

IMPROVES THE ABILITY OF FINDING FORMULAS AREA OF THE TRIANGLE THROUGH THE *DISCOVERY* *MODEL LEARNING* AT SDN 1 TAPA, GORONTALO

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INTRODUCTION

Learning mathematics is a lot of fun because besides focusing on theory, we can also focus on many formulas. Even mathematics is needed in everyday life as a tool in solving problems. However, this is not in accordance with real life at school because basically mathematics is a subject that is less attractive to students because it is considered difficult. This often happens at various levels of education, such as at SD Negeri 1 Tapa Gorontalo

Based on the results of interviews with class III teachers at SD Negeri 1 Tapa, and observations during the teaching and learning process, it was found that the obstacles faced by the teacher when learning mathematics took place were that students paid less attention to the teacher when explaining material in front of the class, such as students only telling stories with friends, imagining, and playing, so students find it difficult to understand learning material. This can be seen from student learning outcomes, where the Minimum Completeness Criteria (KKM) set by the school is 75, out of a total of 15 students, only 6 students or 40% achieve the KKM score (complete) while the remaining 9 students or 40% have not yet achieve KKM score (not completed).

From the results of previous research, entitled *Application of the Discovery Learning Learning Model to Improve Student Learning Achievement*, concluded that out of 20 respondents, there were 16 respondents who said that mathematics was a fairly difficult subject (Siregar in Sri Muwarni, 2017). We often encounter this difficulty during the learning process. In addition, when learning took place, it was seen that students did not respond well to what the teacher asked for, only a few students wanted to do the practice questions given by the teacher, and there were still some who were passive and less enthusiastic about learning. Students' interest in learning is still lacking because according to students learning mathematics is boring. From the results of observations in class VII G of SMP N 3 Sukoharjo in the even semester of the 2019/2020 academic year, the average daily test score for students in learning mathematics is still low, namely they have not yet reached the KKM (score 71) (Muwarni, 2021).

The lack of students' attention to mathematics learning material causes students' ability to understand mathematics learning to decrease. For example calculating the area of a triangle, students only memorize the formula to apply it procedurally, do not understand the relationship between the formula for the area of a rectangle and a triangle, besides that students do not know how to derive the formula for the area of a rectangle to the formula for the area of a triangle, and are not used to independent learning.

Based on another relevant study, entitled *Development of Discovery Learning-Based Mathematical Learning Devices to Improve the Problem-Solving Ability of Grade VIII Middle School Students*, according to the results of observations made on two State Junior High School teachers, each teacher at SMPN 15 Padang and SMPN teacher 34 Padang in March 2015, information was obtained that the activities in the lesson plan

developed by the teacher had not been able to facilitate students in constructing their own knowledge in building a concept. In addition to the learning process, another factor that causes students' problem-solving abilities to be low is the teaching materials used (Hendri & Kenedi, 2018)

Furthermore, research entitled Improving Understanding of the Area of Triangle Formula through the Application of the *Discovery Learning Learning Model* to Class VII D MTs Negeri Madiun City for the 2021/2022 Academic Year states that there are many realities in the field, the teacher in teaching a concept directly puts forward the formula of the concept being studied. without exploring the basic concept. This not only makes students not understand the concept being studied but will make students more confused when they are presented with questions whose numbers are different from the examples presented by the teacher. As a result, every time it is repeated at the end of the subject matter, students always get an unsatisfactory score. (Hamzah & Madiun, 2022)

The above is due to the lack of use of innovative learning models that are used when learning takes place, the learning models provided are still conventional or lecture. The learning tools designed by the teacher still do not facilitate the abilities that must be achieved by students, one of which is the ability of mathematical representation. This is because teachers are still experiencing difficulties in compiling learning activities for learning devices. One of the difficulties experienced by teachers is determining a suitable model to use in each learning material that will be carried out, causing the teacher to be less focused on facilitating the abilities that students must achieve (Representasi et al., 2021) .

