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APPLYING DISCOVERY LEARNING WITH KINEMASTER TO ENHANCE STUDENTS' CRITICAL THINKING

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ABSTRACT

The inactivity of students at SMP Negeri 3 Gunungsitoli Alo'oa often creates a monotonous learning atmosphere. The students' lack of response to each learning material is also caused by the use of conventional learning models. This study aims to examine the implementation of the Discovery Learning model using the Kinemaster application in enhancing students' thinking skills. The benefit of this learning model is expected to enable students to think critically and respond to each stage of the learning process, thus contributing to the improvement of learning quality. The type of research used is Classroom Action Research (CAR), consisting of two implementation cycles, using a qualitative research method. The research subjects were 23 students of SMP Negeri 3 Gunungsitoli Alo'oa. The research instruments included observation sheets, documentation, and learning outcome tests. The results showed that the teacher's observation sheet scored 54% in the first cycle and 89.5% in the second cycle, while the students' critical thinking observation sheet scored 58.74% in the first cycle and 91.53% in the second cycle. Student learning outcomes in the first cycle reached 63.81% with a mastery percentage of 45%, and in the second cycle, the average reached 77.80% with a mastery percentage of 81.81%, categorized as very good. These results indicate that the Discovery Learning model using the Kinemaster application can improve students' critical thinking skills at UPTD SMP Negeri 3 Gunungsitoli Alo'oa.

Keywords: Learning Model; Discovery Learning; Kinemaster; Critical Thinking

INTRODUCTION

The main problem in student learning lies in the lack of student activity during classroom learning processes, as well as the students' weak critical thinking skills. This condition is primarily caused by the use of inappropriate learning models, which result in students' low interest and inability to fully engage in the learning process. This is indicated by students' poor responses to questions asked by the teacher. Moreover, the teaching methods used by the teacher remain conventional and uninspiring. Critical thinking is a mental process focused on evaluating, assessing, achieving goals, and solving problems (Chatijah & Rakhmawati, 2021). In the context of learning, critical thinking represents a form of collaboration between students and teachers in organizing and reconstructing information, as well as assigning meaning to what is thought, felt, and done (Husna et al., 2025). Critical thinking skills are essential for students and can be continuously developed through classroom learning processes (Ariadila et al., 2023). Critical thinking plays a key role in developing students' potential, accomplishing tasks, solving encountered problems, and drawing conclusions from materials taught during the learning process (Wijayanti et al., 2025). However, many students do not fully participate in the learning process, and as a result, when asked to summarize the material, they merely repeat several lines without forming a proper conclusion. Additionally, when given exercises related to the subject, many students are unable to answer the questions.

These learning activities indicate the presence of obstacles that hinder students' critical thinking. Based on the researcher's observation and obtained information, it is evident that at UPTD SMP Negeri 3 Gunungsitoli Alo'oa, students still lack critical thinking skills. This can be seen in their difficulty completing tasks or answering descriptive questions, their reluctance to ask questions about topics they don't understand, and their inability to justify their answers. These issues are evident in students' passive classroom behaviors, such as only taking notes and listening, with very few initiating questions. Students tend to express their opinions only when directly called upon by the teacher. Although a few students are enthusiastic about learning, participation is limited to certain individuals, and many rely on their peers rather than making independent efforts when working on assignments.

One of the efforts to improve the quality of education is through the use of appropriate learning models in teaching and learning activities (Barella et al., 2024). A learning model serves as a guide for teachers in planning lessons, which includes creating learning plans, organizing materials, setting learning objectives, defining learning stages, and managing classrooms and learning environments (Ponidi et al., 2021). A well-implemented learning model can serve as a benchmark for students to improve their learning outcomes. However, in practice, such models are rarely used, resulting in monotonous learning processes where the teacher dominates rather than the students. To address this issue, monitoring the learning models used by teachers is essential to improve students' academic performance and ensure effective learning processes that achieve educational goals (Lestari et al., 2023). Furthermore, teachers often struggle to choose the right learning model. Choosing the appropriate learning model greatly supports the teacher's efforts in creating a more conducive learning environment (Asmara & Septiana, 2024). Therefore, it is necessary to develop a learning model that enhances students' overall abilities, makes learning more dynamic, and motivates students to actively participate in the learning process (Ramadhan & Hindun, 2023).

