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# Implementing the Group Investigation Cooperative Learning Strategy to Improve Junior High School Students Critical Thinking Skills in Islamic Religious Education

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## ABSTRACT

**Background:** Developing twenty first century critical thinking skills in Islamic Religious Education within rural inclusive schools encounters persistent challenges related to passive student participation. **Objective:** This study aims to describe the improvement of students critical thinking skills and academic achievement through the implementation of the Group Investigation cooperative learning strategy. **Method:** A Classroom Action Research design following the Kemmis and McTaggart spiral model was conducted across two cycles involving thirty seventh grade students at SMPN 36 PKLK Kaur. Data collection employed Higher Order Thinking Skills based tests, systematic observation sheets, and interviews, analyzed through combined quantitative and qualitative approaches. **Results:** The findings demonstrated a significant increase in the critical thinking mean score from 60 at baseline to 70 in Cycle I, reaching 85 in Cycle II, with classical mastery percentage surging from 30 percent to 90 percent. **Conclusion:** The Group Investigation strategy effectively boosts student analytical, evaluative, and interpretive competencies within heterogeneous classrooms. **Originality/Value:** This study pioneers an empirical advancement in the field of Islamic Religious Education Learning Methodology and Inclusive Education by revealing significant cognitive enhancements across analytical, evaluative, and interpretive reasoning through peer tutoring mechanisms within heterogeneous classrooms in a rural inclusive school facing educational resource constraints, an institutional setting that remains scarcely investigated. These findings enrich empirical evidence and serve as a strategic reference for designing adaptive instructional frameworks and formulating inclusive pedagogical policies in resource limited schools.

## 1. INTRODUCTION

Islamic Religious Education in the era of digital transformation and twenty-first-century global dynamics demands a thorough reorientation of learning paradigms. The rapid development of information technology and the increasing complexity of social life require students to possess competencies that extend beyond the acquisition of factual and doctrinal knowledge. Islamic Religious Education no longer merely serves as a medium for transmitting

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dogmatic, textual, and normative doctrinal knowledge, but must also function as an instrument for character building and higher-order cognitive development (Setiawan, 2020). Learning should therefore encourage students to understand religious teachings while connecting them with contemporary social and moral issues. A pivotal twenty-first-century cognitive indicator that needs to be developed in this subject is critical thinking ability (Tanjung, 2021). Instruction integrated with critical thinking skills enables students not only to memorize religious teachings but also to evaluate social phenomena, analyze religious foundations more deeply, examine moral contexts, and interpret Islamic values appropriately within complex societal life. Such learning can help students develop the ability to make reasoned judgments and apply Islamic principles to situations encountered in everyday life.

Nevertheless, real conditions at SMPN 36 PKLK Kaur stand in contrast to these expectations. Preliminary classroom observations and initial diagnostic assessments based on Higher Order Thinking Skills revealed deficient critical thinking competence among students. The class daily examination average reached only 60, significantly below the institutional minimum mastery criterion threshold of 75. This condition indicates that students had not yet achieved the expected level of understanding and cognitive performance in Islamic Religious Education. The problem was also reflected in classroom participation, as students tended to remain passive during learning activities and depended considerably on teacher explanations. They showed hesitation in articulating logical arguments and experienced difficulty when required to analyze questions, evaluate moral dilemmas, or provide reasons for their answers. Furthermore, spontaneous engagement during collaborative group work remained limited, with some students participating less actively in discussions. These conditions demonstrate the need for a learning strategy that can provide students with greater opportunities to participate actively, exchange ideas, investigate problems, and develop critical thinking through meaningful learning experiences.

