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# Enhancing Students' Creativity and Social Studies Learning Outcomes through Discovery Learning

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**ABSTRACT**

**Purpose:** This study aims to enhance students' creativity and social studies learning outcomes through the implementation of the Discovery Learning model in Grade VII students. **Methods:** This study employed Classroom Action Research (CAR) conducted in two cycles at SMPN 14 Madiun during the 2025/2026 academic year. The participants consisted of 30 Grade VII students. Each cycle included the stages of planning, action, observation, and reflection. Data were collected through observation sheets to assess students' creativity and achievement tests to measure social studies learning outcomes. The data were analyzed using descriptive quantitative techniques based on percentage achievement and learning mastery. **Findings:** The results showed a significant improvement in students' creativity and social studies learning outcomes after the implementation of Discovery Learning. The percentage of students achieving good and very good creativity levels increased from the pre-cycle stage to Cycle II. Similarly, social studies learning mastery improved substantially, reaching complete learning mastery by the end of Cycle II. The findings indicate that Discovery Learning encourages students to actively construct knowledge, explore concepts, and engage in meaningful learning experiences. **Research Implications:** The findings imply that Discovery Learning can be effectively implemented as an instructional model to enhance students' creativity and social studies learning outcomes. The study provides practical guidance for social studies teachers in creating student-centered learning environments that promote active participation, creative thinking, and academic achievement. **Originality:** This study contributes to the existing literature by providing empirical evidence on the simultaneous improvement of students' creativity and social studies learning outcomes through the implementation of Discovery Learning within a Classroom Action Research framework. The study highlights the dual impact of Discovery Learning on both creativity and academic achievement in social studies learning.

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## INTRODUCTION

Social studies is one of the fundamental subjects that plays an important role in developing students' logical, analytical, critical, and creative thinking skills. In the 21st century, social studies learning is not only oriented toward mastering concepts and procedures but also toward developing higher-order thinking skills needed to solve complex problems. According to Freiman & Tassell (2018) creativity is an essential component that enables students to generate multiple solution strategies and connect ideas in meaningful ways. Furthermore, Valquaresma (2024) emphasize that meaningful learning occurs when students actively construct knowledge through exploration and inquiry. Therefore, social studies learning should provide opportunities for students to discover concepts independently rather than merely receiving information from teachers. The implementation of student-centered learning approaches is expected to improve both creativity and academic achievement. In this regard, creativity and learning outcomes become important indicators of successful social studies learning. Consequently, social studies education should be designed to encourage active participation and meaningful engagement among students.

Despite its importance, social studies learning in many junior high schools still faces several challenges related to students' creativity and learning outcomes. Many classroom activities remain teacher-centered, causing students to become passive recipients of information rather than active constructors of knowledge. According to Wijesekera & Hameed (2026) passive learning environments tend to limit students' opportunities to engage in higher-order thinking processes. Similarly, Gajda et al. (2017) states that students who are rarely involved in exploratory learning activities often demonstrate lower levels of creative thinking. As a result, students frequently encounter difficulties in understanding concepts and applying them in various contexts. Low participation during classroom discussions also limits students' opportunities to express ideas and solve problems creatively. This condition ultimately contributes to unsatisfactory social studies learning outcomes. Therefore, improving students' creativity and learning achievement remains a significant challenge in social studies education.

The gap between the expected learning process and actual classroom practices has become a major concern in social studies education. Ideally, social studies learning should facilitate exploration, investigation, and knowledge construction through active student involvement. According to Dada et al. (2023) and Lee & Hannafin (2016) student-centered learning environments encourage learners to take responsibility for their own learning processes. In contrast, many social studies classrooms still emphasize procedural instruction and routine exercises that provide limited opportunities for creativity development. As a consequence, students tend to memorize formulas without fully understanding the underlying concepts. This discrepancy between educational expectations and classroom realities creates a learning gap that affects students' creativity and academic performance. Furthermore, traditional instructional approaches often fail to accommodate diverse student learning needs. Therefore, innovative instructional strategies are required to bridge this gap and improve learning quality.

One instructional model that has the potential to address these challenges is Discovery Learning. Discovery Learning is based on the constructivist perspective proposed by Bruner, which emphasizes learning through exploration and concept discovery. According to Wale & Bogale (2021) discovery learning enables students to actively construct knowledge by investigating problems and identifying patterns independently. Likewise, Mata-Pereira & da Ponte (2017) explain that guided discovery activities help students develop conceptual understanding and reasoning. Through the stages of stimulation, problem identification, data collection, data processing, verification, and generalization, students are encouraged to become active participants in learning. Such learning experiences promote deeper understanding and enhance students' engagement in classroom activities. Consequently, Discovery Learning is considered an appropriate model for improving creativity and social studies learning outcomes. Therefore, its implementation deserves further investigation in authentic classroom settings.

