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Application of the discovery learning model to improve students' critical thinking skills in Pancasila education for grade VII.B at Al-Irsyad Islamic Junior High School in Sidenreng Rappang Regency

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ABSTRACT

This study aims to describe the implementation of the Discovery Learning model on the critical thinking skills of students in class VII.B at Al-Irsyad Islamic Junior High School in Sidenreng Rappang Regency in the subject of Pancasila Education. Classroom Action Research (CAR) was used, consisting of two cycles. Each cycle consisted of four stages: planning, implementation, observation, and reflection. Before the first and second cycles were conducted, a pre-cycle was carried out to obtain initial information and identify problems in the classroom. The results of the research showed that in the pre-cycle, 50% of the predetermined indicators were found. However, after the first cycle and using the Discovery Learning model in Pancasila Education, there was an increase of 15% to 65%. In the second cycle, there was an increase from 65% to 80%. The results showed that there were significant improvements in critical thinking skills after the implementation of Discovery Learning in class VII.B at Al-Irsyad Islamic Junior High School in Sidenreng Rappang Regency.

Keywords: Discovery Learning; Critical Thinking; Pancasila Education

1. INTRODUCTION

Education is a planned process that aims to bring about change in human beings. Change through education does not only focus on developing potential in the realm of knowledge, but in all realms, including attitudes and skills (Santika, 2020). The development of knowledge or cognitive potential is used to enable students to think at a high level or think critically. This is very relevant to the situation that will be faced with the development of information in various media used in learning. One example is the Pancasila Education (Primayana, 2020).

Pancasila education is one of the subjects taught in schools and contributes greatly to shaping intelligent citizens, as desired by the 1945 Constitution of the Republic of Indonesia (Anatasya & Dewi, 2021). The National Education Vision in Law Number 20 of 2003 concerning the National Education System reiterates that the aspect of citizens' personality that must be developed is to become quality individuals who are capable and proactive in responding to the challenges of the times. The Indonesian national education vision can be realized through Pancasila Education. However, educators are often the main holders and controllers of learning in the classroom. As a result, students can be said to be less active in the learning process. With a one-way learning method dominated by lectures, there is less room for students to think critically and reflect (Norma et al., 2022).

In this era of globalization and rapid technological development, critical thinking skills are key skills that students must possess to face complex challenges in the future (Indayani et al., 2021). Critical thinking involves not only the ability to analyze and evaluate information but also the skills to construct logical arguments, solve problems effectively, and make sound decisions (Agustina et al., 2019). Critical thinking skills are important to develop so that students can analyze and solve problems both during the learning process and in their social lives (Syamsu, 2020). Although important, many students still face difficulties in developing their critical thinking skills in the context of traditional education, which is often passive and teacher-centered (Novitasari et al., 2024).

To address these challenges, an innovative, student-centered learning approach is needed. One relevant approach is the Discovery Learning model, which is a learning model that encourages students to discover concepts or principles for themselves through a process of exploration, observation, and deduction (Nuzralita et al., 2024). This model is believed to increase student engagement, foster curiosity, and develop critical-thinking skills.

2. METHOD

This type of research is Classroom Action Research (CAR). Classroom Action Research is conducted by teachers in their own classrooms to improve the learning process and enhance student learning outcomes. According to Suyatno (2020), Classroom Action Research (CAR) is a form of reflective research that involves taking certain actions to improve or enhance classroom learning practices in a more professional manner. This study consists of two cycles with a research focus on the application of the Discovery Learning model in improving the critical thinking skills of seventh-grade students at AL-Irsyad Junior High School in Sidenreng Rappang Regency in the 2024/2025 academic year. There are 13 people in the class, all of whom are male.

This study had two cycles, with four stages carried out by the researcher in each cycle. These stages are as follows: first, planning; second, implementation; third, observation; and fourth, reflection. Before the first and second cycles were implemented, there was a pre-cycle aimed at gathering preliminary information and identifying problems in class VII.B at AL-Irsyad Junior High School in Sidenreng Rappang Regency before the Discovery Learning model was applied to improve students' critical thinking skills in Pancasila Education.

