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Improving students' discipline and learning outcomes using problem-based learning model

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Abstract

Discipline is one of the keys to achieving success, especially for a student. If students have discipline in learning, students will achieve good learning outcomes. Along with the times, technological advances have resulted in many students who do not have the discipline to learn. Therefore, this study aims to determine the improvement of discipline and student learning outcomes in class VII.5 SMP Negeri 2 Dobo by using a problem-based learning model, which consists of the stages: observing, action, observation, presentation, and evaluation. Data were taken through direct observation, disciplinary questionnaires, and learning outcomes knowledge tests. The data analysis technique used descriptive qualitative and quantitative data. The results showed that discipline and learning outcomes can be improved by using a problem-based learning model. This increase can be seen from the test results which show that in the pre-cycle students have a low level of learning discipline of 6.67%, then increase to 80% in the second cycle, and in the pre-cycle, the student's learning success is low at 46.67% increasing to 96.67% in cycle II.

Keywords: discipline, learning outcomes, problem-based learning.

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INTRODUCTION

Education is an effort to form human culture which has the most important role in the environment where you live. According to the National Education System Law No. 20 of 2003 (chapter 1 article 1), education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual, religious, self-control, personality, intelligence, noble character, and skills. needed by himself, society, nation, and state. Thus, it is necessary to have self-discipline in learning to create an active learning atmosphere.

The term discipline has various meanings including self-control and self-control, adjustment to rules, social compliance, and others. Discipline can be interpreted as a person's compliance in following rules or regulations that are driven by the awareness that is in his heart (Poto & Kuncoro, 2020). Students who always obey the rules, both at school and home will have a more focused life and the possibility of success will be even greater.

According to Triatmaja (2019), the indicators of learning discipline are as follows: (1) the dimensions of discipline in entering school, indicators are active school entry, punctuality in school, and class entry, and (2) the dimension of discipline in participating in classroom learning, the indicator is active participating in classroom learning, doing assignments individually or in groups, (3) disciplined learning at home, the indicators are doing homework (PR), spending time studying at home optimally, (4) dimensions of discipline in obeying school rules, the indicator is using uniform according to school regulations, bringing school equipment, maintaining the classroom and school environment, bringing school equipment. Based on these disciplinary indicators, researchers can measure the level of student discipline in the learning process.

Students who have discipline in learning will achieve good results, otherwise, students who lack discipline in learning will achieve poor results. To achieve optimal learning outcomes,

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especially in learning mathematics, it is necessary to emphasize student activity through ability, creativity, question and answer, and critical thinking. According to Bloom's research results (Revised, 2019), students' abilities are classified into 3 domains, namely the cognitive, affective, and psychomotor domains. In this study, the learning outcomes that will be measured are students' cognitive domains in learning mathematics with quadrilateral and triangle material. The indicators of the cognitive domain are as follows: (1) remembering, C1; (2) understanding, C2; (3) applying, C3; (4) analyzing, C4; (5) evaluating, C5; (6) creating, C6.

To improve student discipline and learning outcomes, learning is not only student-centered but the role of the teacher is also very important. In this case, the teacher must be able to apply the right learning model in learning. Inappropriate or monotonous learning models will have an impact on the students themselves. As happened at SMP Negeri 2 Dobo.

According to the results of interviews conducted with one of the mathematics teachers of SMP Negeri 2 Dobo, the level of student discipline is still relatively low and the learning model applied so far is the discovery learning model, where students are given a stimulus first and then identify problems, discuss and do proof. It has an impact on student learning outcomes that are less than optimal, namely the results of the final semester assessment in mathematics subjects are 63.79.

In contrast to the problem-based learning model, this learning model provides problems first so that students can find and conclude for themselves what they get. According to Herminarto et al. (2017), the steps of the problem-based learning model are as follows: (1) orienting students to problems, (2) organizing students for learning, (3) guiding individual and group investigations, (4) developing and presenting results. works, and (5) analyze and evaluate the problem-solving process. The results of research conducted by Prayogo (2022) that problem-based learning can increase individual and group learning.

Thus, to find out the improvement of discipline and mathematics learning outcomes of class VII.5 students in the quadrilateral and triangle material, the researchers conducted research using a problem-based learning model.

RESEARCH METHOD

This research is a Classroom Action Research (CAR). Classroom Action Research is research conducted by teachers in their class by planning, implementing, and reflecting on collaborative and participatory actions to improve teacher performance, so that student learning outcomes can increase (Kusumah & Dwitagama, 2010). This research took place at SMP Negeri 2 Dobo, Galay Dubu Village, Aru Islands District, Aru Islands Regency, Maluku. The subjects in this study were students of class VII.5 SMP Negeri 2 Dobo, as many as 30 students. The research was carried out in several cycles, each cycle consisting of four stages, namely (1) planning, (2) implementation, (3) observation, and (4) reflection (Arikunto, 2021). This research was carried out in 2 cycles, one cycle of 3 meetings and each meeting minutes.

Data analysis aims to answer the research problem. The data analysis in this study is the data obtained from the results of observations/questionnaires (self-assessment) and tests. Observation data using a self-assessment sheet (questionnaire). The data collected from the questionnaire was analyzed with the following formula:

$$p = \frac{TS}{SM} \, x \, 100 \, \%$$

Information:

p = Percentage number
TS = total score obtained
SM = maximum total score

The criteria of students' discipline is presented in Table 1.