One such model that actively involves students and improves their skills is the Discovery Learning model. This approach encourages students to independently discover concepts or find information without being directly told by the teacher (Nuryakin, 2025). The Discovery Learning model does not provide students with immediate results or conclusions; instead, it allows them to search for and derive findings themselves, which helps reinforce their memory of the learning process (Marinda & Rakhmawan, 2025). Discovery Learning shifts the learning process from teacher-centered to student-centered (Yuliati & Susianna, 2023). It enables students to actively identify and solve problems under teacher guidance while working collaboratively to find, process, and discuss information in their groups (Hariyantini et al., 2025). This model can foster critical thinking, improve learning outcomes, and create interactive and engaging learning between teachers and students (Putri et al., 2023). Discovery Learning is a student-centered model in which students utilize critical thinking skills to systematically analyze and solve problems through questioning, problem formulation, experimentation, data collection and analysis, conclusion drawing, discussion, and communication (Pratama et al., 2024). The researcher also believes that the Discovery Learning model can be a solution for teachers in addressing student learning problems.

There are various types of learning media, and choosing the right one is important. Learning media are tools used by teachers to facilitate communication and interaction with students during the learning process (Wardani et al., 2024). Audio-visual media combine hearing and visual elements, attracting students' attention and enhancing their focus on the learning material (Sulistyo & Mustofa, 2024). With the advancement of information and communication technology (ICT) aligned with the "Merdeka Belajar" program in the context of the Industrial Revolution 4.0, teaching is now expected to be more challenging, engaging, creative, innovative, and enjoyable (M. A. F. Lubis, 2025). The Kinemaster application is chosen for its accessibility—it is free to download from the Google Play Store for Android and laptops. Kinemaster's simple and user-friendly interface makes it particularly suitable for beginners in video editing. It includes comprehensive features such as adding video layers, inserting music, cutting clips, and adding various effects (Intaniasari et al., 2022). It also performs a device screening during installation to optimize video quality based on device specifications, making it highly compatible with both low- and high-spec mobile devices (Sa'adah et al., 2024). Kinemaster is expected to capture students' attention and help them understand the learning material more easily, while also boosting their interest and learning outcomes.

Therefore, the use of Kinemaster media in learning is highly relevant for this study. It enables the researcher to carry out effective and efficient teaching by incorporating creative, innovative, and active processes. Additionally, this learning innovation is expected to support the development of four key student competencies in the digital era: collaboration, communication, critical thinking, and creativity (Rizal, 2023). Several previous studies are relevant to this research. One such study by (Handayani, 2022), titled "The Application of the Discovery Learning Model to Improve Students' Critical Thinking Skills," used classroom action research (CAR) to address the issue of low student critical thinking. The research involved collaboration between the teacher and researcher to plan and implement learning activities together. Before conducting classroom actions, both parties discussed the problems and solutions to enhance learning quality and students' critical thinking. Data collection included written tests, observation, documentation, and interviews. Data analysis used qualitative methods presented in descriptive tables.

Another relevant study by (N. Z. Lubis et al., 2021), titled "The Application of Discovery Learning to Improve Critical Thinking Skills and Learning Outcomes Using Phet Simulation Media," also used classroom action research involving two cycles, each with planning, implementation, observation, and reflection stages. The study subjects were students. Data collection was conducted through observation to assess the current conditions and validate the research design. Instruments included questionnaires, interviews, observations, and documentation. The collected data were analyzed descriptively to measure progress across each cycle and evaluate improvements in students' learning outcomes. The study used both qualitative and quantitative approaches.

RESEARCH METHODS

This research is a Classroom Action Research (CAR), which serves to solve problems that arise during the learning process. It provides an overview of the learning approach used in classroom instruction. The main objective of this classroom action research is to improve and enhance student learning outcomes. In addition, this research is also beneficial for improving the teaching practices implemented in the classroom. The method used in this research is a qualitative research method. The study was conducted at UPTD SMP Negeri 3 Gunungsitoli Alo'oa, specifically in class VIII-1 during the second semester of the 2024/2025 academic year, with a total of 23 students.

The implementation of this research consists of two cycles: Cycle I and Cycle II. The research instruments include observation sheets (for both teacher and student observations), documentation, and learning outcome tests. The classroom action research procedure generally consists of two or more cycles depending on the condition and situation in applying the intended method. Each cycle is implemented with targeted improvements. In this study, two cycles were planned with the following procedures:

1. Planning
2. Implementation of Action
3. Observation
4. Reflection

The data used in this study include learning outcome tests and observation instruments. The learning outcome test is used to determine the quality of the learning process, while the observation sheets are used to observe the subject of the action. After the data is collected, it is analyzed by

reviewing the information obtained from the implementation of actions in each cycle and interpreted at the end of every cycle. The data analysis techniques used in this research include:

1. Processing of Observation Results
   Formula :

$$\text{Observation Result} = \frac{\text{Score Obtained}}{\text{Total Score}} \text{ x } 100\%$$

   The continuum scale categories are as follows:
   SB (Very Good) = score 4
   B (Good) = score 3
   C (Sufficient) = score 2
   K (Poor) = score 1

2. Processing of Learning Outcome Tests
   Student comprehension based on essay-type tests is processed using the formula:

$$N = \frac{A}{B} X C$$

   Explanation:
   N = Score of each test item
   A = Score obtained for each item
   B = Total possible score for that item
   C = Weight of each item

   To calculate each student's total score, the scores for all test items are summed using the formula:

$$NA = \sum N$$
$$= N1 + N2 + N3 + \ldots + Ni$$

   Explanation:
   NA = Final score for each student
   ∑N = Total score from all test items
   N = Score for each test item
   i = Number of test items

The performance indicator is the Minimum Mastery Criteria (KKM) for Basic Competence (KD) set by SMP Negeri 3 Gunungsitoli Alo'oa, which is 65. Students scoring ≥ 65 are considered to have achieved mastery, while those scoring < 65 are considered to have not achieved mastery. The percentage of students who achieve mastery is calculated using the formula:

$$Persentase\ Ketuntasan = \frac{\text{Jumlah Siswa Yang Tuntas Belajar}}{Jumlah\ Seluruh\ Siswa} X\ 100\%$$

3. Mean Score Calculation
   To determine the average score, the following formula is used:

$$\overline{x} = \frac{\sum X}{N}$$

   Explanation:
   $\bar{x}$ = Average score
   ∑X = Total of all scores
   N = Total number of subjects

   The classification of average learning outcomes is as follows:
   40 – 59 = Poor
   60 – 74 = Sufficient
   75 – 84 = Good
   85 – 100 = Very Good

RESULTS AND DISCUSSION

Research Results

Based on the results of the learning implementation in Cycle I (Meetings I and II), an improvement can be observed. The teacher observation sheet results increased from 52.27% in Meeting I to 56.81% in Meeting II. Meanwhile, student observation results rose from 54.20% in Meeting I to 63.29% in Meeting II, with an average of 58.74%. The average student learning outcome test score from both meetings was 63.81%, with a mastery percentage of 45%.

Based on the observations and evaluation results from Cycle I (Meetings I and II), it was found that the learning process was not yet effective in improving student performance, and the learning outcomes had not reached the target of 75% due to several weaknesses during implementation. Therefore, to address the shortcomings in Cycle I, the observer teacher provided the following feedback to the researcher as material for improvement in Cycle II:

1. The delivery of learning materials did not attract students' interest.
2. The application of the Discovery Learning model was not yet optimal.
3. The researcher needs to master the teaching material being delivered.
4. The researcher's guidance for student discussions was lacking.
5. Student participation in classroom activities was still low.
6. Students were not active in demonstrating learning effectively.

To improve student performance and reflect on the observation results, the following steps should be taken:

1. To make learning more engaging, the researcher should use varied learning models.
2. The researcher should enhance the application of the Discovery Learning model.
3. The researcher should master the learning materials thoroughly.
4. Students should be guided to play an active role during learning.
5. Students should be encouraged to actively participate.
6. Students should be oriented toward demonstrating effective learning.

From the identified weaknesses, it can be concluded that student learning outcomes in Cycle I were still insufficient, and improvements were necessary in Cycle II. The aim of these improvements is to help the teacher/researcher enhance student learning outcomes in the following cycle. Cycle II was implemented over two meetings with the main topic of economic activities. The Cycle II learning process followed the same phases as the previous cycle, including planning (lesson plan preparation according to the Discovery Learning model), observation, action, and reflection. Based on the results of Cycle II Teacher observation in Meetings I and II averaged 89.5% (classified as excellent). Student observation averaged 81.38% (classified as good), indicating that student capability in applying the Discovery Learning model had improved. Student learning outcomes in Cycle II averaged 77.80%, with a mastery percentage of 81.81%, meeting the minimum target of 75%. Thus, the study was concluded at Cycle II. The researcher summarizes the findings as follows:

Table 1. Summary of Research Instrument Results

No	Instrumennt	Cumulative Score		Description
		Cycle I	Cycle II	
A.	Observation Sheet			
	1. Teacher/Researcher Observation	54%	89,5%	
	2. Student Observation	58,74%	91,53%	
B.	Documentation	-	-	
C.	Learning Outcome Test	45%	81,81%	
	Average	52,58%	87,61%	-

Based on the table, teacher observation scores increased from 54% in Cycle I to 89.5% in Cycle II. This improvement indicates the teacher's increasing ability to apply the Discovery Learning model effectively. Student observation scores improved from 58.74% in Cycle I to 91.53% in Cycle II, showing increased student engagement in the learning process using the model.