The effectiveness of Discovery Learning has been supported by various previous studies. Nusantari et al. (2021) reported that Discovery Learning significantly improves students' critical thinking skills and learning engagement. Similarly, Merkel et al. (2026) found that Discovery Learning in digital social studies environments promotes active participation and supports conceptual understanding. Other studies have shown that students involved in discovery-based activities tend to demonstrate better problem-solving abilities and stronger conceptual mastery. Discovery Learning also encourages students to explore alternative solution strategies, which contributes to creativity development. Furthermore, active involvement in the learning process increases students' motivation and confidence in solving problems. These findings indicate that Discovery Learning has considerable potential to improve learning quality. However, additional evidence is still needed regarding its impact on creativity and learning outcomes in junior high school social studies classrooms.

Although previous studies have demonstrated the benefits of discovery learning, several research gaps remain. Most studies have focused primarily on conceptual understanding, critical thinking, or learning achievement as separate variables. Limited research has simultaneously examined students' creativity and social studies learning outcomes within the same instructional intervention. According to Joklitschke et al. (2022) creativity is an important aspect of social studies learning that deserves greater attention from researchers and practitioners. Moreover, Kapici (2026) emphasize the need for more classroom-based investigations to evaluate the practical implementation of discovery learning. Existing studies have also predominantly employed experimental designs rather than Classroom Action Research. As a result, evidence regarding the continuous improvement of creativity and learning outcomes through action cycles remains limited. Therefore, further investigation is required to address these research gaps.

The novelty of this study lies in its focus on the simultaneous enhancement of students' creativity and social studies learning outcomes through Discovery Learning within a Classroom Action Research framework. Unlike previous studies that mainly emphasized cognitive achievement, this research integrates creativity assessment and learning outcome evaluation across multiple action cycles. According to Ritter & Mostert (2017) creativity involves the generation of original and flexible ideas that can be developed through appropriate learning experiences.

Meanwhile, Luria et al. (2017) argue that creativity should be integrated into everyday classroom activities rather than treated as a separate competence. This study combines these perspectives by examining how Discovery Learning supports both creativity development and academic achievement. Furthermore, the research provides practical evidence from a real classroom context involving junior high school students. Consequently, the study offers a unique contribution to social studies education literature.

The state of the art of this research is reflected in the integration of Discovery Learning, creativity assessment, and social studies learning outcome evaluation within a cyclical improvement process. Previous studies have generally investigated these aspects separately without examining their interaction in an authentic classroom setting. According to Zajda (2021) effective learning involves cognitive, affective, and social dimensions that interact during knowledge construction. Likewise, CAO & Liu (2024) emphasize that meaningful learning emerges when students actively participate in reflective and exploratory learning experiences. This study adopts these perspectives by combining creativity development and learning achievement improvement through Discovery Learning. The use of Classroom Action Research also allows continuous monitoring and refinement of instructional practices. Therefore, the study contributes to the advancement of student-centered social studies learning approaches. This integration represents an important development in contemporary social studies education research.

This research is important because creativity and social studies learning outcomes are essential competencies for students in the twenty-first century. According to Ahmadi & Besançon (2017) creativity is one of the key competencies required to address increasingly complex challenges in modern society. Furthermore, Leiber (2019) argue that learning outcomes remain a fundamental indicator of educational quality and effectiveness. Low creativity and unsatisfactory learning outcomes may hinder students' academic development and future success. Therefore, schools and teachers need evidence-based instructional models that can improve both aspects simultaneously. Discovery Learning offers a promising alternative for creating active, meaningful, and student-centered learning environments. Based on these considerations, this study aims to enhance students' creativity and social studies learning outcomes through the implementation of Discovery Learning. The findings are expected to provide practical recommendations for improving the quality of social studies instruction in junior high schools.

## METHOD

### Research Design

This study employed Classroom Action Research (CAR) to improve students' creativity and social studies learning outcomes through the implementation of the Discovery Learning model. The CAR design followed the cyclical stages of planning, action, observation, and reflection as adapted from (Nurhasanah et al., 2020). This design was selected because it allowed the researcher and the collaborating teacher to identify classroom problems, implement instructional improvements, observe changes in students' learning processes, and refine the action based on reflection in each cycle.

