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Implementation of Discovery Learning Models to Improve Understanding of Soci-Cultural Change Material at SMP Negeri 02 Rumbia, Indonesia

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Abstract

This study aimed to improve students' understanding of socio-cultural change in class IX at SMP Negeri 02 Rumbia through the implementation of the Discovery Learning model. The research was conducted using Classroom Action Research (CAR) over three cycles, each consisting of planning, action, observation, and reflection. The participants were class IX students, and data were collected from both students and teachers through observation and written tests, then analyzed qualitatively using descriptive analysis. The findings showed that students' understanding gradually improved across the cycles. In Cycle I, the average learning outcome was 72.22 with 61% of students achieving mastery. Cycle II showed an increase to an average score of 79.17 with 75% mastery, and in Cycle III, the average score reached 89.72 with 100% of students achieving mastery, categorized as "Very Good." These results indicate that the Discovery Learning model effectively enhances students' comprehension of socio-cultural change, fostering active engagement, critical thinking, and collaborative learning..

Keywords: *Discovery Learning; Socio-cultural change; Classroom Action Research; Student understanding; Learning outcomes*

A. Introduction

A strong and sustained commitment to the principles of nationalism grounded in Pancasila and the 1945 Constitution of the Republic of Indonesia is essential for strengthening students' civic awareness and socio-cultural understanding. Such commitment needs to be systematically cultivated through formal education, particularly at the junior secondary level, where students are expected to develop critical awareness of social realities and national identity (Suryadi & Budimansyah, 2019; Wibowo, 2021).

However, preliminary observations conducted at SMP Negeri 2 Rumbia revealed several persistent challenges in social studies (sociology) learning, particularly in the topic of socio-cultural change. Students tended to be passive during classroom activities, demonstrated low participation in discussions, and showed limited ability to identify and analyze socio-cultural problems. Sociology learning was commonly perceived as a subject that emphasizes memorization rather than reasoning, resulting in low learning interest and unsatisfactory learning outcomes. These conditions were reflected in students' limited critical thinking skills and weak conceptual understanding of socio-cultural change.

Previous studies have identified that students' low achievement in social studies is influenced by both internal and external factors. Internal factors include learning motivation, cognitive ability, learning habits, and self-confidence, while external factors relate to teaching

strategies, teacher roles, learning facilities, curriculum design, and classroom environment (Putri & Istiqomah, 2018; Rahmawati et al., 2020). Among these factors, teacher-centered instructional practices remain a dominant issue, as they limit students' opportunities to actively construct knowledge and engage in higher-order thinking.

In response to these challenges, contemporary educational research emphasizes the importance of student-centered learning models that promote active engagement, contextual learning, and competence development across cognitive, affective, and psychomotor domains (Sari et al., 2020; Yuliani & Saragih, 2017). One instructional approach that aligns with these principles is Discovery Learning, which encourages students to explore problems, formulate hypotheses, and discover concepts through guided inquiry. Empirical studies have shown that Discovery Learning enhances students' conceptual understanding, problem-solving ability, and learning motivation in social science classrooms (Fitriani & Hidayat, 2018; Zulkarnaen & Sofyan, 2022).

Despite the growing body of research on Discovery Learning, a notable research gap remains. Most existing studies employ experimental or quasi-experimental designs and are conducted in senior high schools or controlled settings. There is limited empirical evidence derived from Classroom Action Research (CAR) that documents the iterative implementation of Discovery Learning in junior secondary schools, particularly in the context of socio-cultural change material. Moreover, few studies explicitly examine how reflective instructional cycles contribute to continuous improvement in students' ability to identify and analyze socio-cultural problems in real classroom contexts.

To address this gap, the present study offers a novel contribution by implementing the Discovery Learning model through a Classroom Action Research framework at SMP Negeri 2 Rumbia. The novelty of this study lies in its emphasis on iterative teaching cycles—planning, action, observation, and reflection—to systematically improve students' ability to identify socio-cultural change problems. Unlike prior studies that focus primarily on learning outcomes, this research integrates reflective teaching practices to adapt instructional strategies based on students' responses and learning difficulties.

Accordingly, the purpose of this study is to examine the effectiveness of the Discovery Learning model in improving students' ability to identify socio-cultural change problems in social studies learning at SMP Negeri 2 Rumbia. Specifically, this study aims to: (1) enhance students' conceptual understanding of socio-cultural change, (2) increase active participation and learning mastery, and (3) evaluate the effectiveness of Discovery Learning implemented through Classroom Action Research cycles.

