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IMPLEMENTATION OF THE DISCOVERY LEARNING MODEL TO IMPROVE STUDENTS' LEARNING INTEREST

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ABSTRACT

This research was conducted at MTs Negeri 2 North Lampung in class VIII 2. which was conducted on July 21, 2025-July 31, 2025. The type of research used was Classroom Action Research (CAR) which was conducted in 2 cycles, each cycle consisting of 4 stages: (1) Planning, (2) Implementation, (3) Observation, and (4) Reflection. Data collection can be done through three steps, namely data reduction, data presentation, and drawing conclusions. The results of the study showed that the classical completeness of students' interests in Cycle I reached 82%, increasing by 7% in Cycle II to 89%. Student learning outcomes in the cognitive domain of Cycle I classical completeness reached 73%, increasing by 1% in Cycle II to 74%. Thus, it can be concluded that the application of the Discovery Learning learning model can increase the learning interest of class VIII 2 students at MTs Negeri 2 North Lampung.

INTRODUCTION

Education is a systematic series of activities aimed at developing students' cognitive, affective, social, moral, and spiritual abilities in a holistic manner. In the context of national education, the primary and secondary levels serve to strengthen academic competencies while simultaneously fostering character and internalizing social values in learners (Ansya & Salsabilla, 2025).

In accordance with the National Education System Act (SISDIKNAS), education is expected to optimally develop students' potential through learning that fosters a religious atmosphere and cultivates intelligent, skilled, and morally upright individuals. However, the reality in the field, including at MTs Negeri 2 Lampung Utara, indicates that students' learning interest remains low, particularly in mathematics. Learning interest, understood

as students' curiosity and willingness to engage deeply in the learning process, has a direct influence on their activity and participation (Galih et al., 2023).

Observational findings show that learning activities are still dominated by lecturing, with students often feeling drowsy, unfocused, and minimally engaged. The limited availability of printed textbooks further exacerbates the situation, making the learning process feel monotonous and less enjoyable(Lorensa et al., 2021). There are internal factors such as health and interest, as well as external factors including the school environment, interaction, teaching methods, and learning approaches, all of which influence learning outcomes. Teachers are expected to create an enjoyable learning atmosphere in order to enhance students' learning interest. One model considered effective in fostering independence and increasing students' learning interest is Discovery Learning (Meinhardi, 2022). Various studies indicate that Discovery Learning is relevant for addressing problems related to low student engagement. This model actively involves students, connects knowledge with direct experience, and enhances both interest and conceptual understanding (Lismawati et al., 2024).

In Discovery Learning, students are positioned as the subjects of the learning process, which encourages them to be more creative and innovative (Atjeh Update, 2022, para 3). In this model, the teacher plays the role of guiding students to be more active in problem-solving (Alfitry, S., Pd, M., Nurhadi, S. P. I., Sy, S. E., & SH, M. S., 2020). This learning model engages students in acquiring new skills to be more active both in groups and individually, while also enabling them to find solutions to problems through discussion and a question-and-answer approach. Discovery Learning serves as a relevant instructional model for developing students' characteristics (Syamsidah et al., 2022).

The Discovery Learning model has been widely proven to enhance students' learning interest through various studies conducted at different educational levels. This model not only creates a more active learning atmosphere but also encourages students to participate directly in the process of independently discovering concepts. The Discovery Learning model has been shown to improve students' learning interest across multiple educational **stages** (Salmina & Mustafa, 2019)**.** Furthermore, Salmina & Mustafa, (2019) stated that the implementation of Discovery Learning in three-dimensional geometry material can increase students' interest and achievement in mathematics, as the discovery-based learning process provides opportunities for students to explore, discuss, and solve problems more independently. These findings indicate that Discovery Learning is an effective approach to addressing low interest in learning mathematics while

simultaneously enhancing deeper conceptual understanding.. In his discussion, Suryosubroto outlines six interconnected stages arranged systematically: (1) providing an initial stimulus to spark curiosity, (2) formulating a problem that challenges further analysis, (3) gathering relevant information, (4) processing the information to identify patterns, (5) testing the hypotheses that have been formulated, and (6) drawing conclusions that can be applied to other contexts. This sequence trains students to argue, innovate, and think reflectively, while at the same time encouraging active participation in the learning process and strengthening their desire to explore further (Cahyaningsih & Karunia Assidik, 2021).