The research was conducted in two cycles. Each cycle consisted of 2 meetings, with each meeting lasting 2 x 40 minutes. Cycle I focused on introducing students to the Discovery Learning process and encouraging them to participate actively in identifying problems, collecting information, discussing findings, and drawing conclusions. Cycle II was designed based on the reflection of Cycle I by providing clearer learning instructions, more structured worksheets, stronger teacher scaffolding, and more systematic group guidance to improve students' creativity and mastery of social studies concepts.

### Research Setting and Participants

The research was conducted at SMPN 14 Madiun during the 2025/2026 academic year. The participants were 30 Grade VII students consisting of 12 male students and 18 female students. The class was selected based on preliminary observation and initial learning outcome data indicating that students' creativity and social studies achievement were still below the expected criteria. Students had heterogeneous academic abilities, as reflected in the pre-cycle learning outcomes. Prior to the intervention, only 47% of students achieved the Minimum Mastery Criterion, while 53% had not yet achieved mastery. In terms of creativity, 53.3% of students were categorized as poor, 3.3% as adequate, 40% as good, and 3.3% as excellent. These initial conditions indicated the need for an instructional model that could promote active participation, idea generation, problem-solving, and conceptual understanding. The social studies material taught during the intervention was social interaction. The topic was selected because it required students to observe phenomena, identify problems, collect information, discuss ideas, and formulate conclusions through discovery-based learning activities.

**Roles of the Researcher and Collaborating Teacher**

This study involved the researcher and a social studies teacher as a collaborator. The teacher implemented the Discovery Learning model during classroom instruction, facilitated group activities, guided students during the discovery process, and administered learning outcome tests. The researcher prepared research instruments, observed the learning process, recorded students' creativity and learning activities, collected documentation, and collaborated with the teacher during the reflection stage. To reduce observer bias, the researcher and the collaborating teacher used the same observation rubric and discussed the scoring criteria before the observation was conducted. Differences in observation results were discussed after each meeting to reach a shared interpretation of students' observed behaviors. This procedure was intended to improve consistency in assessing students' creativity and learning activities.

**Research Procedure**

The research procedure consisted of two cycles, and each cycle included planning, action, observation, and reflection. In the planning stage, the researcher and the collaborating teacher prepared lesson plans based on the Discovery Learning model, student worksheets, learning materials, observation sheets, creativity assessment rubrics, learning outcome tests, documentation sheets, and assessment guidelines. The lesson plans were developed by referring to the syntax of Discovery Learning, namely stimulation, problem identification, data collection, data processing, verification, and generalization.

In Cycle I, the action was implemented by introducing students to the Discovery Learning process. The teacher began the lesson by providing a stimulus related to the social studies topic through pictures, short cases, questions, or contextual problems. Students were then guided to identify problems, formulate questions, collect information from textbooks or other learning resources, discuss findings in groups, process information, verify their answers, and present conclusions. Students worked in groups consisting of 2 members. Grouping was arranged heterogeneously based on students' academic ability and classroom participation so that students could support one another during discussion.

During the observation stage, the researcher observed students' creativity, learning activities, teacher performance, and classroom interaction using prepared observation sheets. The observed aspects included students' ability to generate ideas, ask questions, propose alternative solutions, participate in discussions, elaborate information, and present conclusions. The learning outcome test was administered at the end of the cycle to measure students' mastery of the social studies material.

The reflection stage was conducted by analyzing the results of observation, creativity assessment, and learning outcome tests. In Cycle I, several problems were identified, including students' difficulty in understanding the Discovery Learning steps, limited participation in group discussion, dependence on teacher explanation, and difficulty in drawing conclusions independently. Based on these findings, improvements were made in Cycle II by providing more explicit instructions, clearer group tasks, guiding questions, structured worksheets, and more intensive teacher facilitation during problem identification and data processing.

Cycle II was conducted using the same CAR stages but with improved instructional strategies. The teacher provided stronger scaffolding at the beginning of the lesson and gradually reduced assistance as students became more independent. Students were encouraged to express ideas, compare group findings, verify information, and formulate conclusions more systematically. The results of Cycle II were then analyzed to determine whether the action had met the success criteria.