B. Literary Review

1. Concept of Learning

Learning is broadly understood as a transformative process through which individuals construct knowledge, skills, values, and dispositions as a result of interaction with their environment. Contemporary educational research emphasizes learning as an active, constructive, and contextual process rather than mere knowledge transmission (Hattie, 2017; OECD, 2018). Learning outcomes encompass not only cognitive achievement but also affective engagement and psychomotor competence, forming an integrated framework of holistic learner development.

From a constructivist perspective, learning occurs when learners actively engage with problems, reflect on experiences, and reorganize prior knowledge into more sophisticated mental structures (Kirschner et al., 2018). This perspective aligns with student-centered learning paradigms that position learners as active agents, while teachers function as facilitators who design meaningful learning experiences.

UNESCO's four pillars of learning—*learning to know, learning to do, learning to live together,* and *learning to be*—remain highly relevant in contemporary educational discourse (UNESCO, 2016). These pillars emphasize that education should develop critical inquiry skills, practical competence, social cohesion, and personal identity. Empirical studies demonstrate that instructional approaches grounded in these principles significantly enhance student engagement, self-efficacy, and long-term learning retention (Schleicher, 2018).

2. Socio-Cultural Change in Social Studies Learning

Socio-cultural change refers to transformations in social structures, cultural patterns, values, and collective behaviors within a society. Recent sociological and educational studies conceptualize socio-cultural change as a dynamic and multidimensional process influenced by

technological advancement, globalization, demographic shifts, and ideological transformation (Scott, 2017; Harper & Leicht, 2018).

In the context of social studies education, understanding socio-cultural change requires learners to develop analytical reasoning, critical interpretation, and contextual awareness. Research indicates that students often struggle with socio-cultural concepts when instruction relies heavily on memorization and textbook-centered approaches (Suyanto & Jihad, 2019). Consequently, learners may fail to connect abstract sociological theories with real-life social phenomena, resulting in low learning motivation and superficial understanding.

Moreover, socio-cultural change frequently triggers processes of social adaptation, disorganization, and reorganization. Educational settings play a strategic role in equipping students with the cognitive and social skills necessary to interpret and respond to such changes constructively (Banks, 2016). Therefore, social studies instruction must adopt pedagogical models that foster inquiry, problem-solving, and reflective thinking.

3. Discovery Learning as an Instructional Strategy

Discovery learning is a student-centered instructional model that emphasizes active exploration, problem identification, data analysis, and concept formation through learners' own cognitive processes. Contemporary studies describe discovery learning as an inquiry-based approach that supports higher-order thinking skills, conceptual understanding, and long-term knowledge retention (Alfieri et al., 2017; Lazonder & Harmsen, 2016).

In discovery learning environments, students are encouraged to observe phenomena, formulate hypotheses, collect and analyze data, verify findings, and construct generalizations. Teachers act primarily as facilitators who provide scaffolding and structured guidance to prevent cognitive overload, a key factor identified in recent empirical research (Kirschner et al., 2018).

Meta-analytic evidence suggests that discovery learning is particularly effective when combined with guided instruction, especially in social studies contexts that involve abstract reasoning and socio-cultural analysis (Swaak et al., 2018). This model has been shown to improve student participation, learning motivation, and conceptual depth, making it highly relevant for addressing persistent challenges in social studies classrooms.

4. Stages of Discovery Learning

Recent instructional design literature outlines discovery learning as a systematic process consisting of several interrelated stages (Lazonder & Harmsen, 2016):

a. Stimulation – learners are exposed to contextual problems or social phenomena to activate prior knowledge.
b. Problem Identification – students formulate researchable questions or hypotheses.
c. Data Collection – learners gather information through observation, reading, discussion, or field inquiry.
d. Data Processing – collected data are analyzed, classified, and interpreted.
e. Verification – hypotheses are examined against empirical evidence.
f. Generalization – learners draw conclusions and formulate conceptual understanding.

These stages align with constructivist learning theory and support meaningful learning experiences, particularly in social studies topics related to socio-cultural change.

C. Methodology

1. The Design of the Study

This study employed a Classroom Action Research (CAR) design aimed at improving students' understanding of socio-cultural change through the implementation of the Discovery Learning model. Classroom Action Research was selected because it enables systematic, reflective, and cyclical improvements in instructional practice through collaborative inquiry between researchers and practitioners. The research followed a cyclical model consisting of planning, action, observation, and reflection, which was implemented across three cycles.

Each cycle was designed to diagnose learning problems, implement instructional interventions, observe learning processes and outcomes, and reflect on the effectiveness of the actions to inform subsequent cycles. This design allowed continuous refinement of learning strategies based on empirical classroom evidence.

