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THE APPLICATION OF GUIDED INQUIRY TO STUDENTS' CRITICAL THINKING SKILLS IN PANCASILA EDUCATION SUBJECTS WITH SELF-EFFICACY AS A MODERATOR VARIABLE

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Abstract

This study examines the effect of the Guided Inquiry learning model on senior high school students' critical thinking skills in Civic Education, with academic self-efficacy tested as a moderating variable. This study examines the effect of the Guided Inquiry learning model on students' critical thinking skills in Civic Education and investigates the moderating role of academic self-efficacy. The population comprised all eleventh-grade students at Muhammadiyah 02 Islamic High School, Lamongan, in East Java. Samples were selected using cluster random sampling, resulting in 79 students divided into an experimental group (n = 40) and a control group (n = 39). A quasi-experimental 2×2 factorial design was employed. Data were collected using validated and reliable test instruments and analyzed using two-way ANOVA. The results show that the Guided Inquiry model significantly improves critical thinking skills compared to conventional instruction ($p < .05$). Academic self-efficacy also has a significant main effect ($p < .05$) and interacts with the learning model ($p < .05$). These findings indicate that Guided Inquiry is effective for enhancing critical thinking, particularly among students with higher self-efficacy. Data were collected through validated instruments consisting of a critical thinking skills test and a self-efficacy questionnaire. Statistical analyses, including Two-Way ANOVA, were conducted to examine main effects and interaction effects. Findings indicate that (1) the Guided Inquiry model significantly improved students' critical thinking skills compared to conventional instruction; (2) students with high self-efficacy outperformed those with low self-efficacy; and (3) a significant interaction occurred between learning model and self-efficacy.

Keywords

Guided Inquiry, Self-Efficacy, Critical Thinking, Civic Education, Quasi-Experimental Design, Inquiry-Based Learning.

INTRODUCTION

Critical thinking has become an essential competency in the 21st century, demanded across academic, professional, and civic spheres. As global societies navigate the rapid developments of the Fourth Industrial Revolution, individuals are increasingly required to analyze information, evaluate arguments, and make ethical, well-reasoned decisions. Educational systems, therefore, bear the responsibility to cultivate learners who can think critically, solve problems, and participate effectively in democratic processes. Civic Education—referred to as *Pendidikan Pancasila* within the Indonesian curriculum—plays a particularly strategic role because it seeks to nurture reflective, responsible, and socially engaged citizens capable of responding to complex civic issues (Depdiknas, 2003).

Despite its central importance, numerous studies and classroom observations have demonstrated that critical thinking skills among students in Civic Education remain limited. It was identified that 30.34% of students were not able to formulate problems correctly, 65.70% showed weaknesses in reasoning, 81.85% had not mastered induction skills, 60.65% were not able to carry out evaluations well, and 85.81% did not have the ability to assess activities objectively and correctly. Students often display difficulties in interpreting information, formulating problems, constructing coherent arguments, and evaluating evidence. These limitations frequently stem from traditional teaching approaches that emphasize memorization of normative content rather than inquiry, dialogue, and problem-solving. Conventional instruction, heavily dominated by teacher explanation and passive student reception, tends to restrict students' opportunities to engage in higher-order reasoning or to explore diverse civic perspectives (Hartono, 2013; Sanjaya, 2011). As a result, critical thinking, although mandated as a learning outcome, often fails to develop meaningfully in practice.

Preliminary observations conducted at Muhammadiyah 02 Islamic High School, Lamongan, in East Java, indicate that the critical thinking skills of eleventh-grade students in Pancasila Education were relatively low prior to the implementation of this study. Based on documentation of students' mid-semester assessment results, only 60% of students achieved scores above the school's minimum mastery criterion (KKM) of 80, particularly on items requiring analysis, evaluation, and reasoning. Classroom observations further revealed that most students tended to rely on memorization of concepts rather than engaging in argumentation or problem-solving, while interview data with teachers confirmed that students experienced difficulties in expressing opinions, formulating questions, and drawing conclusions during Pancasila Education lessons. These findings

demonstrate an empirical gap between the expected learning outcomes and students' actual critical thinking performance.