Discovery Learning is grounded in constructivist theory, which emphasizes that knowledge cannot simply be transferred from teacher to student, but must be constructed independently by students through processes of exploration and direct experience. In the context of mathematics learning, the processes of identifying patterns, making generalizations, and testing hypotheses are central to mathematical activity itself. Thus, Discovery Learning is not merely an instructional model, but a philosophical approach that encourages students to understand mathematics more deeply and meaningfully.

Although this model is often perceived as placing students at the center of the learning process, the teacher's role remains highly crucial. Teachers are not merely passive facilitators; they must be able to design stimuli, guiding questions, and activities that challenge students to engage in discovery. Teachers must also ensure that students' discovery processes remain aligned with the intended conceptual pathway, so that students' interpretations do not deviate from the learning objectives.

Based on the suboptimal learning conditions at MTs Negeri 2 Lampung Utara and the considerable potential of the Discovery Learning model, this study was conducted to examine the effectiveness of its implementation in improving students' learning motivation. This research also aims to evaluate the influence of each stage of the model in creating a more interactive and meaningful classroom atmosphere, although the findings remain limited to a single institution.

In addition, the development of the national curriculum, which increasingly emphasizes activity-based and inquiry-driven learning, requires teachers to be able to adapt instructional models that promote higher levels of cognitive engagement. Meaningful learning is not only reflected in how well students understand a concept, but also in their ability to connect the material to authentic experiences in their daily lives. Therefore, Discovery Learning emerges as an alternative that can foster curiosity, enhance

learning focus, and strengthen the interaction between students and their learning environment.

Although several previous studies have highlighted the effectiveness of Discovery Learning, most of these studies were conducted at the elementary or senior high school levels. Research at the MTs level, particularly in mathematics subjects, remains relatively limited. This gap indicates the need for further investigation to ensure that this model is truly relevant and effective when applied to the actual learning conditions at MTs Negeri 2 Lampung Utara. Thus, this study provides an important contribution to enriching the body of literature on the implementation of Discovery Learning within the context of religion-based secondary education.

The low level of students' interest in learning mathematics at the MTs level has the potential to create long-term impacts on their readiness to engage with mathematical content in subsequent educational stages. When students lack stable learning interest, their logical, analytical, and problem-solving abilities also tend to decline. Therefore, efforts to enhance learning interest are not merely short-term needs in mathematics learning, but also long-term strategies for developing the foundational skills students require to face future academic challenges.

RESEARCH METHOD

This study employed the Classroom Action Research methodology at MTs Negeri 2 Lampung Utara involving eighth-grade students, with the primary orientation toward improving the learning process. The main problem addressed was the students' low interest in learning activities. To overcome this issue, the study focused on strengthening the learning process and improving learning outcomes through the implementation of the Discovery Learning model, which is designed to actively engage students and help them find enjoyment in the learning experience. The researcher, who also served as the classroom instructor, conducted evaluations at the end of each cycle and formulated follow-up actions based on the identified problems. Each cycle was systematically designed to measure the effectiveness of the Discovery Learning model in continuously stimulating students' learning interest. The application of Discovery Learning also took into account the diverse characteristics of students so that all learners could experience equally positive and significant impacts. The benefits of this research are collective in nature: students become more active and motivated, teachers enhance their professional skills particularly in problem-solving, and the school gains a foundation for developing

learning strategies that are more productive, measurable, and sustainable. Data for the study were collected through interviews and classroom observations to enrich the information substantively. Interviews were conducted with teachers, students, and other relevant stakeholders to gain a comprehensive understanding of the implementation and effects of Discovery Learning. The interview guidelines were designed to explore students' perceptions and evaluate the effectiveness of the strategies used. Meanwhile, observations were carried out directly in the classroom, focusing on student interactions and activities during the learning process (Arif & Oktafiana, 2023).

After the data were collected, the analysis was carried out through three stages: reduction, representation, and inference. In the reduction stage, the researcher selected information that was relevant and eliminated data that did not contribute to the focus of the study. The representation stage involved presenting the reduced data in the form of descriptive narratives, tables, or diagrams to visually illustrate the level of student engagement. Subsequently, in the inference stage, the researcher interpreted the processed data to assess the extent to which the Discovery Learning model influenced the improvement of students' learning interest. If preliminary conclusions emerged, this indicated the need for additional data to strengthen verification. The conclusions could be revised if new information was found that provided deeper evidence. Through these procedures, the study is expected to offer a comprehensive overview of the effectiveness of Discovery Learning in enhancing students' learning interest. (Arif & Oktafiana, 2023).

