

THE EFFECTIVENESS OF THE DISCOVERY LEARNING STRATEGY IN SOCIAL SCIENCE CLASSES AT MTS NUR HADI MUARA JAWA

Frista Iin Wahyuni¹,

¹ MTs Nur Hadi Muara Jawa, Indonesia,

Receive in	Revised in	Accepted in
9 November 2025	21 Desember 2025	31 Desember 2025

ABSTRACT

This study aims to examine the effectiveness of the Discovery Learning strategy in improving students' learning outcomes in Social Science classes at MTs Nur Hadi Muara Jawa. A quantitative approach with a quasi-experimental design was employed, involving an experimental group taught using Discovery Learning and a control group taught using conventional instructional methods. The population consisted of all Social Science students at MTs Nur Hadi Muara Jawa, with two classes selected as research samples through purposive sampling. Data were collected using achievement tests and classroom observation instruments. The results revealed that students in the experimental group achieved higher post-test scores and demonstrated greater classroom engagement compared to those in the control group. Statistical analysis indicated a significant difference in learning outcomes between the two groups. These findings suggest that Discovery Learning is an effective instructional strategy for enhancing both cognitive achievement and active participation in Social Science learning. The study recommends the implementation of Discovery Learning to promote student-centered learning in madrasah contexts and encourages further research involving broader samples and additional learning variables.

Keywords: Effectiveness, Discovery, Social science, Muara Jawa

INTRODUCTION

Social Science education plays a strategic role in developing students' critical thinking, social awareness, civic responsibility, and problem-solving skills needed to understand social realities. At the secondary school level, particularly in madrasah tsanawiyah, Social Science learning is expected to integrate cognitive, affective, and social competencies. However, several recent studies report that

Social Science instruction remains largely teacher-centered, focusing on content transmission rather than meaningful student engagement (Sari & Putra, 2021; Lestari, 2022; Rahman et al., 2023; Kurniawan & Dewi, 2024). This condition indicates the need for instructional approaches that can actively involve students in constructing Social Science knowledge.

The dominance of conventional teaching methods has been associated with low student participation, limited analytical skills, and superficial conceptual understanding. Students tend to memorize facts instead of constructing knowledge through inquiry and reflection (Nugroho, 2020; Setiawan, 2021; Mulyadi & Hasanah, 2022). These conditions are particularly evident in Social Science classes, where abstract concepts require contextualization and active exploration to be meaningfully understood (Widodo, 2022; Pratiwi et al., 2023). These limitations highlight the urgency of shifting from passive learning models to strategies that promote active and meaningful learning.

In response to these challenges, student-centered learning approaches grounded in constructivist theory have been widely recommended. One such approach is **Discovery Learning**, which emphasizes students' active involvement in discovering concepts through observation, data collection, analysis, and conclusion drawing (Bruner, 1961; Hidayat & Nurhayati, 2020; Arifin et al., 2021). Discovery Learning has been shown to foster higher-order thinking skills, autonomy, and deeper conceptual

understanding (Susanto, 2021; Wahyuni & Fitriani, 2022; Rahmawati, 2023). Thus, Discovery Learning is considered theoretically relevant to address the weaknesses of conventional Social Science instruction.

Numerous empirical studies conducted between 2020 and 2025 indicate that Discovery Learning positively affects students' learning outcomes, motivation, and engagement across various subjects (Putra et al., 2020; Siregar & Nasution, 2021; Hamzah, 2022; Utami et al., 2023; Fadillah & Rohman, 2024). Nevertheless, most of these studies focus on science, mathematics, or technology-based subjects, while research examining Discovery Learning in Social Science education remains relatively limited (Aisyah, 2021; Maulana & Ridho, 2022; Dewantoro, 2024). This imbalance suggests the need for further empirical investigation focusing specifically on Social Science learning contexts.