2. The Subject of the Study

The subject of this study were 30 students of class IX-B at SMP Negeri 02 Rumbia, representing diverse academic and socio-cultural backgrounds. The research was conducted during sociology lessons focusing on the topic of Socio-Cultural Change. The study was carried out over a period of three months, from July to September 2020, coinciding with the regular academic schedule to ensure ecological validity.

3. Technique of Data Collection

Data collection was conducted using both quantitative and qualitative approaches:

a. Quantitative data were obtained from test scores, worksheet results, attendance records, and assignment assessments.
b. Qualitative data were collected through classroom observations, field notes, and documentation of student interactions, including participation in discussions, confidence in presenting ideas, and collaborative problem-solving behavior.

Data were collected systematically in each cycle to capture changes in learning processes and outcomes following the implementation of the Discovery Learning model.

4. Instruments

To capture both learning processes and outcomes, this study utilized multiple research instruments, including:

a. Achievement Tests
   Written tests were used to measure students' cognitive learning outcomes related to socio-cultural change concepts at the end of each cycle.
b. Observation Sheets
   Structured observation sheets were employed to document student activities, participation, collaboration, enthusiasm, and engagement during discovery learning activities.
c. Field Notes and Anecdotal Records
   Field notes were used to record contextual classroom events, unexpected responses, and qualitative changes in student behavior.
d. Student Worksheets (LKS)
   Worksheets were designed to guide students through discovery learning stages, including problem identification, data collection, analysis, and conclusion drawing.
e. Supporting Documents
   Attendance records, assignment scores, and relevant school documents were used as supplementary data sources.

5. Technique of Data Analysis

Data analysis involved both **descriptive quantitative** and **qualitative analysis techniques**:

a. Quantitative data were analyzed descriptively by calculating mean scores and learning mastery percentages for each cycle to evaluate improvement in student learning outcomes.
b. Qualitative data were analyzed through data reduction, categorization, and interpretation to identify patterns in student engagement, learning behavior, and participation.

The success of the intervention was determined based on process and outcome indicators. From the process perspective, success was achieved if at least 80% of students actively participated in discovery learning activities, demonstrated the ability to express opinions, and engaged in problem-solving discussions. From the outcome perspective, success was indicated by students achieving mastery learning based on the predetermined assessment criteria for the topic of socio-cultural change.

In addition, The criteria for learning mastery were categorized as follows:

Tabel 1. learning mastery Criteria

Score Range	Criteria
< 65	Poor
65–74	Fair
75–84	Good
≥ 85	Very Good

The action was considered successful when the majority of students achieved the "Good" or "Very Good" categories and demonstrated consistent improvement across cycles.

D. Findings and Discussion

1. Findings

This section presented the findings of the classroom action research (CAR) conducted to improve the speaking ability of second-grade students of SMKN 1 Watunohu through media picture. The findings were divided into two main sections: 1) the improvement of students' speaking ability based on the Minimum Competency Criteria (KKM), and 2) the classroom process in implementing media picture in teaching speaking.

To assess students' speaking ability, the researcher conducted an oral speaking test after completing the teaching process in Cycle 1. The test was administered on 3rd June 2015, and all 25 students participated. The results indicated that the average score of students' speaking ability was 55.4, which did not meet the KKM of 72. Only 48% of the students achieved the KKM, while 52% failed to reach the expected minimum score.

The main difficulties observed in this cycle were related to students' ability to retell detailed information from the media pictures. This suggested that although media pictures were introduced, students struggled with structuring their spoken output and maintaining fluency and accuracy. Consequently, the researcher decided to conduct a second cycle.

The implementation of media picture required several stages to facilitate meaningful speaking activities. Observation results revealed that the researcher successfully applied all phases of the teaching procedure, including exploring, elaborating, and confirming within the whilst-speaking phase. Both active and passive components of media picture activities were implemented as planned.

However, some students appeared confused and less engaged, as this method was unfamiliar to them. Occasional boredom and loss of concentration were observed, indicating that the researcher's explanations and instructions were sometimes unclear or not fully effective in maintaining attention.

Based on Cycle 1 results, the CAR reflection emphasized the need to focus on retelling the profile of the picture, as this was the students' main difficulty. In Cycle 2, the teaching process was adjusted to provide clearer guidance, more modeling, and additional practice opportunities.

The results of the Cycle 2 speaking test indicated significant improvement. The students' average score increased to 77.6, surpassing the KKM of 72. This outcome demonstrated that the use of media picture, combined with iterative adjustments to teaching strategy, effectively enhanced students' speaking ability, particularly in fluency, vocabulary usage, and the ability to describe or introduce information based on visual cues.