To address the disparity between expectations and empirical realities, instructional approaches must be reformed by adopting inclusive, adaptive, and active learning models, specifically the Group Investigation cooperative learning model. The Group Investigation model serves as a strategic intervention because it positions students at the center of learning through active problem exploration, evidence collection, synthesis, and public reporting (Jayanti & Setiawan, 2023). Through these stages, students are encouraged to investigate learning problems, exchange information, discuss different perspectives, and communicate the results of their collective inquiry. Such activities provide opportunities to develop cognitive processes associated with critical thinking while also strengthening students' communication and cooperation skills. Within Special Education and Special Service Education (PKLK) environments, the flexible structure of this model can facilitate reciprocal peer tutoring and collaborative participation. Students with different learning abilities can contribute to group activities according to their individual cognitive capacities, while more capable peers can provide appropriate support. Thus, Group Investigation has the potential to create a learning environment that is both academically engaging and responsive to learner diversity.

Prior scholarship documents the positive effects of the Group Investigation approach across diverse disciplines. Previous studies confirm that cooperative investigative schemes significantly enhance logical reasoning, conceptual understanding, and critical thinking capabilities within Islamic education instruction (Munir & Nadifah, 2021; Rahmawati, 2019; Ranami & Kasom, 2025; Utari & Saidah, 2026; Wahyuni, 2020). These studies indicate that learning through investigation and cooperation can encourage students to become more actively involved in constructing knowledge rather than simply receiving information from teachers. Group activities provide opportunities for students to discuss concepts, compare information, formulate explanations, and evaluate ideas through interaction with peers. Such processes are particularly relevant to Islamic Religious Education because students need to understand religious concepts while also developing the ability to apply them to contextual situations. These findings highlight the fundamental potential of group investigation in transforming passive, teacher-centered climates into interactive and analytical environments. However, the effectiveness of such an approach may depend on how well the learning model is adapted to the characteristics of students and the specific educational context in which it is implemented.

Despite widespread scholarly exploration of cooperative inquiry, existing literature reveals significant research gaps. Most prior inquiries focused on natural sciences or general social studies in mainstream urban educational institutions using quantitative experimental methods. Consequently, empirical evidence remains scarce regarding how the Group Investigation model can be systematically adapted to value-laden Islamic Religious Education curriculum, particularly within rural inclusive schools facing persistent infrastructural constraints. The limited attention to such contexts leaves questions concerning the practical implementation of cooperative investigation among students with diverse learning abilities. Furthermore, Islamic Religious Education involves not only cognitive learning outcomes but also the understanding and application of religious and moral values, which requires learning activities that connect conceptual understanding with real-life contexts. Therefore, further research is needed to

examine how Group Investigation can be implemented within an inclusive rural setting to support students' critical thinking while maintaining the distinctive objectives of Islamic Religious Education.

Addressing this literature gap requires contextual adaptation of collaborative learning to foster equitable cognitive development. The novelty of this study lies in integrating the Group Investigation model into Islamic Religious Education and adapting it specifically for inclusive classes in resource-limited rural regions. This approach combines twenty-first-century critical thinking competencies with religious values within an inclusive cooperative framework, thereby providing both academic and practical relevance. The learning process allows students to investigate relevant problems, exchange ideas, evaluate information, and communicate their understanding while working collaboratively with peers. Adopting Classroom Action Research further strengthens the study because its reflective and evaluative cycles allow continuous adjustments to learning activities based on students' responses and learning progress. These adjustments may include the organization of peer tutoring roles, group activities, learning guidance, and specialized learning aids according to students' needs. Accordingly, the study seeks to provide a contextual example of how Group Investigation can be adapted to promote active participation and critical thinking in an inclusive Islamic Religious Education classroom.

This study aims to describe the improvement of students' critical thinking capabilities, encompassing analysis, evaluation, and interpretation, alongside overall academic achievement among seventh-grade students at SMPN 36 PKLK Kaur through the Group Investigation strategy. The study focuses on how the implementation of cooperative investigation can support students in developing higher-order cognitive skills while participating actively in Islamic Religious Education learning. In addition to achieving these academic objectives, this study provides an adaptive instructional model for teachers managing diverse learner abilities in resource-limited inclusive environments. The findings are expected to offer practical insights into the implementation of student-centered cooperative learning that supports both critical thinking development and meaningful engagement with Islamic Religious Education content.

