancement activity student this caused by a number of factor that is (1) existence effort researcher in resolve and repair weakness weakness which occur on activity study student on cycle previously (Pre-cycle, Cycle I), (2) students are getting used to using method problem based learning (PBL), (3) students' self-confidence increases more tall because in the process student group learning and discussion have freedom for Secrete his opinion and free interact, and (4) could grow spirit and not quite enough answer student for follow lesson.

Application method problem based learning (PBL) this walk with good because can meet the needs of students who prepared before process learning, there is application destination learning, participant educate and the group can each other work same exchange thought in solve problems, present results discussion and directing in giving conclusion, so that students lead to conclusions with thereby participant educate even could independent learning, active, creative and add outlook. Besides that, with existence enhancement results study student on every cycle, it can be concluded that with using the problem based learning method (PBL) used as something method learning that can improve results study on social arithmetic material in class VII A Junior High School 10 Mimika.

CONCLUSION

Results study action with apply method learning Problem based learning (PBL) on eye lesson mathematics, especially social arithmetic material on student class VII, could concluded that application with method learning Problem based learning (PBL) could improve learning outcomes, increase data ability the obtained based on the average value starting from the pre-cycle, cycle I and cycle II. Percentage of students who get score in on KKM on Pre-cycle (27.58%) or 8 students who experienced temporary completeness in the first cycle increased to 24 students or 82.75% and on cycle second reach 100 % or 29 student.

RECOMMENDATIONS

We can see from the results of observations to activity study student During follow process learning mathematics on Theory arithmetic social on cycle I the observation stage, at the first meeting there were 1 categorical students very active, and there are 6 student categorized active

whereas category enough active 22 student, then on meeting to II there is enhancement to activity study there is 1 student which categorized very active, and there are 11 students active category while moderate category active there is 17 students continued on the third meeting continues to increase to activity study student there is 1 student which categorized very active, and there is 18 student which categorized active while in the moderately active category there are 10 students while at the observation stage of cycle II on meeting I there is 2 student categorized very active, and also there is 20 student in the active category, while in the moderate category active there is 7 research students continued on meeting to II by Keep going continuously experience enhancement there is 3 student very active category, and there are 20 student in the active category, while in the moderate category active there is 6 student researcher then continue at the third meeting there are 5 student categorized very active, and also there are 21 students categorized as active while quite active category there are 3 students our can see that there is an increase in yield study student and then researcher continued at the fourth meeting there were 9 student categorized very active, temporary in there are 20 active categories student is the sign that result study mathematics on Theory arithmetic social there is enhancement with apply method learning Problem based learning (PBL) could increase results study.

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