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Application of Discovery Learning Model Towards Improving Geography Learning Outcomes of Grade IPS-X at State Senior High School 1 Parigi, Parigi District Gowa Regency

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Abstract

Classroom action research that aims to determine for improve learning outcome on study Geography in SMA Negeri 1 Parigi. Sum of subject on research were 20 students. The reason choice location research, 1) teacher's Geography worried about learning outcome. 2) Location research near by location disaster (Bawakaraeng collapse). This research does during 2 cycles, with each cycle consisting of planning, action, observation/evaluation and reflection. Each cycle consisting of each meeting. The data was collected used by sheet of test and sheet for observation activity/ student activities. (1) Student can answer question from teacher/ other student increase up to 5%. (2) Student ask when study increase up to 10%. (3) Students active on discussion increase up to 20% (4) The student do activity out learning (play game, disturb his friend etc) less until 20%. Before do this research discovery learning their value average pretest was 52,5. But, after application discovery learning theirs value average increase become 70,5 on cycle I and Value 82 on cycle II. Happen increase value average student up to 18,00 from pretest to cycle I and 11,5 from cycle I to cycle II. Conclusion from this research is application discovery learning can increase learning outcome.

Keyword: *Application Discovery Learning, Increase Learning Outcome Geography*

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INTRODUCTION

Education is one of the doors to and achieve prosperity, because through education the potential that a person has can be explored, developed to be able to think and create, do or create something for himself or for others (O. Wulandari et al., 2020). However, this can be obtained if a person realizes that everything must go through a learning process, whether self-taught learning or learning in formal schools through guidance by a teacher, so that the learning process is well planned and directed (Purnomo, 2011).

For this reason, the presence of a teacher is needed. Teachers are the key as well as the spearhead of achieving the mission of educational reform (Putrayasa et al., 2014). The position of the teacher is at the central point to organize, direct and create an atmosphere of learning activities to achieve educational goals (Rismayani, 2013). So that indirectly teachers are required to be more professional, innovative, perspective and proactive in carrying out their teaching duties (Hasriyanti et al., 2022).

Learning objectives are one of the aspects that need to be considered in planning learning, because in the end all learning activities lead to the achievement of these goals (Sinambela, 2017). Therefore, it is necessary to have the skills to choose and use learning media to be applied in an effective learning system so that it will lead to varied learning situations and students avoid boring learning situations (B. Wulandari & Surjono, 2013).

Based on the results of observations conducted by researchers at SMA Negeri 1 Parigi, Geography teachers are concerned about the low learning outcomes of Geography students because teachers who deliver material still use conventional methods such as the lecture method and teacher-centered learning

activities (Sari & Sukartiningsih, 2014). This causes students to be less enthusiastic, indifferent in following the learning process and of course this has an impact on student learning outcomes which causes the KKM (Minimum Criteria Completeness) score to not reach the set standard of 75 (Wijaya, 2015). Through this method, it is expected that the geography learning outcomes of SMA Negeri 1 Parigi students can improve.

The reason for choosing the research location at SMA Negeri 1 Parigi is that around the foot of Mount Bawakaraeng on March 26, 2004 there was a landslide disaster that was quite large and left deep wounds for the local population. Therefore, through disaster mitigation and adaptation materials, it is expected to increase students' understanding of the importance of disaster mitigation as well as improve geography learning outcomes in class X IIS I students.

Based on the descriptions above, the author wants to put this interest into a research entitled "Application of Discovery Learning Model to Improve Geography Learning Outcomes of Class X IPS at SMA Negeri 1 Parigi, Parigi District Gowa Regency".

RESEARCH METHODS

The research location is in Majannang Village, precisely at SMA Negeri 1 Parigi, Parigi District, Gowa Regency. This research was conducted in the second semester of April 2024. The reason for choosing the location at SMA Negeri 1 Parigi is because the research location is the closest school location to the landslide disaster (Bawakaraeng landslide).

The research subjects are high school students of Class X IPS 1. Operationally this research includes 3 stages, namely: a) Preparatory stage, including: submission of thesis title, request for supervisor, making proposal, request for permission, survey of the school concerned and making instruments. b) Implementation stage, including: all research activities that take place in the field, c) Completion stage, including: data analysis and preparation of research reports.