The weak critical thinking skills observed among students were influenced by several factors, including teacher-centered instructional practices, limited use of inquiry-oriented learning activities, and students' low confidence in their ability to express ideas during classroom discussions. Interviews with students revealed that many felt hesitant to participate due to fear of making mistakes, indicating low self-efficacy in academic contexts. In response, the school has primarily addressed this issue through curriculum alignment and routine assessments; however, these efforts have not sufficiently emphasized instructional models that actively foster higher-order thinking. Therefore, this study proposes the use of the Guided Inquiry learning model, as it provides structured guidance while encouraging students to actively explore problems, formulate questions, and construct knowledge. When integrated with attention to students' self-efficacy, Guided Inquiry is expected to be a pedagogically appropriate approach for enhancing critical thinking skills in Pancasila Education at Muhammadiyah 02 Islamic High School, Lamongan, in East Java.

To address these shortcomings, scholars have emphasized the need for inquiry-based pedagogies that situate students as active constructors of knowledge rather than mere recipients (Kuhlthau et al., 2015; Slavin, 2014). One model that has received considerable attention is Guided Inquiry, a structured form of inquiry learning in which students investigate problems and generate conclusions through a series of scaffolded steps facilitated by the teacher. Guided Inquiry is grounded in constructivist learning theory, drawing from Dewey's principles of reflective thinking, Vygotsky's concept of scaffolding, Piaget's stages of cognitive development, and Bruner's discovery learning paradigm. In this model, learning occurs as students engage in questioning, hypothesis building, evidence analysis, and conclusion formulation processes that directly stimulate the development of critical thinking.

Empirical research in science and mathematics education has consistently shown that Guided Inquiry enhances conceptual understanding, reasoning abilities, and student engagement. For instance, Harjilah et al. (2019a) found that Guided Inquiry significantly improved high school students' critical thinking skills in physics. Similarly, (Kurniawan et al., 2022) reported that students taught through Guided Inquiry demonstrated higher analytical reasoning in geography compared to those taught through direct instruction. These findings suggest that Guided Inquiry fosters learning environments in which students become active problem-solvers capable of interpreting

complex phenomena.

However, much of the existing research remains concentrated in STEM subjects, leaving a notable gap in understanding the role and effectiveness of Guided Inquiry within Civic Education. Although Civic Education involves civic problems, ethical dilemmas, and socio-political inquiry, instructional practices in this subject have been slow to adopt inquiry-based reforms. Consequently, research examining Guided Inquiry in Civic Education contexts is limited, and little is known about how psychological factors, such as self-efficacy, mediate the effectiveness of this instructional model. This gap highlights the urgency to expand the application of Guided Inquiry beyond the STEM domain into social science and civic learning environments.

Self-efficacy, a core construct in social cognitive theory, refers to individuals' beliefs in their capability to organize and execute actions required to achieve specific goals (Bandura, 2023a). Students with high self-efficacy are more likely to persevere, exert effort, and approach challenging tasks with confidence. They also tend to utilize more effective cognitive strategies, engage more deeply in learning processes, and demonstrate stronger academic resilience (Ika, 2013a; Kesan & Kaya, 2018). In contrast, students with low self-efficacy may avoid challenging tasks, experience anxiety, or withdraw when encountering difficulty, behaviors that limit opportunities to develop critical thinking.

The relationship between self-efficacy and critical thinking has been documented in various fields. (Muhammad et al., 2021a), for example, found that self-efficacy significantly correlated with students' critical thinking abilities in science learning. Likewise, (Pratama, 2023) demonstrated that higher levels of self-efficacy contributed to improved critical thinking in mathematics. These findings imply that students' beliefs about their abilities shape not only their motivation but also their cognitive engagement and depth of reasoning. Such insights underscore the importance of considering self-efficacy when implementing pedagogical models that require sustained inquiry, reflection, and problem-solving—characteristics inherent in Guided Inquiry.

Although Guided Inquiry and self-efficacy each independently influence learning, few studies have examined their interaction effects. Research by Rizal (2017) indicated that Guided Inquiry was more effective for students with high self-efficacy compared to those with low self-efficacy, suggesting a moderating role of self-efficacy. Additionally, (N. Siregar et al., 2022) reported that the effectiveness of Guided Inquiry in enhancing critical thinking in biology was closely related to students' confidence in their academic capabilities. These findings raise important questions for

Civic Education: Does Guided Inquiry enhance critical thinking more effectively for students who possess stronger self-efficacy beliefs? Does self-efficacy moderate the influence of inquiry-based instruction on civic reasoning?