There are six steps in the Discovery Learning model according to Dari and Ahmad (2020) used in this study. 1) Stimulus: At this stage, students are expected to be stimulated to arouse their curiosity about the subject. This is done by not telling them everything so that they want to find out for themselves. 2) Problem clarification/identification: At this stage, the teacher asks students to identify

problems related to the material being studied, then selects one of the problems and formulates a hypothesis. 3) Data collection. At this stage, students are given the opportunity to gather as much information as possible. 4) Data processing: At the data processing stage, each student is tasked with handling the data collected through interviews, observations, and other means. 5) Verification: During this stage of the test, students take turns presenting the results of their observations obtained from data processing, and other students respond to and ask questions related to the observations obtained. 6) Generalization: In this final stage, the teacher asks students to summarize what they have understood, and the teacher reinforces the conclusions that have been presented.

3. RESULT AND DISCUSSION

There are 13 students in class VII.B at AL-Irsyad Junior High School in Sidenreng Rappang Regency, all of whom are male (Table 1).

Tabel 1. Data on Students of AL-Irsyad Islamic Junior High School for the 2024/2025 Academic Year

No	NIS	Student's Name
1	24002	Abid Mubarak Asdin
2	24004	Alif Hidayah Faiz
3	24007	Ariyanto Arafah
4	24010	Faatih Hatman Uzair Muiz
5	24017	Khairul Ikhwan
6	24019	Muhammad Huzaifah
7	24020	M.Naufal Jufri
8	24021	Muh.Afiq
9	24022	Muh.Arnas Ansar
10	24023	Muh.Fajar
11	24024	Muh.Qausar Saputra
12	24036	Syarif Al-Ghifari
13	24041	Asyraf Aiman

3.1 Pre-Cycle

The pre-cycle conducted in this study aimed to collect preliminary information and identify problems in class VII.B of AL-Irsyad Junior High School in Sidenreng Rappang Regency. At this stage, the researcher also conducted a pretest by giving five essay questions to students as an initial benchmark before the first and second cycles were conducted. To achieve the Learning Objective Completion Criteria score, students must obtain a minimum score of 72. This score is the passing grade that has been set to indicate that students have understood and mastered the learning objectives for a particular subject. If students score below 72, they are considered to have failed and need to take remedial classes or additional tutoring to pass. Conversely, if students obtain a score of 72 or higher, they are considered to have achieved mastery and understood the material in accordance with the stated learning objectives.

Based on the pretest scores given to students in class VII.B at SMP Islam A-Irsyad Tellu Limpoe, Sidenreng Rappang Regency, it was found that out of a total of 13 students, 7 (53%) had achieved the Learning Objective Achievement Criteria with a score of ≥72. Meanwhile, there were 6 students (46%) who had not yet achieved Learning Objective Achievement Criteria. The following table shows the results of the pre-cycle test data (Table 2).

Table 2. Pre-Cycle Data of Students at AL-Irsyad Islamic Junior High School for the 2024/2025 Academic Year

No	NIS	Student's Name	LOAC	Value	Description
1	24002	Abid Mubarak Asdin	72	50	Incomplete
2	24004	Alif Hidayah Faiz	72	50	Incomplete
3	24007	Ariyanto Arafah	72	50	Incomplete
4	24010	Faatih Hatman Uzair Muiz	72	50	Incomplete
5	24017	Khairul Ikhwan	72	80	Complete
6	24019	Muhammad Huzaifah	72	75	Complete
7	24020	M.Naufal Jufri	72	80	Complete
8	24021	Muh.Afiq	72	80	Complete
9	24022	Muh.Arnas Ansar	72	80	Complete
10	24023	Muh.Fajar	72	80	Complete
11	24024	Muh.Qausar Saputra	72	60	Incomplete
12	24036	Syarif Al-Ghifari	72	75	Complete
13	24041	Asyraf Aiman	72	50	Incomplete
Average Velue		$\bar{X}=\frac{\Sigma X}{n}$	$\bar{X}=\frac{860}{13}$	66	Less
Achieving LOAC		$P=\frac{\Sigma X}{n}$ x 100%	$P=\frac{7}{13}$ X 100%	53%	Less

The test results presented in Table 3 show that the students in class VII.B of SMP Islam A-Irsyad Tellu Limpoe, Sidenreng Rappang Regency still lack critical thinking skills. Using the assessment indicators established in the study, the results found that a score of 10 with a percentage of 50% falls into the low category.