The data collection techniques used are as follows:

1. The observation technique is carried out by direct observation in the field which is the research location. This was done to obtain an overview of the research location and demographic conditions and several other things related to the research.
2. Data on student learning outcomes seen from the test results, namely pretest and post test.
3. Documentation technique

RESULTS

1. Description of the Research Location

The research location, SMAN 1 Parigi, is located in Majannang village. The astronomical location is in the position of 5°15'00"LS to 5°20'00"LS and 119°45'00"East to 120°0'00"East.

The administrative boundaries of Majannang village are bordered to the north by Ujungbori village, to the south by Bilanrengi village, to the east by Jonjo village, and to the west by Manimbahoi village.

2. Learning Outcomes

a. Initial Test Results

Table 1 presents the initial test results of students in class X IPS 1 at SMA Negeri 1 Parigi, Gowa Regency, South Sulawesi Province.

Table 1. Frequency Distribution Data of Initial Test Values

Score Range	Category	Number of Students	Frequency
0-34	Very low	4	20 %
35-54	Low	8	40 %
55-64	Medium	3	15 %
65-84	High	5	25 %
85-100	Very high	-	0%
Total		20	100 %

Source: Field data, 2024

Table 1 shows that students who reached the very low category were 4 students (20%), low category were 8 students (40%), medium category were 3 students (15%), high category were 5 students (25%), with an average score of 52.5. The initial test shows the initial ability of students who have initial knowledge about disaster prevention measures both before a disaster occurs and after a disaster occurs or better known as disaster mitigation material.

a. Observation Results of Cycle I

The activities of students who take part in the lesson on Disaster Mitigation material.

Table 2. Observation Results of Student Activities in Cycle 1

Aspects observed	Frequency	Percentage
1. Ask questions related to disaster mitigation	1	5%
2. Answer questions related to disaster mitigation	3	15%
3. Pay attention to the explanation when the material is presented	16	80%
4. Conduct group discussions with material on disaster mitigation.	10	50%
5. Doing other things (disturbing friends, playing around etc.)	4	20%

Source: Field data, 2024

In table 2 above, the results of observations in cycle I can be seen that students who asked questions related to the material were 1 person (5%). Students who answered during the learning process were 3 people (15%). Students who paid attention to the explanation when the material was delivered were 16 people (80%), students who conducted discussions were 10 people (50%). And students who did other things (playing around, making noise, etc.) were 4 people (20%).

a. Cycle I Test Results

The distribution of student knowledge scores in Geography subjects, especially on Disaster Mitigation material can be seen in table 3 as follows:

Table 3. Frequency, Percentage and Category Distribution of Cycle I Test Scores

Score Range	Category	Number of students	Frequency
0-34	Very low	-	0
35-54	Low	3	15 %
55-64	Medium	3	15%
65-84	High	12	60 %
85-100	Very high	2	10%
	Total	20	100 %

Source: Field data, 2024

Based on table 3 of the learning outcomes in cycle II, it was found that 20 students were present at the test, there were 3 students who were still in the low category (15%), 3 students who obtained the medium category (15%), there were 12 students who obtained the high category (60%), and 2 students who reached the very high category (10%), and the average score was 70.5 (Statistical analysis of cycle I tests is in the attachment).

Meanwhile, learning completeness can be seen based on student absorption. Students' absorption of the material taught is grouped into complete and incomplete categories, then the distribution, frequency and percentage of learning completeness in cycle I are obtained and can be seen in table 4 below.

Table 4. Frequency, Percentage, and Category Distribution of Learning Completeness Cycle I

Learning Test	Interval Score	Category	Frequency	Percentage (%)
Cycle I	0 – 74	Incomplete	12	55
	75 – 100	Complete	8	45

Source: Field data, 2024

Based on the table above, it can be seen that the results of learning completeness in cycle I were 45% or 8 out of 20 students were in the complete category and 55% or 12 students were in the unfinished category.

a. Cycle I Reflection

Reflection in this study is an effort to examine what has happened and what has been produced in the action process in relation to solving the problems targeted in the first cycle. At this stage the observation results were collected and analyzed by the researcher, then a reflection was carried out to see the shortcomings or weaknesses that occurred. Based on the observation results in cycle I, the researcher found several weaknesses in the application of the Discovery Learning method. The weaknesses in cycle I included.