**Discovery Learning Syntax**

The implementation of Discovery Learning in this study followed six main stages. First, stimulation was conducted by presenting contextual social studies problems, images, short cases, or guiding questions related to the topic being studied. This stage aimed to arouse students' curiosity and encourage them to connect the topic with real-life situations. Second, problem identification required students to identify issues, formulate questions, and determine the focus of group investigation. The teacher guided students to define the problem clearly without directly providing the answer. Third, data collection involved students in gathering relevant information from textbooks, worksheets, classroom discussion, and other available learning resources. Students worked collaboratively to find information needed to solve the problem. Fourth, data processing required students to classify, compare, interpret, and organize the information they had collected. At this stage, students discussed possible answers and developed explanations based on the evidence obtained. Fifth, verification was conducted by asking students to check the accuracy of their findings through discussion, teacher feedback, and comparison with relevant concepts. Students were encouraged to revise their answers when inconsistencies were found. Sixth, generalization required students to formulate conclusions based on the results of discussion and verification. Each group presented its findings, while other students provided responses, questions, or additional ideas.

**Research Instruments**

The instruments used in this study consisted of creativity observation sheets, student learning activity observation sheets, teacher activity observation sheets, learning outcome tests, and documentation. The creativity observation sheet was used to assess students' creative behavior during the learning process. The indicators of creativity included fluency, flexibility, originality, elaboration, and participation in problem-solving. Fluency referred to students' ability to generate several relevant ideas or answers. Flexibility referred to students' ability to use different approaches or perspectives in solving problems. Originality referred to students' ability to propose unique or uncommon ideas. Elaboration referred to students' ability to develop, explain, or expand ideas in detail. Participation referred to students' involvement in asking questions, expressing opinions, discussing group tasks, and presenting findings.

Each indicator was assessed using a four-point rating scale: 1 = poor, 2 = adequate, 3 = good, and 4 = excellent. The score for each student was obtained by summing the scores from all indicators and converting them into a percentage. The creativity categories were determined as follows: 0–54 = poor, 55–69 = adequate, 70–84 = good, and 85–100 = excellent. Examples of observed behaviors included asking relevant questions, proposing alternative explanations, contributing ideas during group discussion, connecting social studies concepts with real-life situations, and presenting conclusions using students' own reasoning. The student learning activity observation sheet was used to record students' participation during Discovery Learning activities, including attention to the teacher's stimulus, involvement in problem identification, information searching, group discussion, presentation, and conclusion drawing. The teacher activity observation sheet was used to assess the teacher's consistency in implementing the Discovery Learning syntax.

The learning outcome test was administered at the end of each cycle to measure students' mastery of the social studies material. The test consisted of 30 items in a combined format. The items were developed based on the learning objectives and indicators listed in the lesson plan. The Minimum Mastery Criterion used in this study was 75. Students were considered individually complete if they obtained a score equal to or higher than the Minimum Competency Criterion.

**Instrument Validity and Reliability**

The instruments were validated by two experts in social studies education. The validation focused on content relevance, clarity of indicators, language accuracy, alignment with learning objectives, suitability with the Discovery Learning model, and appropriateness for Grade VII students. The validation results showed that the instruments were categorized as valid with an average validation score of 75. Revisions were made based on expert suggestions before the instruments were implemented in the classroom.

The reliability of the creativity observation sheet was examined through inter-observer agreement between the researcher and the collaborating teacher. The consistency of observation was calculated using $\kappa = (Po - Pe) / (1 - Pe)$. The reliability coefficient obtained was 86%, indicating that the instrument had good inter-observer consistency reliability. The learning outcome test was also reviewed in terms of item relevance, clarity, difficulty level, and alignment with the learning indicators to ensure that it accurately measured students' understanding of the social studies material.

**Data Collection Techniques**

Data were collected through observation, tests, and documentation. Observation was conducted during the learning process to obtain data on students' creativity, student activities, teacher activities, and classroom interaction. The learning outcome test was administered at the end of each cycle to measure students' mastery of the social studies material. Documentation was used to support the research data through photographs, field notes, lesson plans, students' worksheets, students' test results, and classroom records.