Table 3. Observation Data Pre-Cycle Activities

No	Observation Aspects	Observation Score
1	Students are able to ask questions that demonstrate understanding and relevance to the topic being discussed.	2
2	Students explain their opinions with reasonable arguments supported by data or facts.	3
3	Students can draw logical conclusions from the results of group discussions.	1
4	Students are able to evaluate information objectively, compare opinions, and identify weaknesses in arguments.	2
5	Students demonstrate the ability to formulate solutions or decisions by considering various existing aspects.	2
Score Total		10
Average		0,5
Percentage		50%
Category		Less

3.2 First Cycle

The first cycle comprised four stages, the first of which was planning. At this stage, the researchers first consulted the Pancasila Education teacher at SMP Islam A-Irsyad in Sidenreng Rappang Regency regarding the material and other activities to be carried out in this first cycle. In the second stage of implementation, after the planning stage, researchers carry out the predetermined activities. These activities included teaching using the Discovery Learning model and conducting post-tests with students. The purpose of this post-test is to determine the level of understanding and success of students in participating in the teaching and learning process that has been implemented using the discovery learning model. The third stage involved observation. In this phase, the researchers assessed the students' critical thinking skills based on five key indicators. Each aspect observed is assessed using a scale of 1 to 4, which is used to measure the level of student engagement and participation in the discovery learning model. The fourth stage of reflection, the final phase of this cycle, involves researchers evaluating the first cycle and managing the data collected. In addition, at this stage, researchers prepare to continue to the next or second cycle. The following is a presentation of the research results in the first cycle.

Table 4. Post-Test Scores for Class VII.B at Al-Irsyad Islamic Junior High School, Cycle I

No	NIS	Student's Name	LOAC	Value	Description
1	24002	Abid Mubarak Asdin	72	60	Incomplete
2	24004	Alif Hidayah Faiz	72	60	Incomplete
3	24007	Ariyanto Arafah	72	60	Incomplete
4	24010	Faatih Hatman Uzair Muiz	72	60	Incomplete
5	24017	Khairul Ikhwan	72	75	Complete
6	24019	Muhammad Huzaifah	72	75	Complete
7	24020	M.Naufal Jufri	72	80	Complete
8	24021	Muh.Afiq	72	80	Complete
9	24022	Muh.Arnas Ansar	72	80	Complete
10	24023	Muh.Fajar	72	80	Complete
11	24024	Muh.Qausar Saputra	72	72	Complete
12	24036	Syarif Al-Ghifari	72	72	Complete
13	24041	Asyraf Aiman	72	70	Incomplete
Average Velue		$\bar{X}=\frac{\Sigma X}{n}$	$\bar{X}=\frac{924}{13}$	71	Enough
Achieving LOAC		$P=\frac{\Sigma X}{n}$ x 100%	$P=\frac{8}{13}$ X 100%	61%	Enough

From Table 4 above, the post-test results given to students of class VII.B of Al-Irsyad Tellu Limpoe Islamic Junior High School at the end of Cycle I show that out of a total of 13 students, 8 (61.5%) have achieved the Learning Outcome Achievement Criteria with a score of ≥72. Meanwhile, five (38.4%) students did not achieve the learning objectives. The percentage of learning completeness obtained did not meet the expected target, which was a minimum of 76% of students achieving the learning objectives.

Table 5 below shows that student learning activities using the Discovery Learning model have improved, although there are still some indicators that are lacking. The table below provides information about students' critical thinking activities, which achieved a score of 13 (65 %), falling into the Fair category. This stage was carried out simultaneously with the implementation of the learning activities. During the learning process in class VII.B, the researcher and observer conducted direct observations in

the classroom by recording all indicators that were criteria for critical thinking in students, as well as various events that occurred during the teaching and learning activities.

Table 5. Data From Student Activity Observations in Cycle I

No	Observation Aspects	Observation Score
1	Students are able to ask questions that demonstrate understanding and relevance to the topic being discussed.	3
2	Students explain their opinions with reasonable arguments supported by data or facts.	2
3	Students can draw logical conclusions from the results of group discussions.	3
4	Students are able to evaluate information objectively, compare opinions, and identify weaknesses in arguments.	2
5	Students demonstrate the ability to formulate solutions or decisions by considering various existing aspects.	3
Score Total		13
Average		2,5
Percentage		65%
Category		Enough

3.3 Secound Cycle

As in the first cycle, the second cycle also had four stages. Each indicator used in the first cycle is also used in the second cycle. The only difference is the learning material. In this cycle, the research results revealed that the lowest score obtained by students was 70, and the highest score was 90. The table shows that the student learning outcomes have improved. From the results of Cycle II learning, the average score was 79, while the completion rate was 84%. These scores indicate that the application of Discovery Learning can improve students' critical thinking. Thus, the success indicators of this study have been achieved. See Table 6