From the results of tests conducted on class VII D MTsN Madiun City students, there were still less than 50% of students whose grades did not meet the KKM (Minimum Completeness Criteria). One of the problems concerning the management of the learning process in mathematics is the lack of teacher creativity in creating learning models that make students active, creative, effective and fun (Hamzah & Madiun, 2022) .

Therefore the effort that must be made by the teacher is to choose and use the right learning model for learning mathematics that is in accordance with the character of the students. Observing the problems mentioned above, the researchers took the initiative by using the *discovery learning model* in improving the ability to find formulas triangle area . The reason is that in improving students' problem solving skills, one effort that can be done is to develop a mathematics learning tool based on *discovery learning* .

Discovery learning is a learning model that places the teacher as a facilitator while active students discover knowledge that they do not yet have so that this knowledge will be more attached to students (Mawaddah and Maryanti in Sri Muwarni, 2016).

discovery learning model is able to help students develop, increase readiness, and master skills in cognitive processes, can generate enthusiasm for teaching and learning for students, is able to provide opportunities for students to develop and progress according to their own abilities, and helps students to strengthen and increase self-confidence themselves with their own discovery process, Djamarah (2002: 82).

The next reason is that from the three previous studies above, they have discussed 1) Development of *Discovery Learning- Based Mathematical Learning Tools* to Improve Problem Solving Ability 2) Increasing Understanding of the Area of Triangle Formula through the Application of *Discovery Learning Learning Models*, and 3) Application of the *Discovery Learning Learning Model* to Improve Student Learning Achievement. In the first study, the focus of his research was the development of mathematics learning tools, in the second, the focus of his research was increasing

understanding of the formula for the area of a triangle, and in the third, the focus of his research was the application of *discovery learning* models .

Referring to the three previous studies above, the authors conducted a study entitled Improving Ability to Find Formulas Area of Triangles Through the *Discovery Model Learning* at Public Elementary School 1 Tapa Gorontalo. In this study, the focus and research objectives were to increase the ability to find the area formula of a triangle through the *discovery learning model* for third grade students at SDN 1 TAPA.

There are three types of students' learning difficulties in working on triangle material questions, namely (a) difficulties in understanding the concept and definition of the base and height of a triangle, and students still having difficulty understanding the concept of two intersecting lines and mentioning the relationship between angles on two parallel lines, (b) difficulties in identifying and mentioning properties which include difficulties in identifying and associating between the properties of equilateral triangles and the properties of isosceles triangles, by mentioning that equilateral triangles are not isosceles triangles, (c) difficulties in finding formulas which include difficulties in proving the number of angles in a triangle is 180° and find or prove the formula for the area of a triangle if the base and height are known (Yuwono, 2016)

In connection with the above learning model *discovery learning* provide opportunities for students to develop and progress according to their own abilities, as well as help students to strengthen and increase their self-confidence through the process of self-discovery. In addition to placing the teacher as a facilitator while students who are active find their own knowledge that they do not yet have so that this knowledge will be more attached to students for a long time.

Another consideration the author takes for this title is the result of research conducted by Nia Ainun Akhiriyah, Veni Widiyastuti, and Deri Fadly Pratama with the title Application of the Discovery Learning Model *in* Mathematics Learning Related to Flat Shapes and Building Spaces in Class V SD shows that the participants' learning outcomes students in learning mathematics about solving problems related to flat shapes and simple geometric shapes using the *discovery learning model* have increased significantly. This statement is based on student learning outcomes with an average score of individual test results in cycle 1, namely 65.95 and in cycle 2, with an average of 78.51, (Widiyastuti & Pratama, 2019) .

METHOD

Research design

This research is a type of classroom action research (CAR) which is carried out in the form of cycles and each cycle consists of 4 stages, namely: the Planning Stage, the Action Implementation Stage, the Monitoring and Evaluation Stage, the Analysis and Reflection Stage.