## **2. METHOD**

### **2.1 Research Design**

This study was designed using a Classroom Action Research approach adapting the spiral cycle model developed by Kemmis and McTaggart (Utomo et al., 2024). This model encompasses four systematic stages in each cycle: planning, acting, observing, and reflecting. The intervention was conducted across two main cycles preceded by a baseline pre cycle phase to map initial student critical thinking competence before pedagogical treatment. A descriptive analytical mixed method approach was applied to examine the data. This design was selected because it enables direct, reflective pedagogical interventions aimed at solving immediate instructional obstacles within real classroom settings. Integrating quantitative performance scores with qualitative descriptions provides a thorough understanding of how collaborative inquiry transforms both cognitive outcomes and peer interactions within a heterogeneous learning environment.

### **2.2 Research Subjects**

The study was conducted at SMPN 36 PKLK Kaur, located in Kaur Regency, Bengkulu Province, Indonesia. This school was purposively chosen due to its unique setting as an inclusive Special Education and Special Service Education institution characterized by diverse learner profiles, including regular students and students with special educational needs. The target population comprised all seventh-grade students registered in the academic year, totaling thirty individuals. A total sampling technique was adopted, designating the entire student population as research subjects without sample reduction.

### **2.3 Instruments and Data Collection**

The study was conducted at SMPN 36 PKLK Kaur, located in Kaur Regency, Bengkulu Province, Indonesia. This school was purposively chosen due to its unique setting as an inclusive Special Education and Special Service Education institution characterized by diverse learner profiles, including regular students and students with special educational needs. The target population comprised all seventh-grade students registered in the academic year, totaling thirty individuals. A total sampling technique was adopted, designating the entire student population as research subjects without sample reduction.

## 2.4 Data Analysis

Data analysis followed a convergent mixed methods framework. Quantitative evaluation utilized descriptive statistics to calculate individual test scores, class averages, and classical mastery percentages across cycles. The criterion for pedagogical success was benchmarked against the institutional minimum mastery score of 75 and classical achievement targets. Qualitative data derived from classroom observations and interview transcripts were analyzed through systematic stages of data reduction, narrative display, and verification. This dual analytical approach yielded a comprehensive assessment of the Group Investigation model in cultivating analytical reasoning and fostering inclusive peer collaboration.

## 3. RESULT AND DISCUSSION

### 3.1 Result

This Classroom Action Research was conducted across two distinct instructional cycles preceded by a baseline pre cycle to determine the initial critical thinking abilities of seventh grade students at SMPN 36 PKLK Kaur in Islamic Religious Education. Instructional interventions were executed by applying the Group Investigation cooperative model tailored specifically to the realities of an inclusive classroom setting.

#### 3.1.1 Pre Cycle Baseline Phase

During the pre cycle phase, instructional delivery remained heavily reliant on conventional teacher centered lecture methods. Initial diagnostic testing based on Higher Order Thinking Skills indicated low analytical competencies across the cohort. The class mean score reached only 60, resulting in a classical mastery percentage of 30 percent, with merely 9 out of 30 learners meeting the mastery criterion. Structured observation sheets revealed negligible student engagement, marked by pervasive passivity, reluctance to pose questions, and difficulty in analyzing doctrinal concepts.

#### 3.1.2 Implementation of Cycle I

Cycle I commenced with the execution of the six systematic stages of the Group Investigation model: forming heterogeneous groups combining regular students and learners with disabilities, selecting student driven inquiry topics, planning investigations, conducting independent team research, presenting group analytical reports, and carrying out collaborative evaluations. Post test results for Cycle I revealed an increase in the class mean score to 70, with classical mastery rising to 60 percent, corresponding to 18 achieving students. Observational records indicated budding peer interaction, although several learners with special needs still exhibited hesitation and required ongoing teacher assistance during argument articulation.