- 1) Students are still shy to express their opinions in front of the teacher, researchers and friends because they are afraid that the responses or answers given are wrong.
- 2) Low-achieving students tend to be passive in teaching and learning activities. This is inseparable from students' habits in the learning process experienced before.
- 3) The time given for discussion, there are still students who use it to do activities that have nothing to do with learning activities.

Based on the results of this reflection to overcome the weaknesses or shortcomings that occurred and to further solidify the results obtained in cycle I, it is necessary to have the next cycle, namely cycle II. The actions taken are as follows:

- 1) Teachers and researchers created an interesting and fun learning situation during the learning process.
- 2) Motivating students to be more courageous in expressing their ideas even if the responses given are slightly wrong. In addition, giving reinforcement to students who ask or answer so that other students will also be motivated.
- 3) Teachers and researchers provide more encouragement about the benefits of the subject matter studied, especially to students who are passive and lack enthusiasm in the learning process.
- 4) Sanctioning students who still do deviant things in the classroom, such as re-explaining the material obtained from the researcher, or answering questions from the teacher/researcher or forum.

d. Observation Results of Cycle II

The changes in student activities that take part in Geography lessons on Disaster Mitigation material in cycle II after improving the results of reflection in cycle I can be seen in table 5 which is presented as follows.

Table 5 Observation Results of Changes in Student Activities in Cycle II

Aspects observed	Frequency	Percentage
1. Ask questions related to disaster mitigation	3	15%
2. Answer questions related to disaster mitigation	4	20%
3. Pay attention to the explanation when the material is presented	20	100%
4. Conduct group discussions with material on disaster mitigation.	16	80%
5. Doing other things (disturbing friends, playing around etc.)	0	100%

Source: Field data, 2024

In table 5 above, the results of observations in cycle II can be seen that students who asked questions to the researcher were 3 people. Students who answered questions during the learning process were 5 people. Students who pay attention to the explanation when the material is delivered are 20 people. Students who are active in group discussions are 16 people. There are no more students who do other activities in the learning process (playing around, making noise, etc.).

e. Cycle II Test Results

Based on the data from the second cycle test results of students in class X IIS 1 SMA Negeri 1 Parigi, Gowa Regency after making improvements to the shortcomings and errors of the actions resulting from the reflection of cycle I can be seen in table 6 below.

Table 6. Frequency Distribution Data of Cycle II Test Scores

Score Range	Category	Number of students	Frequency
0-34	Very low	-	0
35-54	Low	-	0
55-64	Medium	2	10 %
65-84	High	9	45 %
85-100	Very high	9	45%
Total		20	100 %

Source: Field data, 2024

Based on table 6, it is known that out of 20 students, there were no students who obtained the very low category (0%), no students who obtained the low category (0%), 2 students who reached the medium category (10%), there were 9 students who reached the high category (45%) and there were 9 students who reached the high category (45%) with an average score of 82. (Statistical analysis of cycle II tests is contained in the attachment).

This increase shows a change in student learning outcomes after the improvement of actions in cycle II from the results of the first cycle reflection. Meanwhile, competency learning completeness can be seen based on student absorption. Students' absorption of the material taught is grouped into complete and incomplete categories, then the distribution, frequency and percentage of learning completeness in cycle II are obtained and can be seen in table 7 below.

Table 7 Frequency, Percentage, and Category Distribution of Cycle II Learning Completeness

Learn ing Test	Interval Score	Category	Frequency	Percentage
Cycle II	0 – 74	Incomplete	4	20%
	75 – 100	Complete	16	80%

Source: Field data, 2024

Based on the table above, it can be seen that the results of learning completeness in cycle II were 20% or students from students in the incomplete category and 80% or students in the complete category.

f. Cycle II Reflection

The implementation of learning in cycle II remains the same as cycle I, which aims to improve student learning achievement in Geography subjects, especially disaster mitigation and adaptation materials. In this cycle II, students have begun to understand the learning methods applied by researchers. Even the majority of them are getting used to the Discovery Learning method that researchers apply in class X IPS 1 at SMA Negeri 1 Parigi. During group discussions, students have begun to be able to exchange opinions with fellow friends, thus they have been able to express their ideas or ideas without having to be shy even though they are still not fluent in their delivery.