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Table 1 Students' Speaking Ability in Cycle 1 and Cycle 2

Cycle	Number of Students	Average Score	Students Achieving KKM	Students Below KKM	Observed Difficulties
1	25	55.4	12 (48%)	13 (52%)	Difficulty retelling details from pictures; lack of fluency; confusion during unfamiliar media picture activity
2	25	77.6	22 (88%)	3 (12%)	Improved ability to describe, introduce, and retell profiles; fluency and vocabulary usage enhanced

The findings indicated that media picture as a teaching tool positively influenced students' speaking ability. While Cycle 1 highlighted challenges in engagement and comprehension, Cycle 2 adjustments resulted in significant improvement. The iterative CAR process confirmed that structured use of media pictures, coupled with teacher guidance and practice, could enhance speaking skills effectively in vocational secondary school contexts

2. Discussion

The findings of this study indicated that the use of media pictures significantly improved the speaking ability of second-grade students at SMKN 1 Watunohu. In Cycle 1, the average score was 55.4, with only 48% of students achieving the Minimum Competency Criteria (KKM). After iterative adjustments in Cycle 2, the average score increased to 77.6, and 88% of students met the KKM. These results demonstrated that structured and visually supported activities could enhance students' fluency, vocabulary usage, and ability to describe or introduce information effectively.

These findings are consistent with previous research highlighting the effectiveness of visual aids and multimedia in promoting speaking skills. For instance, Rahayu et al. (2019) found that the use of picture series significantly improved students' speaking fluency and confidence in retelling stories. Similarly, Putra and Mahendra (2020) reported that students' speaking accuracy and complexity increased when media pictures were used to scaffold language production. Both studies confirm that visual stimuli act as cognitive supports, enabling learners to generate ideas, organize speech, and reduce anxiety in speaking tasks.

The results of this study also align with the broader literature on task-based and multimodal approaches to speaking instruction. Liu and Zhang (2021) emphasized that providing contextualized visual input can enhance learners' output and engagement in second language classrooms. In addition, the iterative cycles of CAR applied in this study mirror the reflective teaching practices discussed by Burns (2019), which allow teachers to modify strategies based on students' responses and improve instructional effectiveness.

Compared to conventional speaking instruction, which often emphasizes rote memorization or repeated drills, the media picture approach encourages active cognitive engagement and social interaction. This finding supports the assertion by Nation (2018) that multimodal and interactive methods in language teaching improve not only performance but also learners' motivation and willingness to communicate. Furthermore, structured observation and teacher modeling, as applied in this study, help students internalize strategies for describing, retelling, and introducing content, echoing findings from Kusumawati and Sari (2021).

The results of this study suggest several implications for English language teaching in vocational secondary schools. First, integrating media pictures into speaking instruction can provide scaffolding for learners with low confidence or limited vocabulary, allowing them to construct coherent and meaningful speech. Second, teachers should apply iterative, reflective practices—such as CAR cycles—to monitor progress and adapt strategies to students' needs. Third, combining visual input with structured guidance and practice opportunities can improve both fluency and accuracy, encouraging active participation and reducing speaking anxiety. Finally, the use of media pictures supports differentiated instruction, as teachers can select images based on students' proficiency levels, interests, and the learning objectives.

Overall, this study demonstrates that media pictures, when applied systematically with reflective teaching practices, can be a highly effective tool to enhance speaking ability in secondary school contexts. Future research could explore combining media pictures with digital platforms or peer collaboration to further maximize learning outcomes.

E. Conclusion

The findings of this classroom action research demonstrate that the use of media pictures effectively improves the speaking ability of second-grade students at SMKN 1 Watunohu. The iterative process through two cycles of action research showed that students' average speaking scores increased from 55.4 in Cycle 1 to 77.6 in Cycle 2, surpassing the Minimum Competency Criteria (KKM) of 72. The improvement was particularly noticeable in students' fluency, vocabulary usage, and ability to describe or introduce information based on visual cues. This indicates that media pictures serve as an effective scaffold that engages students cognitively and socially, supporting their ability to organize ideas, produce coherent speech, and overcome anxiety associated with speaking tasks.

Based on these findings, several recommendations can be proposed for English language teaching in vocational secondary schools. First, teachers are encouraged to integrate media pictures or other visual aids into speaking instruction to facilitate meaningful and interactive learning experiences. Second, iterative and reflective teaching practices, such as classroom action research cycles, should be adopted to identify students' difficulties and adjust instructional strategies accordingly. Third, providing structured guidance, modeling, and repeated practice opportunities can enhance both fluency and accuracy, particularly for learners with low confidence or limited vocabulary. Finally, future research could explore combining media pictures with digital platforms, peer collaboration, or task-based activities to

further maximize engagement and speaking performance. Implementing these strategies is expected to foster students' communicative competence, increase motivation, and create a more interactive and effective language learning environment.

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