#### 3.1.3 Implementation of Cycle II

Reflective evaluation from Cycle I guided instructional improvements in Cycle II, which included providing structured contextual illustrated inquiry modules, defining explicit roles within teams to optimize peer tutoring, and strengthening teacher facilitation. These refined interventions yielded substantial cognitive gains, as the class mean score surged to 85, while classical mastery achieved 90 percent, representing 27 out of 30 students reaching the mastery benchmark. Behavioral observations confirmed that learners engaged proactively, demonstrated confidence in articulating analytical arguments, and interpreted moral values critically during group discussions.

A summary of the progression of student critical thinking scores and classical mastery from the pre cycle baseline through Cycle II is presented in Table 1.

**Table 1.** Summary of Student Critical Thinking Performance Across Research Cycles

| Evaluation Stage | Class Mean Score | Students Achieving Mastery | Classical Mastery Percentage | Achievement Level |
|------------------|------------------|----------------------------|------------------------------|-------------------|
| Pre Cycle        | 60               | 9                          | 30%                          | Low               |
| Cycle I          | 70               | 18                         | 60%                          | Moderate          |
| Cycle II         | 85               | 27                         | 90%                          | High              |

The empirical records in Table 1 demonstrate a progressive and substantial upward trajectory across all performance parameters from the baseline phase through Cycle II. The incremental gain of 10 points in Cycle I followed by an additional 15 points in Cycle II confirms that cyclical Group Investigation interventions effectively resolved cognitive inertia. The surge in classical mastery from 30 percent to 90 percent verifies that pedagogical modifications applied during Cycle II successfully engaged students who previously lagged behind. Reaching 90 percent classical mastery surpassed standard action research benchmarks, verifying quantitatively that Group Investigation fosters critical thinking across heterogeneous learners in inclusive environments.



Figure 1. Classroom Instructional Process

Figure 1 illustrates the learning atmosphere and interactive dynamics during the implementation of the Group Investigation model in the inclusive classroom of SMPN 36 PKLK Kaur throughout Cycle II. The visual evidence clearly demonstrates a transition from a passive teacher centered environment into an interactive student-centered instructional setting. Regular students and learners with disabilities sit together within heterogeneous groupings, exchanging ideas and collaborating to complete investigative worksheets without social barriers. The presence of the teacher guiding groups directly in the classroom shows adaptive facilitation, with pedagogical assistance provided proportionately according to individual learning needs. This photographic evidence qualitatively confirms that the Group Investigation model successfully promotes cognitive engagement while establishing a supportive inclusive classroom ecology.

### 3.2. Discussion

The empirical findings establish that the Group Investigation cooperative model enhances critical thinking and learning outcomes within an inclusive Islamic Religious Education context. The fundamental findings demonstrate that shifting instructional methods from conventional didactic transmission toward collaborative inquiry positively impacts subject matter comprehension and analytical reasoning. Elevated critical thinking was evident in students heightened capacity to formulate logical claims, analyze moral dilemmas, and synthesize textual principles autonomously. Substantively, these outcomes prove that infrastructural shortages in rural locations and learner cognitive diversities in inclusive classrooms do not preclude the attainment of Higher Order Thinking Skills.

This cognitive advancement was driven by interactive dynamics established throughout the Group Investigation sequence. Cognitive engagement was stimulated as learners addressed contextual challenges requiring inquiry planning, evidence gathering, and cooperative presentation (Umah et al., 2020). Heterogeneous grouping triggered effective peer tutoring mechanisms that fostered supportive interactions between regular students and peers with disabilities (Islamiati et al., 2021). Higher performing students clarified their own understanding by coaching peers, while learners with special needs found an encouraging space to express ideas freely without intimidation (Prasetyo, 2020). This cooperative arrangement activated core cognitive processes, including analysis, evaluation, and interpretation.