Planning Stage

The things that are done at this planning stage are:

Compile RPP

Create learning scenarios

Make an observation sheet.

Prepare student worksheets.

Develop research instruments.

Action Implementation Stage

The implementation stage of this class action goes through two cycles, the things that are done in order to achieve the expected results. If the first cycle does not get the expected results, then the action of reviewing the procedure and formulating an improvement plan will be carried out in the next cycle. The implementation of this

action was carried out directly by the researcher, based on predetermined and previously prepared stimuli in the learning scenario.

Monitoring and Evaluation Stage

Monitoring and evaluation of learning activities is carried out through observation and using instruments, namely observation sheets of student activities. Observations are carried out of course by looking at the class teacher to observe and researchers from the beginning of learning to the end of learning activities. After that the evaluation activities are carried out by giving tests in each cycle at the end of learning. The data used will be used to determine the decisions taken by researchers.

Analysis and Reflection Stage

The reflection analysis stage is carried out after completing the implementation of learning activities and observations to find out the extent to which the students' abilities have just been carried out. This is important because it becomes a benchmark for whether the expected indicators have been achieved or not. If the expected indicators have not been achieved, the researcher will design the next planning strategy (cycle II) to make it more effective.

Research variable

Variables that are the target of classroom action research use input variables, process variables and output variables, while the description of each variable indicator in this study is as follows:

Input Variables

The input variable in this study is the result of initial observations about the low ability to find formulas on the area of triangles before using the *discovery learning model*, besides that it concerns the characteristics of elementary school students whose level of thinking is concrete, the teacher implements class action material taught about the formula area of triangles, the learning resources used used, learning media and evaluation sheets.

Process Variables

The process variable in this study relates to the process of carrying out class actions that have been planned in learning to find the formula for the area of a triangle using the discovery learning model in class III students at SDN 1 Tapa with the following steps :

The simulation/stimulus stage

At this stage students observe rectangular and triangular images in the LKS, provide stimulation to students in the form of questions related to the LKS.

The stage of identifying the problem

At this stage it provides a number of follow-up questions from the questions that have been asked.

Data collection stage

At this stage guiding students in the activities to be carried out.

Data processing stage

At this stage serves as the formation of concepts and generalizations.

Proof stage

At this stage guiding students to analyze the results data that has been done.

Conclusion stage

At this stage guiding students to draw conclusions based on data from the worksheets provided.

Output Variable

The output variable in this study is the increased ability to find the formula for the area of a triangle through the *discovery learning model* which can be measured with the following indicators:

Students are able to determine the types of triangles based on the size of the angles correctly.

Students are able to determine the types of triangles based on the sides correctly.

Students are able to explain the formula for the area of a triangle.

Students are able to find patterns and the relationship between the formula for the area of a rectangle and the formula for the area of a triangle.

Data collection technique

To find data that supports this research, the researchers used several data collection techniques in each learning cycle that were used, including the following:

Observation

Observation is a technique through observation using all the senses. In this study, observations were made by observers together with teaching and learning activities. Observations or observations were made to obtain data about students' ability to find the formula for the area of a triangle by using the *discovery learning model*.

Interview

Interviews are questions that are asked verbally to people who are considered to be able to provide information about things that are deemed necessary and have relevance to classroom action research problems. Interviews in this study were conducted by asking questions and answers to class III teachers to find out the problems in class.

Test

In this study, tests were used to determine students' ability to find the formula for the area of a triangle using the *discovery learning model*. Tests are carried out at the end of each lesson.

Documentation

This documentation was carried out by the researcher during the learning process, so that the implementation of the action actually ended with concrete evidence, the researcher held a photo of the research implementation (documentation) during the activity as a physical evidence of the research implementation.