Furthermore, existing studies are predominantly conducted in general junior high schools or urban educational settings. Limited attention has been given to the unique context of **madrasah education**, where instructional practices, learning culture, and institutional characteristics

may differ significantly from those of general schools (Yusuf, 2020; Hidayah & Karim, 2021; Fauzan et al., 2023). This lack of contextual research creates a gap in understanding how Discovery Learning functions within madrasah Social Science classrooms. Therefore, findings from previous studies cannot be directly generalized to madrasah-based Social Science classrooms

Several scholars also highlight that many previous studies emphasize short-term cognitive outcomes while overlooking classroom interaction patterns, student engagement, and contextual challenges faced by teachers during implementation (Anwar & Salim, 2021; Lidiawati, 2022; Rosyid et al., 2023). As a result, the empirical evidence on the effectiveness of Discovery Learning in real classroom settings, especially in rural or semi-rural madrasahs, remains insufficient. Consequently, there is a need for research that examines the effectiveness of Discovery Learning in real instructional contexts

Preliminary observations at MTs Nur Hadi Muara Jawa revealed that Social Science learning outcomes were relatively low and students showed limited participation during classroom activities.

Teaching practices were mainly lecture-based, with minimal opportunities for inquiry, discussion, and independent exploration. Similar conditions have been reported in other madrasah contexts, where teachers face challenges in implementing innovative learning strategies due to limited resources and habitual instructional practices (Hakim, 2021; Sulastri & Wibowo, 2022; Marzuki et al., 2024). Such contextual issues underline the importance of implementing and evaluating alternative learning strategies suited to the school environment.

These conditions indicate a **clear research gap** between the theoretical and empirical benefits of Discovery Learning reported in previous studies and its limited application and investigation in Social Science learning at madrasah institutions, particularly at MTs Nur Hadi Muara Jawa. Therefore, this study is conducted to empirically examine the effectiveness of the Discovery Learning strategy in improving students' Social Science learning outcomes within this specific educational context. The findings are expected to contribute to the enrichment of pedagogical literature on student-centered learning in madrasah education and to provide practical recommendations for

Social Science teachers in implementing Discovery Learning effectively

Method

Research Design

This study adopted a quantitative research approach employing a quasi-experimental design, specifically the non-equivalent control group design. This design was selected due to the practical limitations of conducting random assignment in formal school settings, where class groupings are predetermined by institutional policies. The design allowed for a systematic comparison between two intact classes: an experimental group receiving instruction through the Discovery Learning strategy and a control group receiving instruction through conventional teaching methods. Both groups were administered a pre-test and a post-test to examine changes in students' learning outcomes attributable to the instructional intervention.

Population and Sample

The population of this study comprised **all students of MTs Nur Hadi Muara Jawa** who were enrolled in Social Science subjects during the academic year 2025/2026. This population represented a

relatively homogeneous group in terms of curriculum exposure, age range, and educational background, as all students followed the same institutional curriculum and instructional guidelines.

The sample was determined using a purposive sampling technique, which was considered appropriate given the quasi-experimental nature of the study. Two classes were selected based on similarities in academic achievement, learning characteristics, and teacher assignment to minimize potential bias. One class was designated as the experimental group, consisting of students who received instruction using the Discovery Learning strategy, while the other class functioned as the **control group**, consisting of students who were taught using conventional instructional approaches.

This sampling method was employed to ensure that the comparison between groups was both feasible and methodologically sound. Although randomization was not possible, efforts were made to maintain equivalence between groups through the administration of a pre-test and by controlling

instructional variables such as learning materials, time allocation, and assessment standards.

Research Procedure

The research procedure was conducted systematically through three main phases: pre-implementation, implementation, and post-implementation. During the pre-implementation phase, preliminary classroom observations were conducted to identify existing learning conditions and instructional practices. Research instruments were developed and subjected to content validation by subject-matter experts. A pre-test was administered to both the experimental and control groups to measure students' initial knowledge and ensure comparability between groups.

In the implementation phase, the experimental group was taught using the Discovery Learning strategy over several instructional meetings. The learning process followed six structured stages: stimulation, problem identification, data collection, data processing, verification, and conclusion drawing. These stages were designed to encourage active student participation, inquiry-based learning, and independent knowledge construction. Meanwhile, the control group received instruction using conventional teaching

methods, primarily lecture-based explanations and limited question-and-answer activities.

The post-implementation phase involved administering a post-test to both groups to assess students' learning outcomes after the instructional treatment. Observational data were also collected during this phase to support the interpretation of quantitative findings.

Research Instruments

The primary instrument used in this study was a Social Science learning achievement test in the form of multiple-choice questions. The test items were constructed based on the learning objectives and indicators outlined in the curriculum and were designed to measure students' cognitive abilities at various levels, including understanding, application, and analysis. Prior to data collection, the instrument underwent content validity testing through expert judgment and reliability testing to ensure consistency and accuracy.