Table 1. Percentage guidelines for student discipline questionnaire assessment

Presentation	Category
86 -100 %	Very high
71-85 %	Tall
56-70 %	Currently
41- 55 %	Low
< 40 %	Very low

To find the value of student learning outcomes, the following formula is used:

$$SM_i = \frac{JS}{TM}\ x\ 1$$

Information:
SM_i = Student score
JS = Total score of students
TM = Total score

For data on the value of students' training, it is necessary to convert values into graded scores with the minimum completeness criteria (KKM) as presented in Table 2.

Table 2. Conversion of values into scores

Value range	Description score	Criterion
89 - 100	Complete	Very good
77 - 88	Complete	good
65 - 76	Complete	enough
< 65	Not Complete	currently

The increase in student learning outcomes is seen from the results of the pretest and posttest at the end of the cycle. To determine the percentage of completeness of students, the formula for calculating the percent (%) of completeness is used as follows:

$$Percentage\ of\ learning\ outcomes = \frac{\textbf{Number of students completed}}{\textbf{total number of students}}\ \textbf{x}\ 100\%$$

Illustration of the increase in the percentage of students' completeness can be presented in Table 3.

Table 3. Qualification of Student Grades

Percentage	Criteria
$75\% < P \leq 100\%$	Tall
$50\% < P \leq 75\%$	Enough
$25\% < P < 50\%$	Low
$0\% < P < 25\%$	Very low

The indicators for the success of the action in this study are as follows: (a) the success of problem-based learning in improving student discipline can be seen from the implementation of

teaching and learning if it reaches a good category (B) if 75% of students achieve the success target (75), (b) success Problem-based learning in improving student learning outcomes can be seen in classically complete student learning outcomes (85%) students Complete KKM.

The data analysis technique used is descriptive qualitative and quantitative statistical data. In the data collection method: (1) observation is used in direct observation of the research location, namely in class VII.5, this data collection technique is used to assess the improvement of residual discipline. (2) a questionnaire is used by giving a questionnaire sheet to students to find out the student's discipline scores. (3) the written test is used to measure the level of success of students in filling out the questions given, the written test given is in the form of description questions.

RESULTS AND DISCUSSION

Discipline improvement

This research was carried out in 2 cycles and each cycle consisted of 3 meetings, so the total number was 6 meetings. Below is a table of student discipline observations of class VII.5 SMP Negeri 2 Dobo, from the initial conditions or pre-cycle, cycle I and cycle II problem-based learning model.

Table 4. Improving student discipline

No.	Discipline Questionnaire Results	Pre-cycle	Cycle I	Cycle II
1.	Average score	68,2	72,6	77,23
2.	Lowest value	55	65	70
3.	The highest score	76	80	88
4.	Number of students with a score of ≥75	2	11	24
5.	Success percentage	6,67%	36,67%	80%

According to the sources from Table 4, it can be seen that there was an increase in the value and percentage of discipline from the initial condition to the second cycle. In the pre-cycle activity, the percentage of success showed 6.67%, in the first cycle it showed 36.67%, and in the second cycle it increased to 80%. Therefore, there is an increase in student discipline in each cycle.

Thus, it can be concluded that the problem-based learning model used has succeeded in increasing student learning discipline because it has met the targets (success indicators) that have been set.

Improved learning outcomes

The improvement in student learning outcomes for class VII.5 SMP Negeri 2 Dobo can be presented in Table 5.

Table 5. Improving learning outcomes

No.	Students learning outcomes	Pre-cycle	Cycle I	Cycle II
1.	Average score	62,90	70,80	80,57
2.	Not finished	16	8	1
3.	Complete	14	22	29
4.	Percentage completed	46,67%	73,33%	96,67%

Based on Table 5, it can be seen that there is an increase in student learning outcomes using a problem-based learning model. This can be seen from the students who completed the KKM in the pre-cycle activities only 14 people (46.67%), in the first cycle it increased to 22 people

(73.33%), and in the second cycle, it continued to show an increase to 29 people (96 people). ,67%). At the end of the second cycle, there was only one student who did not complete the KKM and when compared to the increase in his discipline, the student also did not experience significant development compared to other students although slightly increased. Although the percentage of student learning completeness does not reach 100%, in classical completeness the problem-based learning model is considered to have succeeded in improving student learning outcomes because it has achieved classical completeness (85%).

Thus, it can be concluded that the use of problem-based learning models can improve discipline and learning outcomes for class VII.5 SMP Negeri 2 Dobo.

CONCLUSION

Based on the results of classroom action research conducted in class VII.5 SMP Negeri 2 Dobo that the use of problem-based learning models can improve student discipline and learning outcomes. This can be seen in the table of increasing student discipline from the initial conditions to reaching cycle II. In the pre-cycle activity, the percentage of success showed 6.67%, in the first cycle it increased to 36.67%, and in the second cycle it increased again to 80%.

Likewise, in the table of increasing student learning outcomes, it can be seen that there is an increase in student learning outcomes using problem-based learning models. Only 14 students (46.67%) completed the KKM in the pre-cycle activity, in the first cycle it increased to 22 people (73.33%), and in the second cycle, it continued to show an increase to 29 people (96.67%).

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