Learning outcome evaluations showed that student scores increased from 63.81% (Cycle I, mastery 45%) to 77.80% (Cycle II, mastery 81.81%), achieving the target of at least 75%. The average reflection scores also improved from 52.58% in Cycle I to 87.61% in Cycle II. These findings confirm

that the application of the Discovery Learning model successfully enhanced students' critical thinking skills in Class VIII-1 at UPTD SMP Negeri 3 Gunungsitoli Alo'oa in the 2024/2025 academic year.

Discussion

The main issue in this study was: How does the implementation of the Discovery Learning model using the Kinemaster application affect students' critical thinking skills at UPTD SMP Negeri 3 Gunungsitoli Alo'oa? and How do students perform in learning outcome tests after applying the Discovery Learning model? To address this, the researcher conducted a Classroom Action Research (CAR) aimed at applying the Discovery Learning model as an effective method for increasing student engagement and improving critical thinking in the Integrated Social Science subject.

Based on the critical thinking assessments, teachers can evaluate how students independently identify, analyze, and solve problems through exercises and their own creations. Although students' mastery of the material was adequate due to continuous learning activities, they tended to be passive in the classroom and were not actively engaged. The Discovery Learning model is expected to promote active participation, enabling students to address problems in learning and in real-life situations, thereby equipping them with the knowledge and skills to solve interpersonal issues.

From the analysis at UPTD SMP Negeri 3 Gunungsitoli Alo'oa, teacher observation scores increased from 52.27% to 56.81% between Meetings I and II in Cycle I (average 54%), and then rose to 87.5% and 92.04% in Cycle II (average 89.5%). This indicates the teacher's improved ability in applying the Discovery Learning model. Student observation results improved from 54.20% to 63.29% in Cycle I (average 58.74%) and increased to 89.43% and 93.63% in Cycle II (average 91.53%), showing more effective student engagement through the model. Learning evaluations showed an improvement in average scores from 63.81% in Cycle I (mastery 45%) to 77.80% in Cycle II (mastery 81.81%). This confirms the success of the Discovery Learning model in improving learning outcomes for Integrated Social Science in Class VIII-1.

Comparing theory and this study, (Suwiti, 2022) describe Discovery Learning as a student-centered approach where students independently explore and build knowledge through direct experience. This model promotes critical thinking and meaningful learning. Marinda & Rakhmawan (2025) emphasize that Discovery Learning allows students to seek and find learning content, helping them retain information better. (Martir et al., 2024) add that it promotes independence, initiative, and higher-order thinking. Supporting studies include (Handayani, 2022), who also used Classroom Action Research to address students' low critical thinking abilities. The process involved collaborative planning with the teacher, and data was collected through written tests, observations, documentation, and interviews. Another study by (N. Z. Lubis et al., 2021), titled "The Implementation of Discovery Learning Model to Improve Critical Thinking Skills and Student Learning Outcomes Using Phet Simulation Media," also used two CAR cycles with planning, observation, and reflection stages. Data was gathered through questionnaires, observations, interviews, and documentation, and analyzed descriptively to measure success indicators. This study used a qualitative approach. When comparing these studies with the current research on the use of the Kinemaster application, similarities include the learning model, research type (CAR), and student subjects. Differences lie in the research setting and the media used in the learning process.

CONCLUSIONS

Based on the research conducted at UPTD SMP Negeri 3 Gunungsitoli Alo'oa, it can be concluded that the implementation of the Discovery Learning model in Class VIII-1 was successfully carried out and significantly improved students' critical thinking skills and learning outcomes. The teacher observation results increased from 54% (fair) in Cycle I to 89.5% (excellent) in Cycle II, while student activity observations rose from 58.74% to 91.53% (good). Similarly, students' average learning scores improved from 63.8 with a mastery rate of 45% in Cycle I to 77.8 with a mastery rate of 81.81% in Cycle II, meeting the targeted criteria. The use of the Kinemaster application in applying the Discovery Learning model proved effective in enhancing students' critical thinking abilities. Therefore, it is recommended that this model be further developed as a learning variation in Integrated Social Science subjects, teachers continue to refine their instructional practices, and the results of this study serve as a reference for future research.

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