The present study seeks to fill these gaps by investigating the influence of Guided Inquiry learning and self-efficacy on students' critical thinking skills in Civic Education. Conducted at an Islamic senior high school in East Java, Indonesia, the research employs a quasi-experimental 2×2 factorial design to analyze: (1) the effect of teaching model (Guided Inquiry vs. conventional instruction), (2) the effect of self-efficacy level (high vs. low), and (3) the interaction between teaching model and self-efficacy. Using validated instruments—critical thinking tests and self-efficacy questionnaires the study offers empirical insights into how pedagogical and psychological variables jointly shape learning outcomes in Civic Education.

This research contributes to the literature in three key ways. First, it expands the application of Guided Inquiry to Civic Education, demonstrating its potential to strengthen critical thinking within a subject area often taught through didactic methods. Second, it deepens the understanding of self-efficacy as a moderating variable, emphasizing its role in maximizing the benefits of inquiry-based instruction. Third, it provides evidence-based recommendations for educators, curriculum developers, and policymakers seeking to enhance the quality of Civic Education in Indonesia and beyond. By integrating the principles of Guided Inquiry with an emphasis on self-efficacy, the study aligns pedagogical innovation with psychological readiness—an essential combination for fostering critical, reflective, and empowered citizens.

METHOD

This study employed a quantitative research approach using a quasi-experimental 2×2 factorial design. The method was selected to examine causal relationships between the learning model, self-efficacy, and students' critical thinking outcomes. This study employed a quasi-experimental design to examine the influence of the Guided Inquiry learning model and students' self-efficacy levels on their critical thinking skills in Civic Education. A quasi-experimental approach was chosen because the participants were assigned to naturally existing classroom groups, making random assignment at the individual level impractical (Slavin, 2014; Sugiono, 2019). This design enables researchers to investigate causal relationships between instructional interventions and learning outcomes while maintaining ecological validity in authentic school settings. Specifically,

the study utilized a 2×2 factorial design, allowing analysis of both the main effects of the independent variables and their interaction.

The research was conducted at Muhammadiyah 02 Islamic High School, Lamongan, in East Java, Indonesia, during the 2024 academic year. The population consisted of all students in Grade XI, from which 79 students were selected using cluster sampling, a technique appropriate when sampling groups rather than individuals (Subhaktiyasa, 2024). Two intact classes were chosen: one assigned as the experimental group, which received Guided Inquiry instruction, and the other as the control group, which received conventional instruction commonly practiced in Civic Education classrooms.

Participants were further categorized into high self-efficacy and low self-efficacy groups based on their scores on a validated self-efficacy scale. This categorization formed four research cells:

a. Guided Inquiry × High Self-Efficacy
b. Guided Inquiry × Low Self-Efficacy
c. Conventional Learning × High Self-Efficacy
d. Conventional Learning × Low Self-Efficacy

This grouping enabled the investigation of interaction effects, consistent with best practices in factorial experimental research (Harjilah et al., 2019a).

The study consisted of three main phases: preparation, implementation, and evaluation.

Phase 1: Preparation

During this stage, lesson plans, Guided Inquiry learning materials, and assessment instruments were developed. The Guided Inquiry model followed structured phases outlined by (Kuhlthau et al., 2015), which include:

a. Open (introducing problems),
b. Immerse (activating prior knowledge),
c. Explore (initial investigation),
d. Identify (defining focus),
e. Gather (deep investigation),
f. Create (constructing meaning),
g. Share, and
h. Evaluate.

The conventional learning group received direct instruction in alignment with typical Civic Education practices (Hartono, 2013; Sanjaya, 2011).

Phase 2: Implementation

Treatment was conducted over multiple learning sessions. In the Guided Inquiry group, students worked collaboratively to investigate real civic issues, formulate questions, gather information, analyze evidence, and present conclusions. Teachers acted as facilitators, offering scaffolding when necessary, consistent with Vygotskian principles of guided learning (Slavin, 2014). In the control group, teachers delivered content through lectures, textbook explanations, and short question-answer activities, reflecting a teacher-centered approach.

Phase 3: Evaluation

After the treatment period, both groups completed the critical thinking test and self-efficacy questionnaire. Data were then coded, categorized, and prepared for statistical analysis.

Data analysis followed the assumptions and analytical procedures required for factorial experiments. Before hypothesis testing, several assumption checks were conducted:

a. Normality Tes

   Normal distribution of data was tested using the Kolmogorov–Smirnov test, following guidelines by (Ghozali, 2018).

   Homogeneity of Variance

   Homogeneity was examined using Levene's Test, ensuring equal variances across groups (Mar'atush Sholihah, 2023).

All assumptions were satisfied, allowing the use of parametric statistical techniques.