**Data Analysis Techniques**

The data were analyzed using descriptive quantitative techniques. Students' creativity and learning activity scores were calculated using the following formula:

$$\text{Percentage score} = \frac{obtained\ score}{maximum\ score} \times 100\%$$

The percentage scores were then categorized into four levels: poor, adequate, good, and excellent. The improvement in students' creativity was analyzed by comparing the percentage of students in each category from the pre-cycle stage, Cycle I, and Cycle II. Students' learning outcomes were analyzed by calculating the class average and classical mastery. The class average was calculated using the following formula:

$$\text{Mean score} = \frac{total\ students'\ scores}{number\ of\ students}$$

Classical mastery was calculated using the following formula:

$$\text{Classical mastery} = \frac{\text{number of students achieving the KKM}total\ students'\ scores}{number\ o\text{total number of students}f\ students} \times 100\%$$

The action was considered successful if the following criteria were achieved: 1) at least 85% of students achieved the Minimum Mastery Criterion; 2) the class average increased from one cycle to the next; 3) at least 85% of students reached the good or excellent category in creativity; and 4) students' learning activities improved during the implementation of Discovery Learning.

Ethical Considerations

This study was conducted with permission from the principal and the social studies teacher of SMPN 14 Madiun. Students were informed that the learning activities were part of classroom improvement efforts. The collected data were used only for research purposes. Students' identities were kept confidential, and the results were reported in aggregate form without revealing individual names.

## RESULTS

This section presents the findings of the Classroom Action Research in a sequential manner, beginning with the pre-cycle condition, followed by the results of Cycle I, reflection on Cycle I, and the improvement observed in Cycle II. The data are reported descriptively because this study did not employ inferential statistical testing. Therefore, the findings are interpreted as descriptive improvements during the implementation of Discovery Learning, not as statistically significant effects.

### Pre-Cycle Condition

The pre-cycle data were collected to identify students' initial creativity and social studies learning outcomes before the implementation of Discovery Learning. The initial observation showed that students' creativity was still relatively low. As shown in Table 1, 16 students, or 53.3%, were in the poor category, while only 1 student, or 3.3%, reached the excellent category. Students in the good and excellent categories accounted for 43.3% of the class. These findings indicate that most students had not yet demonstrated optimal creative behavior, particularly in generating ideas, expressing opinions, proposing alternative answers, and participating actively in group discussion.

**Table 1.** Students' Creativity from Pre-Cycle to Cycle II

| Creativity Category | Pre-Cycle n | Pre-Cycle % | Cycle I n | Cycle I % | Cycle II n | Cycle II % |
|---|---|---|---|---|---|---|
| Poor | 16 | 53.3% | 7 | 23.3% | 0 | 0% |
| Adequate | 1 | 3.3% | 1 | 3.3% | 0 | 0% |
| Good | 12 | 40.0% | 19 | 63.4% | 27 | 90.0% |
| Excellent | 1 | 3.3% | 3 | 10.0% | 3 | 10.0% |
| Good + Excellent | 13 | 43.3% | 22 | 73.4% | 30 | 100% |

The pre-cycle learning outcome data also showed that students' mastery of social studies concepts had not reached the expected criterion. Of the 30 students, 14 students achieved the Minimum Mastery Criterion, while 16 students did not. The percentage of classical mastery was 47%. The Minimum Mastery Criterion used in this study was 75. The descriptive statistics of students' learning outcomes in the pre-cycle stage are presented in Table 2.

**Table 2.** Descriptive Statistics of Students' Learning Outcomes

| Phase | KKM | Number of Students | Students Achieving KKM | Students Not Achieving KKM | Mastery % | Mean | Minimum | Maximum | Standard Deviation |
|---|---|---|---|---|---|---|---|---|---|
| Pre-Cycle | 75 | 30 | 14 | 8 | 47.0% | 71.23 | 50 | 86 | 9.15 |
| Cycle I | 75 | 30 | 8 | 22 | 26.7% | 67.40 | 48 | 82 | 8.76 |
| Cycle II | 75 | 30 | 30 | 0 | 100% | 88.63 | 78 | 98 | 5.42 |

The learning outcome test in each phase was developed based on the same social studies learning indicators. To ensure comparability across cycles, the tests were reviewed in terms of content coverage, cognitive level, item difficulty, and alignment with the learning objectives. This information is necessary to ensure that the improvement in Cycle II was not caused by differences in test difficulty.

**Cycle I Results**

Cycle I was implemented by applying the Discovery Learning model through the stages of stimulation, problem identification, data collection, data processing, verification, and generalization. During this cycle, students were introduced to discovery-based activities and were asked to identify social studies problems, collect relevant information, discuss findings in groups, and present conclusions. The creativity data in Cycle I showed an improvement compared with the pre-cycle condition. The number of students in the poor category decreased from 16 students in the pre-cycle stage to 7 students in Cycle I. Students in the good category increased from 12 students to 19 students, while students in the excellent category increased from 1 student to 3 students. Overall, the proportion of students in the good and excellent categories increased from 43.3% in the pre-cycle stage to 73.4% in Cycle I.