Data analysis technique

Analysis of observational data using the formula:

$$P = \frac{f}{N} \times 100\%$$

Where:

P = Percentage

F = Total score obtained

N = Maximum Score

Analysis of Student Learning Outcomes using the formula:

$$NA = \frac{\text{Jumlah Skor Yang Diperoleh}}{\text{Jumlah Skor Maximal}} \times 100$$

Where:

NA = Final Value

Classical Completeness Analysis uses the formula:

$$P = \frac{\text{Jumlah Siswa Yang Tuntas Belajar}}{\text{Jumlah Siswa Keseluruhan}} \times 100\%$$

Where:

P = Percentage

Instrument Test Problem

Validity test

Validity is the most important requirement in an evaluation tool. An instrument is declared valid if the test is precise and measures what is to be measured. In this study what will be measured is students' understanding of the triangle material to see

student learning outcomes through the *discovery learning model*. So the instrument used is a multiple choice test which contains material about the water cycle which will measure students' understanding of the triangle material.

To test the validity of the instrument, the researcher consulted the questions to be given with the supervisor and also validated them at other schools which were not research schools so that researchers could see whether the questions made were valid or could be used during research. The formula used to determine the magnitude of validity is *Point Biserel correlation* as follows:

Information:

$$r_{bis(i)} = \frac{\overline{Xi} - \overline{Xt}}{St} \sqrt{\frac{pi}{qi}}$$

$r_{bis(i)}$ = correlation coefficient between the score of item I and the total score

\overline{Xi} = average score of respondents who answered point i correctly

\overline{Xt} = average total score of all respondents

St = standard deviation of the total score of all respondents

pi = the proportion of students who answered correctly for item I

qi = the proportion of students who answered incorrectly for item i

Decision: If $r_{arithmetic} > r_{table}$ it is declared valid, and vice versa If $r_{arithmetic} < r_{table}$ it is declared invalid. For valid instruments, then the correlation index criteria (r) can be seen:

Reliability Test

According to Arikunto, (2014: 221) suggests that the reliability test is related to the stability, stability and homogeneity of a measuring instrument. The formula used to test the reliability of the test in this study is using the *20th Kuder and Richardson formula*, as follows:

$$r_i = \frac{k}{(k-1)} \left\{ \frac{s_t^2 - \sum piqi}{s_t^2} \right\}$$

Information:

r_i = internal reliability of the instrument

k = number of item items in the instrument

pi = the proportion of the number of subjects who answered each question item

$qi = 1 - pi$

s_t^2 = total variance

Instrument Test

Before carrying out the research, the researcher first tested the validity and reliability of the question instrument at SDN 1 Bulango Selatan. This validity and reliability test aims to test whether the instrument questions used are valid or invalid. The results are described in detail as follows:

Problem Validity Test Results

This validity test was carried out on March 28 2022 for class III students with a total of 21 students. Based on the results of the validity test at SDN 1 Bulango Selatan, from these data it can be seen that out of 25 questions there are 20 valid questions or the r count is greater than r table and there are 5 invalid items or the value of r count is less than r table. From the results of this validity, the valid questions totaling 20 numbers will be used by researchers in conducting further research.

Test Reliability Test Results

After validating the questions and knowing that there were 5 invalid items and 20 valid questions, the researcher then conducted a reliability test on valid or valid questions. This was done to determine the reliability of the questions to be used in research at SDN 1 Tapa. The results of the reliability test using the KR 20 formula were 0.858746. Thus it can be said to be very high.

RESEARCH RESULT

Results of Observation of Teacher Activities in Learning Cycle I

In implementing the teacher learning process in class, there are 22 aspects of observing teacher activity in carrying out the learning process in class at cycle I meetings. Based on these observations, data obtained from observations of teacher activity in class in the learning process cycle I are as follows.