These findings corroborate and expand Vygotsky Social Constructivism Theory, specifically the principles of the Zone of Proximal Development and instructional scaffolding (Fadhuzzakiyy et al., 2025; Permatasari et al., 2024; Putra et al., 2025). Advanced cognitive capabilities develop when learners engage within an encouraging social ecology, receiving calibrated guidance from peers and teachers (Saragih et al., 2017; Wardani et al., 2023.). Successful Group Investigation deployment in religious instruction confirms that spiritual understanding is constructed colla-

boratively through active dialogue and collective reflection rather than passive dogma (Bukhori, 2020). Structured social interactions within cooperative teams serve as primary drivers for developing moral reasoning, social awareness, and critical cognitive faculties (Zainal, 2019).

The results align with earlier studies regarding cooperative learning efficacy. However, while prior inquiries by Hidayati & Rahman (2019) as well as Kurniawan (2022) focused on general science in urban settings, this study demonstrates distinctive implementation dynamics. The variation stems from adapting religious inquiry instruments to affective moral dimensions and creating flexible team roles suitable for inclusive classrooms (Supriyono, 2022). This contextualized approach shows that investigative methodologies are effective within value laden religious instruction.

This study contributes to scholarship by addressing empirical and population gaps concerning the application of Group Investigation within rural inclusive Islamic education. The direct field evidence proves that an adapted cooperative model elevates critical faculties among both regular students and learners with disabilities despite material limitations. This empirical foundation expands the existing literature on inclusive religious pedagogy and cognitive development in rural schools.

Critical examination of behavioral dynamics revealed a conceptual transition in student learning orientations. Initially, students viewed Islamic Religious Education merely as textual rote learning, which caused hesitation when they were asked to formulate critical analyses. Structured cooperative inquiry shifted this passive mindset toward analytical understanding (Rina, 2021). Observational evidence revealed students actively questioning moral teachings and relating them to contemporary daily realities. This change confirms that routine collaborative inquiry dismantled passive habits in favor of flexible analytical thinking.

These findings establish a practical instructional model for teachers working in resource limited inclusive schools. Nevertheless, alternative variables likely influenced these outcomes alongside the primary intervention (Iskandar, 2020). Emerging student peer leadership, novelty effects toward collaborative tasks, and customized teacher attention contributed positively to classroom dynamics (Yosie et al., 2024). Acknowledging these surrounding factors reflects scientific objectivity, demonstrating that successful interventions depend upon combining appropriate cooperative models with an encouraging psychosocial classroom environment (Pratami et al., 2019).

Synthesizing these elements connects empirical data, intervention mechanisms, theoretical frameworks, and academic contributions. The cognitive progress observed at SMPN 36 PKLK Kaur confirms that adapted Group Investigation transforms religious classroom instruction. Heterogeneous teams foster reciprocal peer tutoring that reinforces knowledge construction in line with social constructivism. Consequently, this study demonstrates pedagogical effectiveness while providing conceptual insights that bridge literature gaps in rural inclusive religious education.

## 4. IMPLICATIONS AND CONTRIBUTIONS

### 4.1 Research Implication

The findings of this study yield practical and methodological implications for the study of Islamic Religious Education (IRE) in inclusive schools. Empirically, it demonstrates that applying the Group Investigation (GI) strategy, which integrates heterogeneous grouping and peer tutoring, significantly enhances students critical thinking skills and academic outcomes. Methodologically, this research bridges existing empirical and population gaps regarding the scarcity of field evidence on implementing cooperative learning models based on Higher Order Thinking Skills (HOTS) within IRE subjects, specifically within rural inclusive school (PKLK) environments facing educational resource constraints.