Returning to the goal, the researcher applied the Discovery Learning method to improve student learning achievement on the material, the researcher concluded that in cycle II, the application of learning by applying the Discovery Learning method could improve student learning outcomes (Nafiah & Dan Suyanto, 2014).

DISCUSSION

1. Changes in Student Learning Outcomes

Based on the framework formed at the beginning of the research, it shows that the decline in student learning achievement during the learning process is due to many factors, including the teacher applying a lecture or conventional model, the lack of teacher creativity in presenting learning materials (Hasriyanti & Andi Nur Caesaria Ramadhani, 2019). This greatly affects student learning achievement.

To overcome this problem, teachers and researchers apply one of the learning models that can make students more active in the learning process, namely the application of the Discovery Learning model on Disaster Mitigation material (Ana, 2018). In this learning method, the teacher presents examples of natural disaster problems presented in video shows. Then, form a discussion group to discuss what problems are in the video show then students find their own solutions or solutions to the problems given by the researcher (Hasriyanti & Kobi, 2022).

The implementation of Discovery Learning in class X IPS 1 at SMA Negeri 1 Parigi has been carried out in accordance with the lesson plans that have been made in cycle I and cycle II. The implementation plan contains learning units or basic competencies that students must achieve, learning steps that must be carried out by teachers and researchers, and basic concepts that students must learn (Muhamad, 2017).

Changes in learning achievement of students in class X IPS 1 SMA Negeri 1 Parigi in each cycle both in the initial test (Pretest) and the final test of cycle I and the final test of cycle II can be seen in the graph of the research results below.

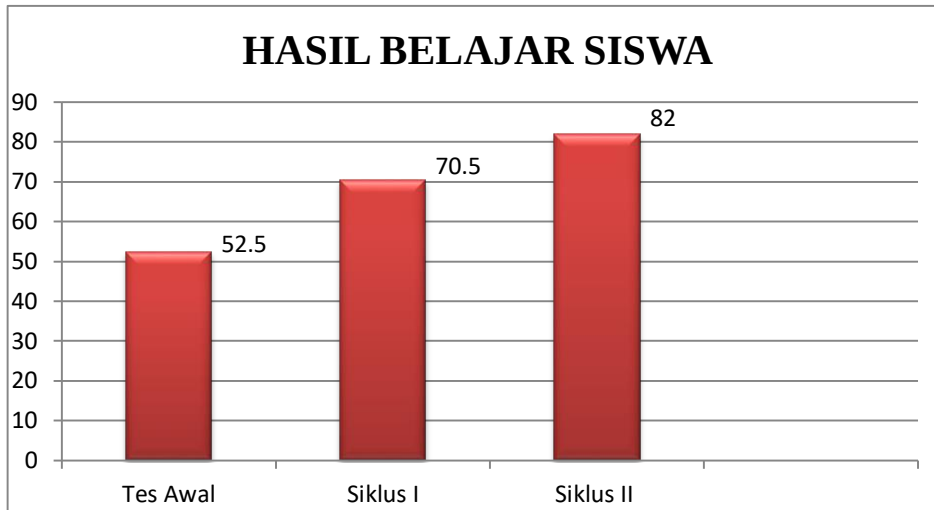


Figure 1 Graph of Student Learning Outcomes of Class X IPS 1 SMA Negeri 1 Parigi

The graph in Figure 1 provides information that the average score has increased. Before using Discovery Learning (initial test) the average score was 52.5 but after applying the Discovery Learning method, the average score of students became 70.5 in cycle I and 82 in cycle II. There was an increase in students' average score by 11.5 from cycle I to cycle II.

In addition, the classical completeness of students who achieved an average score of at least 75 also increased. Before the implementation of discovery learning out of 20 students only 2 students (10%) scored 75 and above. But after the application of discovery learning, in cycle I there were 8 students (40%), and in cycle II there were 16 students (80%) who scored 75 and above.