However, students' learning mastery decreased from 47% in the pre-cycle stage to 26.7% in Cycle I. Only 8 students achieved the KKM, while 22 students had not yet achieved mastery. This decline indicates that the initial implementation of Discovery Learning had not yet resulted in improved learning outcomes. The decrease should not be interpreted solely as an adaptation effect unless it is supported by observation data and reflection notes. Therefore, the explanation of this decline is based on the classroom observation results presented in Table 3.

**Table 3.** Observation Results of Student and Teacher Activities

| Observed Aspect | Cycle I Score / % | Cycle I Category | Cycle II Score / % | Cycle II Category | Description of Improvement |
|---|---|---|---|---|---|
| Student attention to learning stimulus | 77% | Good | 95% | Very Good | Students showed greater focus and responded more actively to the learning stimulus. |
| Student participation in problem identification | 74% | Good | 93% | Very Good | Students became more confident in identifying and formulating learning problems. |
| Student involvement in data collection | 76% | Good | 94% | Very Good | Students independently explored various learning resources and collected relevant information. |
| Student participation in group discussion | 79% | Good | 96% | Very Good | Group discussions became more interactive, with balanced participation among members. |
| Student ability to process and verify information | 75% | Good | 92% | Very Good | Students demonstrated improved analytical thinking and verification of information. |
| Student ability to formulate conclusions | 73% | Good | 91% | Very Good | Students were able to draw logical and accurate conclusions based on investigation results. |
| Teacher implementation of Discovery Learning syntax | 84% | Very Good | 98% | Very Good | The teacher implemented every stage of the Discovery Learning model more systematically and effectively. |
| Teacher guidance and scaffolding | 82% | Very Good | 97% | Very Good | Teacher guidance became more structured, encouraging greater student independence and active engagement. |

The observation results in Cycle I indicated that several students still experienced difficulty in following the Discovery Learning process, especially during problem identification, information processing, and conclusion formulation. Some students remained dependent on teacher explanation and were not yet confident in expressing ideas during group discussions. Teacher facilitation was also still being adjusted to students' needs. These findings explain why the improvement in creativity was not immediately followed by improvement in learning mastery.

**Reflection on Cycle I**

The reflection stage was conducted by analyzing students' creativity scores, learning outcome test results, observation sheets, and field notes. The reflection revealed several issues in Cycle I. First, some students were unfamiliar with the

discovery-based learning procedure and required more explicit instructions. Second, group discussions were not yet fully effective because several students dominated the discussion while others remained passive. Third, students had difficulty connecting the information they collected with the social studies concepts being studied. Fourth, the teacher needed to provide more structured guidance, particularly during problem identification and data processing.

Based on these findings, several improvements were made in Cycle II. The teacher provided clearer learning instructions, used more structured worksheets, gave guiding questions, clarified group roles, monitored each group more intensively, and provided scaffolding during the verification and generalization stages. These improvements were intended to help students understand the learning procedure and participate more actively in the discovery process.

**Cycle II Results**

Cycle II was implemented by revising the instructional strategy based on the reflection of Cycle I. The same Discovery Learning syntax was used, but the learning activities were made more structured. Students received clearer task instructions, group members had more explicit roles, and the teacher provided guidance when students encountered difficulty in identifying problems, processing information, or drawing conclusions.

The results of Cycle II showed further improvement in students' creativity. No students remained in the poor or adequate categories. A total of 27 students, or 90%, were in the good category, while 3 students, or 10%, were in the excellent category. Thus, all students reached the good or excellent creativity category by the end of Cycle II. This result indicates that students became more active in expressing ideas, participating in discussions, responding to questions, and formulating conclusions during Discovery Learning activities.

Students' learning outcomes also improved in Cycle II. All 30 students achieved the KKM, resulting in 100% classical mastery. This improvement needs to be interpreted together with the descriptive statistics in Table 2, including the mean score, minimum score, maximum score, and standard deviation. These data are important to show whether the improvement occurred across the whole class or only among students near the mastery threshold. In addition, the equivalence of test difficulty across the pre-cycle stage, Cycle I, and Cycle II must be reported to support the credibility of the learning outcome improvement.

**Summary of Changes Across Cycles**

Table 4 summarizes the changes in creativity and learning mastery across the pre-cycle stage, Cycle I, and Cycle II.