Two-Way ANOVA

A Two-Way Analysis of Variance (ANOVA) was performed to examine:

a. the main effect of the learning model (Guided Inquiry vs. conventional),
b. the main effect of self-efficacy (high vs. low), and
c. the interaction effect between the two variables.

ANOVA was chosen because it is the most appropriate method for analyzing the effects of two independent variables simultaneously (Ghozali, 2018). Where significant interaction effects were observed, simple effect tests were conducted to identify which self-efficacy groups benefited most from Guided Inquiry. All analyses were performed using IBM SPSS 26, consistent with analytical procedures described by (Ghozali, 2018).

This study adhered to ethical standards for educational research. Students' identities were anonymized, participation involved no harm, and the school provided institutional approval. Anonymization (e.g., Participant 1–79) aligns with international publication ethics and ensures compliance with privacy guidelines.

The methodological section must explicitly describe the types of data used and their sources to ensure clarity and transparency. In this study, the primary data were obtained from students' pre-test and post-test scores measuring critical thinking skills, as well as questionnaire responses assessing academic self-efficacy. These data were collected directly from 79 eleventh-grade students enrolled in a private Islamic senior high school in East Java, who were selected through cluster random sampling. The test instruments served as quantitative performance measures, while the self-efficacy scale functioned as a psychological self-report measure. By clearly outlining the nature of the data and their sources, the methodological foundation of the research becomes more comprehensible and verifiable for readers.

FINDINGS AND DISCUSSION

Findings

Descriptive Statistics

The descriptive analysis was conducted to provide an overview of students' performance before and after the instructional intervention. Table 1 presents the descriptive statistics for pre-test scores, post-test scores, and self-efficacy levels in both the experimental (Guided Inquiry) and control (conventional) groups.

Table 1. Descriptive Statistics for Pre-Test, Post-Test, and Self-Efficacy

Group	Variable	N	Mean	SD	Min	Max
Experimental	Pre-Test	40	78.20	6.97	68	95
	Post-Test	40	84.63	6.54	72	96
	Self-Efficacy	40	67.08	7.60	51	85
Control	Pre-Test	39	77.90	6.72	68	95
	Post-Test	39	80.21	5.27	72	92
	Self-Efficacy	39	65.79	7.11	51	81

Interpretation

The descriptive results show that both groups started with relatively similar pre-test scores (78.20 for the experimental group and 77.90 for the control group), indicating initial equivalence. After the intervention, the Guided Inquiry group's post-test mean increased to 84.63, while the control group's increased to 80.21. Although both groups improved, the experimental group

demonstrated a greater magnitude of gain, consistent with findings that inquiry-based instruction supports higher-order cognitive development (Harjilah et al., 2019a; Kuhlthau et al., 2015; N. Siregar et al., 2022).

Self-efficacy scores were slightly higher in the Guided Inquiry group (M = 67.08) than in the control group (M = 65.79), though both groups showed similar variability. These findings align with research indicating that active, inquiry-oriented learning environments may foster stronger self-perceptions of capability (Bandura, 2023a; Kesan & Kaya, 2018).

Instrument Validity and Reliability

Instrument validation showed that all 20 items met the validity threshold, with calculated *r*-values exceeding the critical value of 0.221. Therefore, all items were considered valid indicators of the measured constructs (Anwar, 2018; Said, 2023).

Reliability testing using Cronbach's Alpha = 0.718 confirmed the instrument's internal consistency. Because this value exceeds the commonly accepted threshold of 0.70 (Subhaktiyasa, 2024). The instrument is considered reliable for assessing students' critical thinking skills.

Assumption Testing

Before conducting inferential analyses, normality and homogeneity tests were performed.

1. Normality Test

Using the Kolmogorov–Smirnov test, all variables (pre-test, post-test, self-efficacy in both groups) yielded significance values above 0.05**,** indicating normally distributed data. This fulfills the assumption required for parametric tests such as ANOVA (Ghozali, 2018).

2. Homogeneity Test

Levene's Test showed a significance value of 0.430**,** greater than 0.05, indicating equal variances across groups. Therefore, homogeneity of variance is satisfied. With both assumptions met, the study proceeded with Two-Way ANOVA**.**

Hypothesis Testing: Two-Way ANOVA

The primary analysis examined the effects of instructional method (Guided Inquiry vs. conventional), self-efficacy level (high vs. low), and the interaction between these variables on students' critical thinking scores.