Table 1 Observation Results of Cycle I Teacher Activities

Criteria	Number of Aspects	Percentage
Very good	7	31.82%
Good	10	45.45%
Pretty good	5	22.73%
Not good	0	0%
Amount	22	100%

Judging from the table above, it is obtained data on teacher activity in the learning process in cycle I the teacher has not met the expected targets, of the 23 aspects that have been observed during the learning process that reach the very good category as many as 7 aspects or 31.82% of which are space readiness, tools , and learning media, checking student readiness, greeting and then taking student attendance, praying before studying, conveying learning objectives, dividing into groups, using good and correct written language. There are 10 aspects or 45.45% of the good criteria, namely the suitability of appreciation activities with the material, conveying the competencies to be achieved, giving directions about group work, approaches using *discovery learning models* , asking representatives of advanced groups to present discussion results, monitoring learning progress, conducting final assessment, carry out follow-up. There are 5 aspects or 22.73% of the criteria that are good enough, namely the approach using the *discovery learning model* , using spoken language clearly and fluently, reflecting on learning.

Results of Observation of Student Activities in Learning Cycle I

In implementing the teacher learning process in class, there are 15 aspects of observing student activity in carrying out the learning process in class at cycle I meetings. Based on these observations, data obtained from observations of student activities in class in the learning process cycle I are as follows:

Table 2 Observation Results of Cycle I Student Activities

Criteria	Number of Aspects	Percentage
Very good	4	26.7%
Good	4	26.7%
Pretty good	5	33.3%

Not good	2	13.3%
Amount	15	100%

Based on the table above, it can be seen the results of observations of student activity from 15 aspects that have been observed during the learning process which reached very good criteria 4 aspects or 26.7% of which were answering greetings, praying before learning, praying before ending learning, answering greetings. The criteria for both 4 aspects or 26.7% include listening to the teacher's explanation, students presenting the results of discussions in front of the class, working on worksheets, paying attention to the teacher in providing reinforcement about the material. The criteria are good enough 5 aspects or 33.3% of them are answering apperceptions, listening to the teacher's explanation about triangle material, helping each other in group discussions, working well together in groups, concluding triangle material. Criteria for 2 aspects or 13.3% of the unfavorable aspects include paying attention to the teacher explaining learning activities, and asking questions during the learning process.

Evaluation of the Results of the Ability to Find the Area of a Triangle Cycle I

In the implementation of learning there is one research result, namely in the learning process, namely in the form of learning evaluations for class III students at SDN 1 Tapa. In cycle I Obtaining data results ability to find the formula for the area of a triangle which is still less than what was expected. The following is the data on the results of students' learning abilities in cycle I:

Table 3 Results of Student Learning Ability Cycle I

No	Student's name	KKM	Obtained value	Information	
				Capable	Unable
1	Adisty	75	87	Capable	
2	Aprianto	75	25		Unable
3	Azizan	75	75	Capable	
4	Fazrien	75	56		Unable
5	Khairul	75	25		Unable
6	Alfadli	75	56		Unable
7	Dawn	75	81	Capable	
8	Saputra	75	25		Unable
9	Rendi	75	81	Capable	
10	Nauval	75	25		Unable
11	Nayara	75	50		Unable
12	Graceful	75	25		Unable
13	Salwa	75	56		Unable
14	Yusni	75	81	Capable	
15	Nadia	75	100	Capable	
J		sum		6	9
Pre		sentage		40%	60%

Classically, based on the table above, the percentage of students' abilities is as follows:

Percentage of students who are able $\frac{6}{15} \times 100 = 40\%$

Percentage of students who are less able $\frac{9}{15} \times 100 = 60\%$

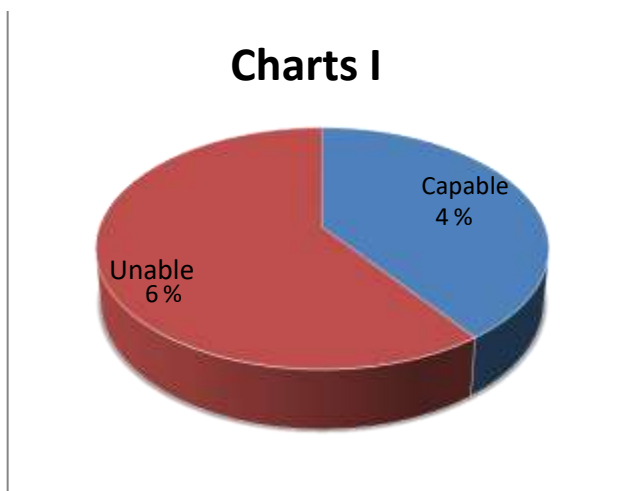
Information:

Able : 6 students (40%)
 Not able : 9 students (60%)

The first cycle test data table above shows the level of students' ability to find the formula for the area of a triangle. It is known that of the 15 students who scored above 75, there were 6 students with a percentage of 40% and 9 students who obtained scores below 75 with a percentage of 60%.

Based on the results of these tests, it is necessary to make improvements that researchers do to improve students' ability to find the formula for the area of a triangle by continuing in cycle II. This improvement aims to overcome students' learning difficulties in understanding and solving questions on cycle I tests. For more details, the results of the ability to find the formula for the area of a triangle are shown in the following diagram:

Figure 2 Graph of Cycle I



Results of Observation of Teacher Activities in Learning Cycle II

The results of observing the implementation of teacher activities in teaching in cycle II carried out by the teacher have shown an increase compared to cycle I. After making improvements and perfecting lesson plans based on the results of analysis and reflection in cycle I, the results of observations of the implementation of teaching and learning activities have shown good results. better. The results of observing teacher activity in cycle II are as follows:

Table 4 Observation Results of Cycle II Teacher Activities

Criteria	Number of Aspects	Percentage
Very good	12	54.55%
Good	10	45.45%
Pretty good	-	-
Not good	-	-
Amount	22	100%

Based on the table above, it is obtained that the teacher's activity data in the learning process in cycle II has met the expected target. This can be seen from the 22 aspects

that have been observed in carrying out the learning process, there are 12 aspects that achieve very good criteria or 54.55% of which are the readiness of space, tools and learning media, student readiness, greeting and attendance of students, praying before learning, the appropriateness of the appreciation activities with the material, conveying the competencies to be achieved, conveying the learning objectives, dividing into groups, using the *discovery learning model approach*, using good and correct written language, conducting a final assessment. The 10 aspects that achieved good criteria or 45.45% included giving directions on group work, approaching using *discovery learning models*, using spoken language clearly and fluently, monitoring learning progress, reflecting on learning, carrying out follow-up.

Results of Observation of Student Activities in Learning Cycle II

In implementing the teacher learning process in class, there are 15 aspects of observing student activity in carrying out the learning process in class at cycle I meetings. Based on these observations, data obtained from observations of student activities in class in the learning process cycle I are as follows:

Table 5 Observation Results of Cycle II Student Activities

Criteria	Number of Aspects	Percentage
Very good	9	60%
Good	6	40%
Pretty good	-	-
Not good	-	-
Amount	15	100%

Based on the table above, it can be seen the results of observations of student activity from 15 aspects that have been observed during the learning process which reached very good criteria 9 aspects or 60% of which were answering greetings, praying before studying, listening to teacher explanations, helping each other in group discussions, working together well in groups, present the results of discussions in front of the class, pay attention to the teacher in providing reinforcement, pray before ending learning, answer greetings. The criteria for either 6 aspects or 40% include answering appreciation, listening to the teacher's explanation of triangle material, paying attention to the teacher's explanation, actively asking questions in the learning process, working on worksheets, concluding triangle material.