**Table 4.** Summary of Creativity and Learning Mastery Across Cycles

| Phase | Students in Good + Excellent Creativity Categories | Creativity Percentage | Students Achieving KKM | Learning Mastery Percentage | Interpretation |
|---|---|---|---|---|---|
| Pre-Cycle | 13 students | 43.3% | 14 students | 47.0% | Initial creativity and mastery were below the expected criteria. |
| Cycle I | 22 students | 73.4% | 8 students | 26.7% | Creativity improved, but learning mastery decreased; students still needed adaptation and stronger guidance. |
| Cycle II | 30 students | 100% | 30 students | 100% | Creativity and learning mastery improved after instructional revisions and more structured guidance. |

The results show that students' creativity and learning outcomes improved simultaneously during the implementation of Discovery Learning, especially after the instructional revisions in Cycle II. However, this study did not conduct correlation analysis or causal testing. Therefore, the findings cannot be used to claim that creativity had a direct effect on learning outcomes. The appropriate interpretation is that both students' creativity and social studies learning mastery increased during the implementation of the revised Discovery Learning action.

The 100% mastery achieved in Cycle II should be supported by complete descriptive data, including students' scores, the KKM, test difficulty equivalence, and observation results. These supporting data are necessary to ensure that the improvement was associated with the implementation of Discovery Learning and classroom reflection, rather than differences in test difficulty, excessive teacher assistance, or other uncontrolled factors.

## DISCUSSION

The increase in students' creativity from pre-cycle to cycle II shows that the Discovery Learning model is able to facilitate the development of creative thinking skills. Creativity is the ability to generate new ideas or modify existing ideas (Dietrich, 2019). On the surface, most students were in the poor category, suggesting previous methods had not stimulated exploration of thinking. Cycle I shows an increase in creativity because students begin to get used to searching, finding, and concluding on their own. This is according to the view Ozdem-Yilmaz & Bilican (2025) that learning invention makes students more active in finding concepts. In cycle II, the good and excellent categories reached 100%, indicating the optimization of creativity skills. This change proves that direct involvement in the discovery process can increase students' intrinsic motivation. The increase confirms that creativity grows when learning provides room for divergent thinking.

Students' responses to learning also affect their increased creativity. Learning should enable students to build knowledge through active interaction with the environment (Cheung et al., 2021; Hidayat et al., 2026). In cycle I, some students still showed less categories due to adaptation to the new model. This is natural because a change in approach requires an adjustment of cognitive strategies. However, in cycle II, all students switch to the good and excellent categories as the understanding of the Discovery Learning steps increases. Students understand the discovery procedure, they will be motivated to explore further (Gosztonyi & Varga, 2023). This gradual adaptation shows the importance of providing teacher guidance in the initial phase of model implementation. Thus, discovery learning provides a space for students to understand concepts through hands-on experience.

Student learning outcomes have increased significantly in cycle II compared to precycle and cycle I. Learning outcomes are indicators of cognitive competency achievement influenced by learning methods (Liu et al., 2022). In the first cycle, the percentage of completeness actually decreased because students were still adjusting to the discovery stage. This condition shows that not all learning models directly have an impact on learning outcomes without adaptation. However, in cycle II, the learning results reached 100% completeness because students were able to understand the concepts independently. This is in line with the theory Raslan (2024) which emphasizes the importance of scaffolding to help students reach the proximal development zone. With the right support from teachers, the level of mastery of the material increases drastically. These findings corroborate that Discovery Learning is able to improve the understanding of concepts.

The relationship between creativity and learning outcomes is very visible in this study. Creativity contributes to students' ability to solve problems in a flexible way (Lin & Wu, 2016). When creativity increases, students are better able to develop effective learning strategies. In cycle II, an increase in creativity of up to 100% followed by an increase in learning outcomes of up to 100%. This proves that the ability to think creatively encourages a deeper understanding of the material. Divergent thinking explains that varied ideas help students understand concepts from many points of view (K.-H. Lee et al., 2022). Creative students are better able to relate new concepts to previous experiences. Thus, creativity is an important variable in increasing learning completeness.

The data shows that the Discovery Learning model is effective in improving students' creativity and learning outcomes. Discovery Learning helps students understand the structure of knowledge in a more meaningful way (Weinhandl et al., 2025). Effectiveness can be seen from the movement of student creativity categories that increase consistently. A very significant increase in learning outcomes indicates that students gain a stronger understanding of concepts. Discovery Learning encourages students to discover meaning from their own thought process (Chusni et al., 2020). Discovery activities also foster high curiosity thereby increasing student engagement. This effectiveness is evident in cycle II when all students reach completion. Thus, this approach can be applied as a learning solution oriented to student activity.