Table 2. Two-Way ANOVA Summary

Source	F	Sig.	Partial Eta²
Method	**5.355**	**0.022**	0.034
Self-Efficacy	**18.313**	**0.000**	0.106
Method × Self-Efficacy	**4.071**	**0.045**	0.026

Main Effect of Instructional Method

The analysis showed a significant main effect of teaching method on critical thinking scores, $F(1,154) = 5.355$, $p = .022$, $\eta^2 = .034$, indicating that students taught using the Guided Inquiry model outperformed those taught using conventional instruction. This result aligns with earlier findings suggesting that Guided Inquiry supports deeper reasoning processes by encouraging students to explore, question, and analyze information independently (Harjilah et al., 2019a; Kuhlthau et al., 2015; Rizal, 2017). The effect size ($\eta^2 = 0.034$) falls within the small-to-moderate range, suggesting that while Guided Inquiry significantly enhances critical thinking, additional factors also contribute to student performance.

Main Effect of Self-Efficacy

Self-efficacy showed a notably strong main effect: $F(1,154) = 18.313$, $p = .000$, $\eta^2 = .106$ Students with high self-efficacy demonstrated significantly better critical thinking skills compared to students with low self-efficacy. The effect size ($\eta^2 = 0.106$) is classified as **moderate**, highlighting the substantial role of psychological readiness and confidence in shaping cognitive performance. These findings reinforce (Bandura, 2023a) theoretical framework that self-efficacy influences effort, persistence, and cognitive engagement, elements essential to critical thinking. They are also consistent with empirical results from (Muhammad et al., 2021a) and (Pratama, 2023), who identified strong links between self-efficacy and critical reasoning.

Interaction Effect Between Method and Self-Efficacy

A significant interaction effect was detected: $F(1,154) = 4.071$, $p = .045$, $\eta^2 = .026$. This indicates that the effectiveness of Guided Inquiry depends on students' self-efficacy levels.

Interpretation of Interaction

1. Students with high self-efficacy benefited the most from Guided Inquiry.
2. Students with low self-efficacy also improved under Guided Inquiry, but the gains were smaller.
3. In the control group, high self-efficacy students performed better than low self-efficacy students, but the gap was more pronounced in the experimental group.

This pattern suggests that Guided Inquiry amplifies the performance advantages of students with strong confidence in their abilities. Similar interaction effects were reported by (N. Siregar et al., 2022) and (A. Rizal et al., 2017), highlighting the importance of learner readiness in inquiry-based environments.

Post Hoc Analysis

Follow-up analyses were conducted to explore simple effects for each self-efficacy subgroup.

Key Post Hoc Findings

1. High self-efficacy students: Guided Inquiry > Conventional
   ($p = 0.000$)
2. Low self-efficacy students: Guided Inquiry > Conventional
   ($p = 0.000$)

This result confirms that inquiry-based learning benefits both groups, though students with high self-efficacy derive greater gains.

Interaction Plot Interpretation

The interaction graph (Figure 1) illustrates the differing score trajectories.

Interpretive Summary

1. The red line (high self-efficacy) slopes downward from Guided Inquiry to Conventional, indicating a drop in performance when inquiry support is removed.
2. The blue line (low self-efficacy) remains relatively stable, indicating that self-efficacy moderates sensitivity to instructional method.
3. The convergence of the lines in the conventional setting suggests reduced instructional differentiation under traditional teaching.

This visualization reinforces the quantitative findings: the Guided Inquiry method is most effective when students possess—and are supported to develop—high self-efficacy.

Discussion

The findings of this study provide strong empirical evidence that the Guided Inquiry learning model significantly enhances senior high school students' critical thinking skills in Civic Education. In addition, students' self-efficacy demonstrates a substantial independent effect on critical thinking outcomes, and an interaction occurs between instructional method and self-efficacy. This section discusses these findings by integrating them with theoretical frameworks and prior empirical studies, highlighting implications for teaching practice and the broader field of Civic

Education. These results are consistent with the study by Juniasih, Sasmita, and Kamil (2022), who reported that guided inquiry effectively promotes students' critical thinking by engaging learners in systematic questioning, hypothesis formulation, and reflective reasoning processes, thereby reinforcing the argument that structured inquiry-based instruction, when combined with students' internal motivational factors, can produce more meaningful and sustainable cognitive gains than conventional, teacher-centered approaches.