Table 8 Pretest Results, Cycle I Tests and Cycle II Tests

Score	Category	Initial Test	Cycle I	Cycle II
		Number of students(%)	Number of students (%)	Number of students (%)
0 – 34	Very low	4 (20)	-	-
35 – 54	Low	8 (40)	3 (15)	-
55 – 64	Medium	3 (15)	3 (15)	2 (15)
65 – 84	High	5 (25)	12 (60)	9 (45)
85 – 100	Very high	-	2 (10)	9 (45)
Total		20 (100)	20 (100)	20 (100)

Source: Field data, 2024

Based on the results of the above research, the researcher concluded that the application of the Discovery Learning learning model can improve Geography learning outcomes at Senior high school 1 Parigi.

2. Changes in Student Learning Activities from Cycle I to Cycle II

Table 9 Observation Results of Student Activity in Cycle I and Cycle II

No	Components observed	Cycle	
		I	II (%)
1	Ask questions related to disaster mitigation	5	15

2	Answer questions related to disaster mitigation	15	20
3	Pay attention to the explanation when the material is presented	80	100
4	Carry out group discussions with disaster mitigation material	50	80
5	Students who do other activities in the learning process (playing around, making noise, etc.)	20	0

Source: Field data, 2024

Based on Table 9, it can provide information that in cycles I and II the results of the level of student activeness are detailed as follows:

1. The percentage of students who answered questions increased by 10%. This shows the seriousness of students in understanding the material provided.
2. The percentage of students who asked questions during the learning process increased by 5%. This shows that students are curious about the material provided, and try to find answers according to the problems.
3. The percentage of students who paid attention when the material was presented increased by 20%. This shows the seriousness of students in the learning process.
4. The percentage of activeness in carrying out group discussions increased by 30%. This shows the seriousness in responding to problems and finding solutions to problems given by the teacher.
5. In cycle I, the percentage of students who did other things (playing, thousand, disturbing friends) was 20%. In the implementation of cycle II, there were no more students who did other things.

At the end of the study there were still 4 students who had not reached the minimum completion criteria. This certainly requires cooperation from various parties at SMA Negeri 1 Parigi, Gowa Regency. Special attention must be given to these children so that they are also able to achieve the minimum completeness criteria. For students who have not completed, the subject teacher should provide remedial so that these students can also pass (Effendi, 2012).

Student activeness in Table 9 is due to feeling happy and motivated in the learning process. This has a positive impact on student learning achievement results. After analyzing and processing the data from the observation and reflection of cycle II, it was concluded that the performance indicators of the achievement of the research objectives had been met, namely student learning achievement had met the applied learning success limit of 75. Therefore, it can be concluded that the class action has been successful so there is no need to improve the next cycle.

CONCLUSIONS

Based on the results of the study, it can be concluded that the application of Discovery Learning can improve student learning outcomes by 29.5. Significant changes were seen starting from the initial test (pretest), cycle I test, and cycle II test. Where before using the Discovery Learning method the average value of the initial test (pretest) was 52.5 but after the application of the discovery learning model the average value of the class of students increased to 70.5 in cycle I and 82 in cycle II. There was an increase

in the average score of students by 11.5% from cycle I to cycle II. Compared to before the implementation of Discovery Learning (initial test) as many as 18 (90%) students scored below 75.

In addition to the observation results, the application of Discovery Learning has a positive impact on student attitudes which have increased, where the average percentage of students' courage to ask questions in cycle I amounted to 5% and in cycle II increased to 15%. The average percentage of students' courage to answer questions from the teacher/researcher in cycle I amounted to 15% which increased to 20% in cycle II. And the percentage of students who carried out other activities in the learning process in cycle I was 20% and in cycle II 0.00%, as well as the increasing seriousness of students in participating in the learning process.

SUGGESTION

To improve student learning outcomes in Geography subjects, the following suggestions are made:

1. Teachers to have a deeper understanding of the knowledge that students have and what students should do for further learning.
2. It is expected that teachers are not monotonous with conventional learning models. However, implementing a learning model where students are more active and able to find their own concepts/principles that were previously unknown.
3. It is hoped that future researchers will follow up with students who have not passed cycle I or cycle II.

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