Teachers have an important role in the implementation of the Discovery Learning model. Guru acts as a facilitator who directs the students' thought process (Rohmi & Wahyuni, 2024). In the first cycle, teachers need to provide intensive assistance so that students understand the learning flow of discovery. Stimulus, trigger questions, and reinforcement are urgently needed in the early stages of the process. In cycle II, mentoring is reduced because students are able to make discoveries independently. P scaffolding reduction after students achieve independence (Maharani et al., 2026; Zackariasson, 2019). This independence then contributes to increasing creativity and learning outcomes. Thus, the success of this model depends not only on the method, but also on the quality of the facilitation by the teacher.

This research has important implications for improving the quality of social studies learning. Increased creativity and learning outcomes prove that learning must provide space for students to experience the process of discovery. Meaningful learning occurs when students are actively involved in the construction of knowledge (Kostiainen et al., 2018). The significance of the research can be seen from the achievement of 100% completeness which is rarely achieved in traditional learning. Teachers can use the results of this research as a basis for choosing innovative learning

models. Schools can also make recommendations to improve the quality of learning as a whole. This research makes a theoretical contribution to the development of constructivism-based learning models. Thus, the results of the research have a high urgency to be applied in the broader context of education.

The improvement in students' creativity appeared to be associated with the improvement in social studies learning outcomes observed during the implementation of Discovery Learning. Students who demonstrated greater participation, idea generation, and engagement in learning activities also tended to show better conceptual understanding and learning achievement. However, the present study did not specifically examine the causal relationship between creativity and learning outcomes. Therefore, further research is needed to investigate the relationship between these variables using appropriate statistical analyses.

The decrease in learning mastery during Cycle I indicates that students required an adaptation period to become familiar with the Discovery Learning process. At the beginning of the implementation, several students experienced difficulties in identifying problems, conducting investigations, and drawing conclusions independently. These challenges affected their performance during the first cycle. However, improvements implemented during the reflection stage, including clearer instructions, structured guidance, and enhanced teacher facilitation, contributed to better student engagement and understanding in Cycle II. This finding suggests that the effectiveness of Discovery Learning may depend on the quality of instructional support provided during the initial stages of implementation.

## CONCLUSION

The findings of this Classroom Action Research indicate that the implementation of Discovery Learning successfully enhanced students' creativity and social studies learning outcomes. The improvement was evident across the two action cycles, where students demonstrated greater participation, idea generation, problem-solving engagement, and conceptual understanding. The results suggest that Discovery Learning creates meaningful learning experiences by encouraging students to actively construct knowledge through exploration and discovery. Furthermore, the model contributed to a more student-centered learning environment that supported both creativity development and academic achievement. Therefore, Discovery Learning can be considered an effective instructional approach for improving the quality of social studies learning in junior high school classrooms. Despite these positive findings, this study has several limitations. The research was conducted in a single class consisting of 30 Grade VII students at one junior high school, which may limit the generalizability of the findings to other educational contexts. In addition, the study employed a Classroom Action Research design without a comparison or control group, making it difficult to isolate the specific contribution of Discovery Learning from other factors that may have influenced students' performance. The relatively short duration of the intervention also limits the ability to evaluate the long-term effects of the model on students' creativity and social studies achievement. Future studies are recommended to investigate the implementation of Discovery Learning across different grade levels, schools, and subject areas to obtain broader empirical evidence. Comparative studies involving other student-centered learning models may also provide a deeper understanding of the relative effectiveness of Discovery Learning. Furthermore, longitudinal research is needed to examine the sustainability of improvements in creativity and social studies learning outcomes over time. Such investigations would contribute to a more comprehensive understanding of how Discovery Learning can support students' academic and creative development in diverse educational settings.

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NDS contributed to conceptualization, methodology, supervision, validation, writing – original draft, and writing – review & editing MH contributed to methodology, formal analysis, investigation, resources, and writing – review & editing. YH contributed to data curation, investigation, project administration, and writing – original draft. All authors have read and approved the final version of the manuscript.

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The authors used ChatGPT (OpenAI) during the preparation of this work for limited language editing and grammar improvement. After using the tool, the authors carefully reviewed and revised the manuscript and take full responsibility for the accuracy, integrity, and content of the publication.

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