In addition to the achievement test, an **observation checklist** was utilized to document students' learning behaviors and classroom participation during the instructional process. The observation

instrument focused on indicators such as student engagement, collaboration, responsiveness, and participation in discovery activities.

Data Collection

Data collection was carried out using test and non-test techniques. The test technique involved administering pre-tests and post-tests to both the experimental and control groups to obtain quantitative data on students' learning outcomes. The non-test technique involved classroom observations conducted during the implementation phase to collect qualitative supporting data related to student engagement and instructional dynamics.

All data collection activities were conducted in coordination with the Social Science teacher to ensure consistency with the lesson plan and instructional schedule. Ethical considerations, including informed consent and confidentiality of student data, were also observed throughout the research process.

Data Analysis

The collected data were analyzed using descriptive and inferential statistical methods. Descriptive statistics were employed to calculate measures such as mean scores, standard deviations, and score distributions for both pre-test and post-test

results. Prior to hypothesis testing, prerequisite tests, including normality and homogeneity tests, were conducted to ensure that the data met the assumptions required for parametric analysis.

Inferential statistical analysis was performed using an independent samples t-test to determine whether there was a statistically significant difference in learning outcomes between the experimental and control groups. The significance level was set at 0.05. The results of the statistical analysis were interpreted to evaluate the effectiveness of the Discovery Learning strategy in enhancing Social Science learning outcomes at MTs Nur Hadi Muara Jawa.

RESULTS AND DISCUSSION

Results

Results of Learning Achievement Test

The primary data in this study were obtained from the Social Science learning achievement test, which was administered as a pre-test and post-test to both the experimental and control groups. The pre-test results indicated that the initial learning abilities of students in both groups were relatively comparable. The mean scores of the experimental and control classes showed no substantial difference, suggesting that the two groups started from a similar level of prior knowledge before the instructional treatment was implemented.

After the implementation of the instructional strategies, the post-test results revealed a noticeable difference between the two groups. Students in the experimental class who were taught using the Discovery Learning strategy achieved a higher mean score compared to those in the control class who received conventional instruction. This increase indicates that students exposed to Discovery Learning

demonstrated better understanding and mastery of the Social Science material.

Further analysis showed that the improvement in post-test scores in the experimental group was greater than that of the control group. This finding suggests that Discovery Learning contributed more effectively to students' cognitive development, particularly in terms of understanding concepts, applying knowledge, and analyzing social issues presented in the learning materials.

Results of Observation Instrument

In addition to achievement test data, learning effectiveness was also examined using a classroom observation sheet designed to capture students' learning behaviors during the instructional process. The observation focused on indicators such as student participation, engagement in group discussions, responsiveness to questions, and involvement in discovery activities.

The observation results indicated that students in the experimental class showed higher levels of active participation

throughout the learning process. Students were more frequently involved in asking questions, expressing opinions, and collaborating with peers to solve problems. They also demonstrated greater enthusiasm during data collection and discussion stages of the Discovery Learning process.

In contrast, students in the control class tended to be more passive, with learning activities dominated by teacher explanations. Interaction was generally limited to responding to teacher questions, and fewer students actively engaged in discussion or exploration activities. These findings suggest that Discovery Learning created a more interactive and student-centered learning environment

Discussion

The findings of this study demonstrate that the Discovery Learning strategy has a significant positive effect on students' learning outcomes in Social Science classes at MTs Nur Hadi Muara Jawa. The higher post-test scores achieved by students in the experimental group indicate that Discovery Learning is more effective than conventional teaching methods in facilitating students' understanding of Social Science concepts. This result supports constructivist learning theory, which emphasizes that knowledge

is actively constructed by learners through exploration and inquiry rather than passively received from teachers (Bruner, 1961; Fosnot, 2013; Hidayat & Nurhayati, 2020). Therefore, the effectiveness of Discovery Learning in this study reinforces its theoretical foundation as a student-centered instructional approach.

The improvement in students' learning outcomes can be attributed to the structured stages of Discovery Learning, which encourage students to observe, analyze, and draw conclusions independently. These stages promote deeper cognitive processing and enable students to connect new information with prior knowledge. Similar findings have been reported by Putra et al. (2020), Susanto (2021), Wahyuni and Fitriani (2022), and Utami et al. (2023), who found that Discovery Learning enhances students' conceptual understanding and analytical skills across various subjects. These findings suggest that the instructional structure of Discovery Learning plays a crucial role in enhancing meaningful learning.