Table 6. Post-Test Scores for Class VII.B at Al-Irsyad Islamic Junior High School, Cycle II

No	NIS	Student's Name	LOAC	Value	Description
1	24002	Abid Mubarak Asdin	72	75	Complate
2	24004	Alif Hidayah Faiz	72	75	Complate
3	24007	Ariyanto Arafah	72	70	Incomplete
4	24010	Faatih Hatman Uzair Muiz	72	70	Incomplete
5	24017	Khairul Ikhwan	72	90	Complate
6	24019	Muhammad Huzaifah	72	80	Complate
7	24020	M.Naufal Jufri	72	85	Complate
8	24021	Muh.Afiq	72	90	Complate
9	24022	Muh.Arnas Ansar	72	80	Complate
10	24023	Muh.Fajar	72	90	Complate
11	24024	Muh.Qausar Saputra	72	75	Complate
12	24036	Syarif Al-Ghifari	72	80	Complate
13	24041	Asyraf Aiman	72	75	Complate
Average Velue		$\bar{X}=\frac{\Sigma X}{n}$	$\bar{X}=\frac{1035}{13}$	79	Enough

Achieving LOAC	$P = \frac{\Sigma X}{n}$ x 100%	$P = \frac{11}{13}$ X 100%	84%	Enough

Based on the observation results, it can be seen that students' critical thinking skills through the application of the Discovery Learning model have shown improvement, although there are still some indicators that are not yet optimal. Based on the data in the Table 7, a total score of 16 was obtained with a percentage of 80%, which is classified as "good".

Table 7. Data on Student Activity Observation Results for Cycle II

No	Observation Aspects	Observation Score
1	Students are able to ask questions that demonstrate understanding and relevance to the topic being discussed.	3
2	Students explain their opinions with reasonable arguments supported by data or facts.	3
3	Students can draw logical conclusions from the results of group discussions.	4
4	Students are able to evaluate information objectively, compare opinions, and identify weaknesses in arguments.	3
5	Students demonstrate the ability to formulate solutions or decisions by considering various existing aspects.	3
Score Total		16
Average		3,2
Percentage		80%
Category		Good

4. CONCLUSION

After conducting pre-cycle and first to second cycle research, each cycle consisted of four stages, namely the first stage of planning, the second stage of implementation, the third stage of observation, and the fourth stage of reflection. In each cycle, assessments and evaluations were conducted, which became the indicators of this study. The results of research conducted on seventh-grade students at Al-Irsyad Tellu Limpoe Islamic Junior High School, Sidenreng Rappang Regency, found that the Discovery Learning model of teaching Pancasila Education can improve students' critical thinking skills. This can be observed from the research results, which show that before the Discovery Learning model was implemented, a pretest was conducted and the results showed that 50% of the predetermined indicators were achieved. This indicates that students still lack critical thinking skills. However, after the Discovery Learning model was implemented in the classroom, the results showed an improvement in each cycle. In the first cycle, there was an increase of 15%, from 50% to 65% of the predetermined indicator, showing significant results. In the second cycle, the Discovery Learning model was applied to the Pancasila Education VII.B subject at Al-Irsyad Islamic Junior High School. The results showed an increase from 65% to 80%, or an increase of 15%. This improvement was also supported by the results of the Learning Objective Achievement Criteria in the pre-cycle, where student test results showed 53% of the specified criteria. After the first cycle was implemented, there was an increase of 8% to 61%. The second cycle showed significant results and an increase of 23% to 84%.

Ethical Approval
Ethical approval was not required for this study

Informed Consent Statement
Not Applicable

Authors' Contributions
H contributed to the conceptualization of the study, classroom action research design, and implementation of the Discovery Learning model during the learning process. He was responsible for conducting the pre-cycle, cycle I, and cycle II activities, collecting observational data, and analyzing improvements in students' critical thinking skills. He also prepared the initial draft of the manuscript. LRR contributed to refining the research framework, assisting in data analysis and interpretation, and validating the research findings. She provided critical feedback on the discussion and conclusion sections, ensured the clarity of pedagogical implications, and reviewed the manuscript to improve its academic quality and coherence.

Disclosure Statement
No potential conflict of interest was reported by the authors.

Data Availability Statement
The data presented in this study are available on request from the corresponding author due to privacy reasons

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Notes on Contributors

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Heril is affiliated with ITPB Qana'ah Sidenreng Rappang.

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