In the action planning process, the researcher prepared a set of learning instruments, including lesson plans (Modul Ajar), observation sheets, a learning-interest questionnaire, and cognitive test instruments. These learning instruments were validated by two experts in mathematics education to ensure alignment between the learning objectives, the steps of the Discovery Learning model, and the learning achievement indicators. The validation was carried out through discussions and iterative revisions, ensuring that the final instruments were fully ready to be implemented in the classroom.

Observation in each cycle was carried out using a structured assessment sheet that included aspects such as student engagement, enthusiasm, activeness in discussions, and the ability to ask and answer questions. This observation sheet helped the researcher ensure that the increase in learning interest was not only reflected in the questionnaire scores, but also directly observed through students' behavior during the learning process.

RESULTS AND DISCUSSION

The analysis of the questionnaire aimed at mapping students' learning interest revealed a significant improvement when comparing data from the first cycle with that of the second cycle. This progress was identified during the learning process on Number Patterns, which was reinforced through the application of the Discovery Learning approach. Based on the criteria for classical mastery, the proportion of students who successfully met the minimum learning mastery standard in the first cycle was recorded at 82%, and in the second cycle this proportion increased by 7% to reach 89%. The interpretation of these results is presented in Table 1.

Table 1. Students Learning Interest in Mathematics Learning: Cycle I and Cycle II

Cycle	Classical Learning Mastery
Cycle I	82%
Cycle II	89%
Progrees	7%

At the end of the first cycle, the instrument designed to examine students' learning interest recorded an average score of 82%. Entering the second cycle, the same model and format of the instrument captured an increase of 7%, raising the final average to 89%. This percentage surge is considered significant, reflecting a growing enthusiasm among students in studying Mathematics. A more in-depth analysis revealed that students reported greater enjoyment and satisfaction when engaging in activities based on the Discovery Learning model. The consistent upward trend in learning interest across both cycles is summarized in the graphical illustration presented in Figure 1.

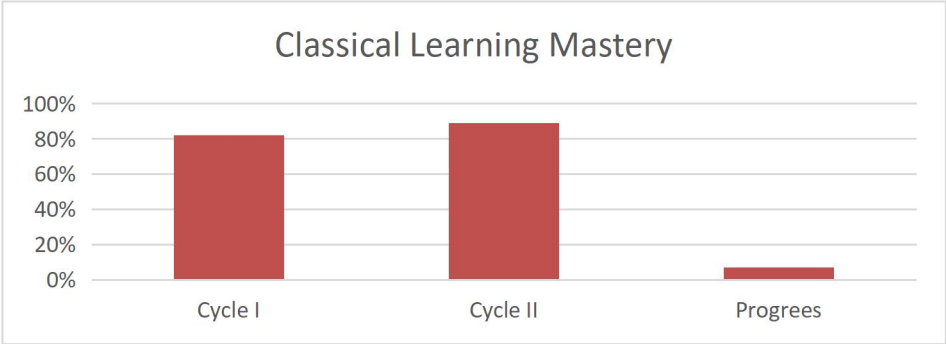

Figure 1. Comparison of Students' Learning Interest in Cycle I and Cycle II

The low enthusiasm for learning among students can often be interpreted as a direct consequence of the dominance of lecture-based methods used as the primary teaching strategy. In such conditions, students tend to adopt a passive stance, absorbing the teacher's repeated explanations without variation. When no diversity in teaching

approaches is provided, the classroom atmosphere becomes trapped in a monotonous rhythm that gradually leads to boredom. research Holland (2017) It is revealed that enthusiasm is a synergistic outcome of both motivation and capacity, and for this synergy to be sustained, continuous reinforcement of both elements is essential. However, interactive and contextual approaches are often placed at a lower priority, which further complicates efforts to maintain students' interest. Therefore, teachers are required to select and design learning models that are not only engaging but also relevant to the social, cultural, and concrete issues students face. In line with these recommendations, this study aims to implement the Discovery Learning model with the concrete objective of enhancing students' enthusiasm and engagement throughout the entire learning process.