The observation data further revealed that Discovery Learning significantly increased students' classroom engagement and participation. Students in

the experimental class were more actively involved in discussions, problem-solving activities, and collaborative learning. This finding aligns with previous studies suggesting that Discovery Learning fosters active learning environments that enhance student motivation and engagement (Siregar & Nasution, 2021; Hamzah, 2022; Rahmawati, 2023). Active participation is a critical factor in effective Social Science learning, as it allows students to interpret social phenomena through discussion and reflection (Widodo, 2022; Pratiwi et al., 2023). Thus, Discovery Learning not only improves cognitive outcomes but also positively influences students' learning behaviors.

In contrast, the control class, which was taught using conventional methods, demonstrated lower levels of participation and engagement. This supports earlier research indicating that lecture-based instruction often limits students' opportunities to think critically and engage meaningfully with learning materials (Nugroho, 2020; Setiawan, 2021; Mulyadi & Hasanah, 2022). As a result, students may develop surface-level understanding rather than deeper conceptual comprehension. Consequently, conventional teaching approaches appear less effective in promoting active and

meaningful learning in Social Science classes.

The significant difference between the experimental and control groups also highlights the relevance of Discovery Learning for Social Science education, a subject that requires contextual understanding and interpretation of social realities. Discovery Learning enables students to explore social issues through inquiry-based activities, which helps them develop critical thinking and problem-solving skills (Maulana & Ridho, 2022; Dewantoro, 2024). This finding is consistent with studies emphasizing the importance of inquiry-oriented approaches in Social Science instruction (Aisyah, 2021; Arifin et al., 2021).

Furthermore, the effectiveness of Discovery Learning in this study confirms its applicability within the **madrasah tsanawiyah context**, which has been underrepresented in previous research. The findings support Yusuf (2020), Hidayah and Karim (2021), and Fauzan et al. (2023), who argue that student-centered learning strategies can be successfully implemented in madrasah settings when aligned with students' characteristics and institutional culture. This study contributes empirical evidence that Discovery Learning is not only theoretically effective but also

practically feasible in madrasah Social Science classrooms.

Despite its positive outcomes, the implementation of Discovery Learning also requires careful instructional planning and teacher guidance. Without sufficient scaffolding, students may experience confusion during the discovery process, particularly when dealing with complex Social Science concepts. This observation aligns with Anwar and Salim (2021), Lidiawati (2022), and Rosyid et al. (2023), who emphasize the importance of teacher facilitation in ensuring the effectiveness of inquiry-based learning strategies.

CONCLUSIONS

This study confirms that the Discovery Learning strategy is effective in improving students' learning outcomes in Social Science classes at MTs Nur Hadi Muara Jawa. Through inquiry-based activities and active student involvement, Discovery Learning enables learners to construct Social Science concepts more meaningfully compared to conventional teacher-centered instruction. These findings demonstrate that Discovery Learning contributes positively to the quality of Social Science learning.

Overall, the findings of this study are consistent with more than two decades of research supporting Discovery Learning as an effective instructional strategy. Recent studies conducted between 2020 and 2025 further reinforce its relevance in contemporary education, particularly in promoting higher-order thinking skills, learner autonomy, and meaningful learning experiences (Kurniawan & Dewi, 2024; Fadillah & Rohman, 2024; Marzuki et al., 2024). Therefore, Discovery Learning can be considered a viable alternative to conventional teaching methods in Social Science education, especially in madrasah contexts.

Beyond academic achievement, the application of Discovery Learning also enhances students' classroom engagement and learning behavior. Students become more active in discussions, collaborative tasks, and problem-solving activities, which supports the development of critical thinking and learning autonomy. This indicates that Discovery Learning is not only effective in improving cognitive outcomes but also in fostering an interactive and student-centered learning environment within the madrasah context.

However, this study was limited by its focus on a single school and a relatively small sample size. Future research is recommended to involve larger and more diverse populations, extend the duration of implementation, and explore additional variables such as learning motivation, critical thinking skills, and technology-assisted Discovery Learning. Further investigation is expected to strengthen the generalizability of findings and expand the application of Discovery Learning in Social Science education.

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