Evaluation of the Results of the Ability to Find the Area of a Triangle Cycle I

The implementation of learning has one research result, namely in the learning process, namely in the form of learning evaluations for class III students at SDN 1 Tapa. The following is the data on the results of students' learning abilities in cycle II:

Table 6 Results of Student Learning Ability Cycle II

No	Student's name	KKM	Obtained value	Information	
				Capable	Unable
1	Adisty	75	100	Capable	
2	Aprianto	75	56		Unable
3	Azizan	75	100	Capable	

4	Fazrien	75	81	Capable	
5	Khairul	75	75	Capable	
6	Alfadli	75	81	Capable	
7	Dawn	75	100	Capable	
8	Saputra	75	62		Unable
9	Rendi	75	100	Capable	
10	Nauval	75	75	Capable	
11	Nayara	75	87	Capable	
12	Graceful	75	75	Capable	
13	Salwa	75	93	Capable	
14	Yusni	75	100	Capable	
15	Nadia	75	100	Capable	
	J	sum		13	2
	Pre	sentage		87%	13%

Classically, based on the table above, the percentage of students' abilities is as follows:

The percentage of students who are able $\frac{13}{15} \times 100 = 87\%$

The percentage of students who are less able $\frac{2}{15} \times 100 = 13\%$

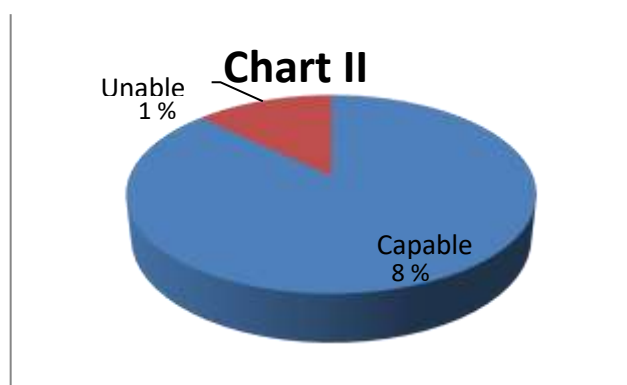
Information:

Able : 13 students (87%)

Not able : 2 students (13%)

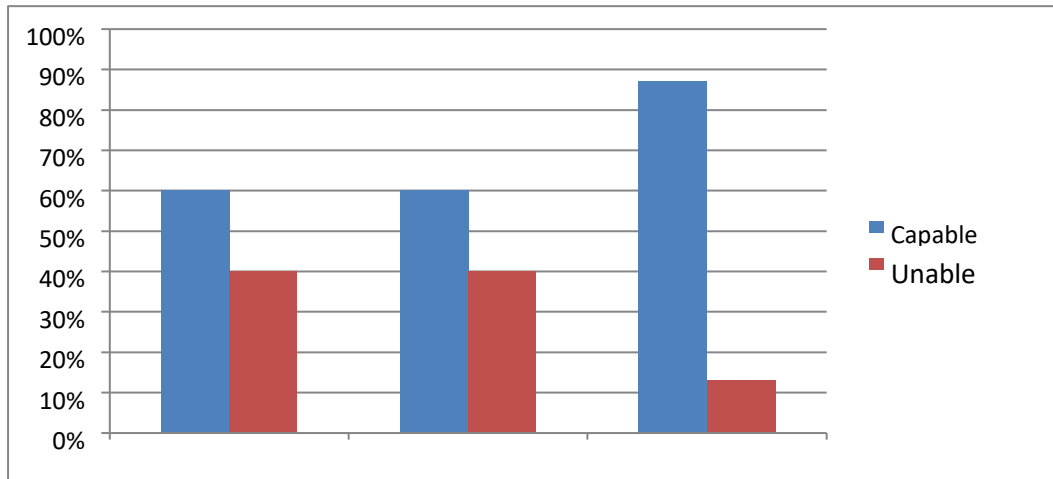
From the cycle II test data table above, it shows that the level of students' ability to find the formula for the area of a triangle in cycle II has increased. It is known that of the 15 students who scored above 75, there were 13 students with a percentage of 87% with the highest score of 100 and obtaining scores below 75 totaling 2 students with a percentage of 13% with the lowest score of 56. From the results of the acquisition of these scores, classical completeness reached a value of ≥ 75 with a set indicator of 80%. For more details, the results of the ability to find the formula for the area of a triangle are shown in the following diagram:

Figure 3 Graph of Cycle II



discovery learning model the ability to find the formula for the area of a triangle in class III students at SDN 1 Tapa has increased. So that the class action research was stopped in cycle II. For more details, the comparison of the Ability to Find the Area of a Triangle Formula Through the *Discovery Learning Model* in Class III Students of SDN 1 Tapa can be seen in the following diagram:

Figure 4 Graph of Comparison of Initial Observations, Cycle I, and Cycle II



Discussion

Implementation of classroom action research on learning mathematics in Improving the Ability to Find the Area of a Triangle Formula Through the *Discovery Learning Model* Class III SDN 1 Tapa Tapa District, Bone Bolango Regency has shown satisfactory results.

In cycle I of the 22 aspects observed in the implementation of teaching and learning activities, aspects that reached very good criteria were 7 aspects with a percentage of 31.82%, good criteria were 10 aspects with a percentage of 45.45%, while sufficient criteria were 5 aspects with a percentage of 22.73%. For student activities from 15 aspects that have been observed in following the student learning process in class, starting from very good criteria 4 aspects with a percentage of 26.7%, good criteria 4 aspects with a percentage of 26.7%, sufficient criteria 5 aspects with a percentage of 33.3% and 2 aspects of unfavorable criteria with a percentage of 13.3%. Apart from that, for the ability to find the formula for the area of a triangle, only 6 people were able with a percentage of 40% and 9 people who were not able to with a percentage of 60%.

In general, the indicators of success in this study have not been achieved in cycle I. Thus the implementation of the action needs to be continued in cycle II to correct the deficiencies experienced in cycle I.

In cycle II of the 22 aspects observed in the implementation of teaching and learning activities, aspects that achieved very good criteria were 12 aspects with a percentage of 54.55%, good criteria were 10 aspects with a percentage of 45.45%. For student activities from 15 aspects that have been observed in following the learning process of students in class, starting from very good criteria 9 aspects with a percentage of 60%, good criteria 6 aspects with a percentage of 40%. In addition to the ability to find the formula for the area of a triangle, there were 13 students who were able with a percentage of 87% and only 2 students who were unable with a percentage of 13%.

In general, indicators of success in this study have been achieved in cycle II. The number of students who have achieved performance indicators of 13 students who are already capable is around 87%. This means that in cycle II the learning activities are carried out well because students are more participating and active in participating in learning, students are also no longer afraid or embarrassed to ask or answer questions given by the teacher, all of this cannot be separated from the role of the teacher to provide opportunities to students and through the teacher's approach to students so that students learn in a relaxed atmosphere without being pressured by learning material but also seriously discussing learning so that learning takes place effectively in accordance with the criteria to be achieved in learning.

Based on data from the results of students' learning abilities starting from the initial learning conditions, cycle I to cycle II, it can be concluded that using the discovery learning model can improve the ability to find the formula for the area of a triangle in class III students at SDN 1 Tapa, Tapa District, Bone Bolango Regency. This can be seen in cycle I, that classically there were 6 students or 40% who were able to find the formula for the area of a triangle. after reflection and improvement of learning in cycle II, students' ability to find the formula for the area of a triangle is 13 people or 87%. Thus the class action hypothesis through this research is "if the *discovery learning model is applied*, the ability of class III students at SDN 1 Tapa in finding the formula for the area of a triangle will increase".

Conclusion

Based on the results of the Classroom Action Research (PTK) that had been carried out, it was concluded that the research took place in two cycles, namely cycles I and II. Through the *discovery learning* learning model the ability to find the formula for the area of a triangle in class III students at SDN 1 Tapa can increase.

This can be seen from the observations of cycle I and cycle II, in cycle I with a total of 15 students who were able to as many as 6 students or 40% and in cycle II who were able to as many as 13 people or 87%. This research was declared successful because it had achieved the specified success indicators, namely with a value of ≥ 75 or 80%.

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