The Impact of Guided Inquiry on Critical Thinking Skills

The first major finding confirms that students taught using the Guided Inquiry model achieved significantly higher critical thinking scores than those taught using conventional instruction. This aligns with the theoretical foundations of inquiry-based learning, which emphasize students' active involvement in constructing knowledge through systematic investigation, questioning, and evidence-based reasoning (Kuhlthau et al., 2015). This is in line with the results of the analysis, which obtained a significance value of 0.022 <0.05, so that it can be concluded that there is a difference in critical thinking skills between class XI MIPA students at Madrasah Aliyah Muhammadiyah 02 Lamongan who were given learning using the Guided Inquiry method and students who were given conventional learning. Guided Inquiry provides structured opportunities for students to explore civic issues, analyze information, and formulate conclusions—core processes linked to critical thinking development (Ennis, 2015; Gambrill & Gibbs, 2009).

Compared to traditional lecture-based approaches commonly used in Civic Education (Hartono, 2013; Sanjaya, 2011), Guided Inquiry encourages learners to engage with authentic civic dilemmas and explore multiple perspectives. This increased cognitive engagement supports higher-order thinking, allowing students to move beyond rote memorization of Pancasila concepts toward a deeper understanding of civic realities. The higher mean post-test score in the experimental group (M = 84.63) compared to the control group (M = 80.21) illustrates the pedagogical advantage of inquiry-driven instruction.

These findings parallel research in other subject areas, such as science and mathematics, where Guided Inquiry has consistently enhanced problem-solving and critical thinking skills (Harjilah et al., 2019a; Juniasih et al., 2022; Kurniawan et al., 2022). Although most prior research focuses on STEM domains, the present study extends these insights to Civic Education, demonstrating that inquiry learning is equally relevant for understanding socio-political concepts.

By integrating Guided Inquiry into Civic Education, teachers can cultivate learning environments that promote independent reasoning, an essential skill for democratic participation.

The second important insight from this study highlights the role of self-efficacy as a psychological factor that significantly shapes students' critical thinking performance. Students with higher self-efficacy consistently demonstrated greater persistence, cognitive engagement, and willingness to attempt challenging tasks—behaviors that naturally support critical thinking development (Bandura, 2023b). This finding supports prior research showing that self-efficacy enhances academic motivation and strategic learning behaviors, enabling students to approach inquiry activities with greater confidence (Ika, 2013b). In the context of Civic Education, where students are often required to evaluate ethical dilemmas and interpret civic issues, strong self-belief becomes a catalyst that amplifies their capacity to think critically.

The effect of self-efficacy observed in this study is consistent with previous evidence linking students' self-belief to better critical thinking outcomes. Studies in science and mathematics education have demonstrated that high self-efficacy encourages students to adopt deeper learning strategies and engage more actively in inquiry tasks (Rizal et al., 2017)(Muhammad et al., 2021b). Similar results reported by Paula (2020) show that self-efficacy predicts students' independence and resilience when tackling complex learning activities. By validating these patterns within Civic Education, the present study contributes to a wider understanding of how psychological readiness interacts with instructional design to optimize cognitive performance (Paula, 2020).

The significant interaction effect found between the Guided Inquiry model and self-efficacy demonstrates that pedagogical approaches do not operate in isolation from learner characteristics. Students with high self-efficacy benefited more markedly from the Guided Inquiry approach, indicating that inquiry-based environments amplify existing psychological strengths (Keşan & Kaya, 2018). Meanwhile, students with lower self-efficacy showed improvement, but their progress was more modest. This aligns with findings from Nisak et al. (2017), which suggest that inquiry tasks require both cognitive effort and emotional regulation. Without adequate confidence, students may struggle with the autonomy and open-ended nature of inquiry, limiting their ability to fully engage in critical reasoning processes (Nisak et al., 2017).

The results of this study offer timely implications for the implementation of Civic Education in Indonesia, particularly in the context of the evolving educational demands of the 21st century. Inquiry-based models encourage student-centered learning aligned with modern pedagogical

frameworks that emphasize creativity, critical thinking, and problem-solving (Lase, 2019). When applied to subjects related to democracy, citizenship, and social responsibility, Guided Inquiry helps students interpret civic values more meaningfully and critically. This aligns with the paradigm shift advocated in contemporary Civic Education, which calls for teaching strategies that move beyond the transmission of doctrine toward fostering active and reflective civic participation (Nasir & Nizar, 2020).