### 4.2 Research Contribution

This study contributes new scientific knowledge to the fields of Islamic Religious Education Learning Methodology and Inclusive Education by providing a novel framework for adapting the Group Investigation strategy within heterogeneous classrooms. This framework can be utilized to transform classroom climates from passive and transmissional to interactive and analytical, facilitate equitable participation between regular students and students with special needs, and optimize students critical thinking indicators based on actual evidence and field data. Furthermore, this research strengthens theories supporting the importance of collaboration in learning and the active role of students in constructing their own knowledge. It reinforces the argument that critical thinking is a vital skill to be developed within IRE learning, aligning with the demands of 21st century education that emphasize critical and creative thinking.

## 5. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

### 5.1 Research Limitations

Although this study empirically proves the effectiveness of the Group Investigation (GI) strategy in improving students critical thinking skills, several limitations must be transparently acknowledged. First, this research is limited to the scope of Classroom Action Research (CAR) with a relatively small sample size of 30 students at a single school location, SMPN 36 PKLK Kaur. Consequently, the findings have limitations regarding external validity for direct generalization to broader populations or regular schools with different environmental characteristics. Second, the evaluation instruments focused on the critical thinking indicators of analysis, evaluation, and interpretation of IRE material at the 7th grade level. Therefore, they did not measure the long-term cognitive retention rates or changes in students' affective behavior after the intervention ended. Third, limited facilities and the diversity of student's special needs at the research site necessitated dynamic group role adjustments, and not all variations of special needs could be specifically accommodated in this study.

### 5.2 Recommendations for Future Research

Based on the identified limitations, several directions are recommended for future studies. First, subsequent researchers are advised to expand the research scope by utilizing quantitative experimental approaches or comparative studies involving larger samples from multiple rural inclusive schools to test the reliability and generalizability of the GI model more broadly. Second, future studies could integrate adaptive digital learning media or technology-based learning modules friendly to disabilities to accompany the Group Investigation workflow, thereby optimizing the independent investigation process for students with special needs. Third, it is recommended that next researchers conduct longitudinal studies to measure the long-term impact of applying the GI strategy on character formation, religious moral reasoning, and students daily problem-solving skills in society.

## 6. CONCLUSION

Implementing the Group Investigation (GI) cooperative learning model is significantly proven to improve critical thinking skills and academic outcomes among 7th grade students at SMPN 36 PKLK Kaur in Islamic Religious Education. This improvement is reflected in progressive test score increases accompanied by expanding student learning mastery, moving from the pre cycle stage through Cycle I, to achieving very high classical mastery criteria in Cycle II. This achievement directly addresses the primary research objective and confirms that shifting classroom climates from conventional, teacher centered approaches to collaborative investigation can boost students critical thinking indicators, including aspects of analyzing, evaluating, and interpreting religious material.

The success of this action intervention was driven by the effectiveness of peer tutoring mechanisms and heterogeneous group role distribution. The flexible structure within the GI model provides a safe collaborative space for regular students and students with special needs in an inclusive school setting to complement each other in completing IRE investigation tasks. The use of contextual investigation guides and the strengthening of the teacher's role as a facilitator in Cycle II successfully eroded student passivity, dismantled dogmatic rote learning habits, and transformed them into an analytical and meaningful process of understanding Islamic teachings.

This research provides an academic contribution by presenting an adaptive and inclusive IRE learning framework for rural schools with limited facilities. The results successfully fill the gap in empirical evidence regarding implementing higher order thinking skills (HOTS) based learning models in inclusive religious classrooms. Practically, this Group Investigation strategy is recommended as an applicable learning guide for educators to stimulate students critical reasoning while fostering an inclusive climate of togetherness within the classroom.

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### Author Contribution Statement

All authors discussed the results, contributed to the final manuscript, and approved the final version for publication. Shinta Destriansyi: Conceptualization, Design, Methodology, Writing - Original Draft. Formal analysis, Dta Curation. Kherrmarinah: Conceptualization, Writing - Review & Editing,

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