The implementation of the Discovery Learning model in Grade VIII at MTs Negeri 2 Lampung Utara has demonstrated a significant increase in students' learning interest. Syamsidah emphasized that this approach encourages learners to be actively involved: independently in exploring concepts and collaboratively within groups. Such engagement is systematically planned within the framework of the model, which is designed to build understanding, deepen cognitive skills, and strengthen students' social competencies. With continuous application, students not only show improvement in their comprehension of the material but also develop measurable abilities, thereby becoming better prepared to compete at higher levels of education (Syamsidah et al., 2022).

he results of students' cognitive evaluation in the first cycle indicated a classical mastery percentage of 73%, which then increased to 74% in the second cycle. This improvement in mastery can be interpreted as a qualitative indicator that fulfills three substantive dimensions: first, students demonstrated a deeper understanding of the material; second, greater concentration was recorded while answering questions; and third, accuracy in providing responses showed reinforcement. The quantitative evidence supporting this analysis can be examined in Table 2.

Table 2. Cognitive Outcomes in Cycle I and Cycle II

Cycle	Average	Classical Learning Mastery
Cycle I	72,5	73%
Cycle II	74,2	74%
Progrees	1,7	1%

In the first cycle, 22 students successfully achieved the Minimum Mastery Criterion (KKM), whereas in the second cycle, the number of students who met the mastery standard increased to 33. The overall mastery percentage in the first cycle was recorded at 73%, while in the second cycle it slightly increased to 74%. Although there was an

additional number of students who attained mastery, the increase in the overall mastery percentage was only 1%. The data illustrating the comparison of students cognitive achievement at the class level across both cycles is presented in Figure 2.

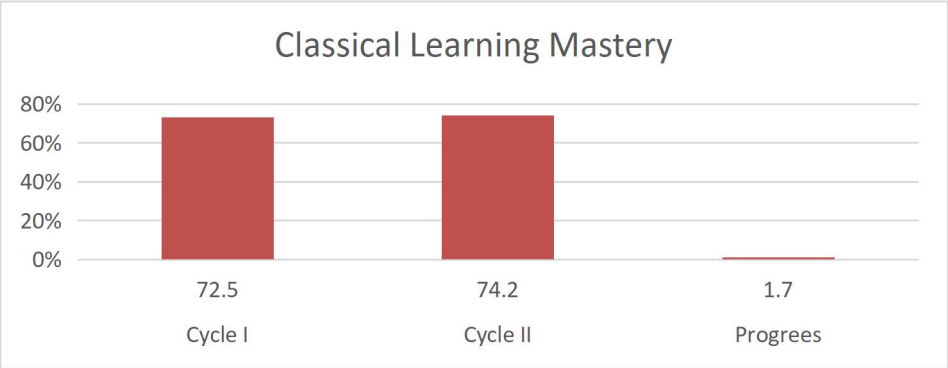

Figure 2. Cognitive Outcomes in Cycle I and Cycle II

The initial cognitive assessment of students in the first cycle recorded an average score of 72.5, with a classical mastery proportion of 73% out of 22 individuals—figures that did not yet reach the predetermined minimum standard. This shortcoming was particularly evident in the insufficient depth of conceptual mastery. The prevailing learning pattern relied heavily on a linear and residual sequence: teacher-centered oral instruction, assignments, testing, and limited attention to activities that could strengthen the transfer of information into long-term memory. Students' dependence on teachers' notes, coupled with a predominant tendency to memorize, hindered the attainment of more substantial understanding, as knowledge acquired without a solid cognitive foundation is difficult to retain in long-term memory. Consequently, the cognitive standing of students at this stage did not yet meet the benchmarked achievement criteria.

To encourage students to remain motivated in their learning, educators must cultivate a classroom atmosphere that stimulates curiosity. One strategy proven to generate a positive impact is Discovery Learning, which, according to Meinhardi (2022).

The implementation of Discovery Learning has proven effective in enhancing students' interest and independence in learning. Within this strategy, mastery of subject matter develops through students' direct interaction with new and unfamiliar phenomena, encouraging them to investigate, classify, and draw generalizations. This process sharpens critical thinking skills while simultaneously creating stronger memory traces. When students are engaged in experiences that require them to assume cognitive responsibility, the resulting memory pathways become more durable, enabling them to respond to teachers' questions more fluently and with greater confidence.