Finally, the findings underscore the need for schools and curriculum developers to integrate inquiry-based instructional models and psychological support strategies more systematically. By embedding structured inquiry activities and scaffolding techniques, teachers can help students gradually build the skills required to navigate complex civic problems. This is particularly crucial for learners with lower self-efficacy, who may benefit from incremental mastery experiences and constructive feedback (Sugiyono, 2017). Additionally, incorporating self-efficacy–building interventions, such as collaborative learning and guided reflection, can create more inclusive learning environments that support diverse learner profiles (Priansa, 2017). Together, these approaches can enhance the overall quality of Civic Education and better prepare students for informed democratic participation.

The Role of Self-Efficacy in Critical Thinking Performance

The second major finding indicates that self-efficacy significantly influences students' critical thinking abilities. Students with high self-efficacy scored substantially higher on critical thinking tasks than those with low self-efficacy, consistent with the theory that efficacy beliefs shape effort, persistence, cognitive strategy use, and resilience (Bandura, 2023a). High self-efficacy students tend to approach complicated tasks with confidence, view challenges as opportunities for growth, and maintain motivation even when faced with difficulties.

This study's results support prior empirical findings. (Muhammad et al., 2021a) found a strong positive correlation between self-efficacy and critical thinking in science learning. Similarly, (Pratama, 2023) and (Aziz et al., 2023) demonstrated that students with higher self-efficacy perform better in tasks requiring analytical thinking and reasoning. In Civic Education, where students must interpret ethical dilemmas and analyze socio-political issues, strong self-efficacy is crucial for managing cognitive complexity.

Interestingly, the descriptive data revealed that although the self-efficacy means of the two groups were similar (67.08 for experimental, 65.79 for control), the influence of self-efficacy emerged

strongly in the factorial analysis ($F = 18.313$, $p = .000$). This reinforces the idea that self-efficacy is not merely a background characteristic but a significant predictor of performance. Schools that aim to improve critical thinking must therefore incorporate practices that strengthen students' confidence in their own abilities—such as goal-setting, constructive feedback, collaborative learning, and opportunities for independent inquiry (Kesan & Kaya, 2018; Slavin, 2014).

The strong influence of self-efficacy on critical thinking can also be interpreted through students' readiness to engage in demanding cognitive tasks. Students who believe in their ability to succeed are more likely to activate prior knowledge, monitor their learning process, and use appropriate strategies during inquiry activities. This is consistent with research by Ika (2013), who asserts that self-efficacy contributes to improved time management, self-regulation, and persistence across academic contexts (Ika, 2013b). In Civic Education, where students frequently evaluate normative concepts and social realities, such readiness becomes fundamental for achieving deeper cognitive processing.

Prior studies also show that self-efficacy strengthens students' engagement in problem-based environments, where open-ended tasks require independent reasoning. Norhasanah (2018) found that high self-efficacy students displayed greater initiative and flexibility when addressing biological case studies, suggesting that confidence influences willingness to engage in complex reasoning (Norhasanah, 2018). Although the subject differs, the pattern aligns with the findings of this study: students with stronger beliefs in their capabilities are better positioned to navigate analytical tasks embedded within Civic Education's inquiry-based activities.

The role of self-efficacy becomes even more evident when considering how inquiry-based models demand active participation and conceptual understanding. Harjilah et al. (2019) reported that in physics learning, guided inquiry significantly improved critical thinking only when students maintained adequate confidence to explore evidence and test hypotheses (Harjilah et al., 2019b). The similarity of results across domains reinforces the robustness of self-efficacy as a determinant of higher-order thinking. In Civic Education, students with low self-efficacy may hesitate to question assumptions or analyze civic conflicts deeply, limiting the full benefits of Guided Inquiry.

Another aspect worth noting is the influence of the classroom environment on students' psychological empowerment. Studies suggest that supportive instructional climates can strengthen self-efficacy by providing structured feedback, collaborative teamwork, and scaffolded challenges (In'am & Husamah, 2024). When teachers design inquiry-based lessons that gradually increase in

complexity, students experience mastery episodes that reinforce their belief in their analytical capabilities. Such practices are essential in Civic Education, where confidence enables students to express arguments, critique policies, and evaluate diverse civic perspectives.

Furthermore, the integration of self-efficacy–enhancing interventions has been shown to optimize the effectiveness of inquiry models. Siregar et al. (2022) demonstrated that guided inquiry significantly improved both critical thinking and learning outcomes in biology, particularly when students were supported through motivational prompts and teacher guidance (Siregar, 2022). Similarly, Zamruti & Ainni (2022) found that the combination of guided inquiry and high self-efficacy produced stronger gains in critical thinking compared to either factor alone. These findings reinforce this study's conclusion that maximizing students' confidence is essential for harnessing the full cognitive benefits of Guided Inquiry in Civic Education (Zamruti & Ainni, 2022).