In the second cycle, the accumulated data on cognitive dimensions revealed a 1% increase in overall student achievement at the classical level, bringing the average score to 74%. This finding underscores that the consistent application of the Discovery Learning model has made a significant positive contribution to students' cognitive progress, especially when the results of the first cycle are sequentially compared with those of the second cycle.

In the second cycle, it was found that students showed a greater tendency toward independence in completing tasks and increased confidence in expressing their opinions. This improvement was reflected in their more active participation in group discussions, their willingness to attempt problem-solving without waiting for teacher instructions, and their courage to propose alternative solutions. These behavioral changes indicate that Discovery Learning not only enhances students' learning interest but also fosters a sense of responsibility toward the learning process.

Furthermore, the results of this study indicate that the enhancement of students' learning interest does not occur instantaneously but develops gradually through a learning process that consistently provides opportunities for exploration and independent construction of knowledge. A supportive learning environment, meaningful collaborative interactions, and structured opportunities for learners to engage in self-directed discovery serve as critical factors contributing to this improvement. These findings strengthen the assertion that discovery-based learning constitutes a sustainable foundation for elevating the overall quality of mathematics instruction.

Although the increase in cognitive outcomes was only 1%, the qualitative data indicate noticeable development in students' reasoning abilities. This occurs because improvements in learning interest generally progress more quickly than cognitive understanding. A high level of interest in learning activities can serve as a stable foundation for more substantial cognitive gains in the future. In other words, the second cycle has not yet shown the maximum potential for cognitive improvement, which may only emerge if the learning process is continued in additional cycles

Based on the evaluation data presented, it can be concluded that the Discovery Learning model substantially improves the learning development of eighth-grade students at MTs Negeri 2 Lampung Utara. This conclusion is supported by educational theories and previous research. Lismawati demonstrated that Discovery Learning encourages students' direct involvement, which strengthens their emotional engagement and facilitates deeper conceptual understanding. In addition, the model fosters autonomy

and proactivity, providing students with opportunities to explore and construct new knowledge. The learning outcomes reveal a marked improvement in performance and indicate that such progress is sustainable; this aligns with prior studies affirming the effectiveness of discovery- and problem-solving-based approaches. The increase in achievement is also evident in the cognitive shifts students undergo, moving from the level of recall toward higher-order domains of analysis and synthesis. These changes were documented through the cognitive assessment instruments and performance-based evaluations employed in this study (Lismawati et al., 2024).

CONCLUSION AND RECOMMENDATIONS

Research data indicate that the implementation of the Discovery Learning model has successfully enhanced the learning interest of eighth-grade students at MTs Negeri 2 Lampung Utara in a meaningful way. In the first cycle, the average score on the learning interest questionnaire was recorded at 82%, which then increased by 7% to reach 89% in the second cycle. Furthermore, the classical analysis of the cognitive domain revealed that the percentage of students achieving the minimum mastery criteria (KKM) was 73% in the first cycle, and rose by 1% in the second cycle, bringing the overall cognitive achievement at the end of the study to 74%.

The responsibility of a mathematics educator encompasses examining and selecting instructional models that are aligned with the nature and structure of the subject matter. At the initial stage, primary attention should be directed toward encouraging students to engage in direct observation of mathematical objects and to utilize available resources in the school environment as organic learning materials. Through this approach, students are expected to conceptualize mathematical ideas more deeply, thereby enhancing both the relevance and the comprehension of the material being studied, as well as the outcomes achieved in the learning process. The continuity and depth of this process can be reinforced through the application of the Discovery Learning model, which places knowledge exploration, critical understanding, and practical activities that stimulate students' curiosity at the core of the educational experience.

In addition to these findings, this study also provides important insight into the development of students' academic character through the implementation of the Discovery Learning model. When students become accustomed to participating in a learning process that encourages them to investigate, pose questions, and draw their own conclusions, they begin to exhibit more positive learning behaviors. Students appear more

confident in expressing their ideas and more capable of collaborating in small groups. This pattern indicates that increased learning interest is not only reflected in questionnaire results but also in the development of more independent attitudes and learning habits.

Such changes are crucial to note because mathematics learning requires not only computational skills, but also the ability to reason, connect concepts, and solve problems logically. Thus, the implementation of Discovery Learning has the potential to serve as a long-term strategy that strengthens students' cognitive and non-cognitive readiness. Therefore, further research is recommended to evaluate the impact of this model on other topics or educational levels so that the results can be compared and provide a more comprehensive picture of its effectiveness.

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