Interaction Between Guided Inquiry and Self-Efficacy

One of the most important findings of this study is the significant interaction between instructional method and self-efficacy ($F = 4.071$, $p = .045$). This means that the effect of Guided Inquiry on critical thinking differs depending on the level of students' self-efficacy.

1. Students with High Self-Efficacy

Students with high self-efficacy benefited the most from Guided Inquiry. They engaged more deeply in tasks such as problem formulation, data interpretation, and synthesizing conclusions. These students likely possess stronger internal motivation and are more comfortable navigating the open-ended nature of inquiry tasks, which require autonomy and complex reasoning (Bandura, 2023a).

The interaction plot from the study demonstrates a clear downward slope for high self-efficacy students when moving from Guided Inquiry to conventional instruction, indicating substantial loss of cognitive engagement under teacher-centered methods. This aligns with (N. Siregar et al., 2022), who reported that self-efficacy amplifies the benefits of inquiry learning in biology.

2. Students with Low Self-Efficacy

Students with low self-efficacy still showed improvements under Guided Inquiry, but the magnitude of the effect was smaller. The relatively stable slope in the interaction plot suggests that these students benefit less dramatically from inquiry methods. Low self-efficacy students may

struggle with the ambiguity and autonomy required in inquiry learning, leading to lower cognitive persistence and reduced reasoning output (Ika, 2013a).

Nevertheless, the post hoc analysis shows that Guided Inquiry is still significantly more effective than conventional instruction for low self-efficacy students ($p = .000$). This supports the argument that when properly scaffolded, Guided Inquiry can be beneficial for all learners, though differentiated support may be needed for those with weaker confidence.

3. Implications of Interaction Effect

The interaction effect implies that inquiry-based learning models should be accompanied by strategies that foster students' self-efficacy. Teachers need to provide appropriate guidance, structure, and emotional support, particularly for students with low self-belief, while students with high self-efficacy should be challenged with progressively more complex inquiry tasks to optimize their cognitive development.

These findings highlight that effective Civic Education requires both pedagogical innovation and psychological Aligning Results with Civic Education Goals. Civic Education aims to cultivate reflective, democratic, and socially responsible citizens. Critical thinking is central to these goals because students must analyze civic issues, evaluate multiple viewpoints, and make ethical decisions. Inquiry-oriented instruction aligns with the philosophical foundations of Civic Education by encouraging students to think critically about real-world problems rather than memorizing normative content (Depdiknas, 2003).

The present study demonstrates that Guided Inquiry can transform Civic Education classes into active learning environments where students question assumptions, analyze evidence, and articulate reasoned arguments. Such learning experiences are essential for preparing young people to navigate contemporary civic challenges in Indonesia's pluralistic society.

Comparison with Previous Research

The results of this study are consistent with previous empirical studies across disciplines, namely, Guided Inquiry improves critical thinking (Harjilah et al., 2019a; Juniasih et al., 2022)Self-efficacy predicts academic achievement (Kesan & Kaya, 2018), and Interaction effects occur between inquiry methods and psychological variables (Rizal, 2017; N. Siregar et al., 2022).

However, the present study contributes uniquely by applying these concepts within Civic Education, an area where research on inquiry-based models remains limited. It also offers a more

nuanced understanding by demonstrating that self-efficacy moderates the impact of instruction—an important insight for designing differentiated learning interventions.

Limitations and Directions for Future Research

Despite its contributions, this study has several limitations, including the use of a single-site sample that restricts the generalizability of the findings and a relatively short intervention period that may not fully capture longer-term effects. In addition, self-efficacy was measured using only two categories, whereas future studies could explore more nuanced levels or incorporate other motivational constructs, and the study focused solely on cognitive outcomes without examining attitudes and dispositions that are also central to Civic Education. Future research could explore longitudinal impacts, integrate digital inquiry tools, or examine cross-cultural applications of Guided Inquiry in Civic Education.

CONCLUSION

This study concludes that both the Guided Inquiry learning model and students' self-efficacy significantly influence critical thinking skills in Civic Education, with Guided Inquiry producing higher critical thinking performance than conventional instruction. Students with high self-efficacy consistently demonstrated superior outcomes, and a significant interaction effect shows that the impact of Guided Inquiry is stronger among students with higher confidence levels. These findings highlight that effective Civic Education requires integrating inquiry-based pedagogy with strategies that strengthen students' self-efficacy to maximize cognitive development.

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