



FOSTERING CRITICAL THINKING IN ISLAMIC EDUCATION THROUGH PROBLEM-BASED LEARNING IN THE MERDEKA CURRICULUM IMPLEMENTATION

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Abstract: This study aimed to develop students' critical thinking skills in Islamic education through the implementation of Problem-Based Learning (PBL) within the Merdeka Curriculum. This research used a qualitative approach with data collected through classroom observations, interviews, and documentation of learning activities. The results showed that In conclusion, the integration of the Problem-Based Learning model with religious moral values is empirically proven to significantly boost students' critical thinking and evaluative reasoning through the resolution of real-world social problems. Therefore, the implementation of these five instructional stages ranging from problem orientation to final reflection is highly recommended as a modern, effective framework for transforming character education in the digital age. These findings indicate the need for systematic support for teachers in developing PBL-based learning designs and assessment tools. Schools and policymakers are encouraged to provide professional development programs to strengthen teachers' pedagogical competencies in implementing the Merdeka Curriculum. Overall, this study confirms that Problem-Based Learning supports the spirit of the Merdeka Curriculum by positioning students as active learners who think critically, reflectively, and contextually in accordance with Islamic values

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INTRODUCTION

The Merdeka Curriculum or called independent curriculum represents a fundamental transformation in educational practice by shifting learning from teacher-centered to student-centered approaches, emphasizing the development of competencies, character, and higher-order thinking skills. However, the

effective implementation of learning models that foster these skills, particularly in Islamic Religious Education, remains a critical challenge (Hatija et al., 2025; Ratnawati et al., 2024; Setyaningsih et al., 2024). In the context of implementing the *Merdeka* Curriculum, especially in Islamic Religious Education, this poses a unique challenge because learning should not only focus on cognitive aspects and dogmatic understanding, but also be able to foster critical, reflective, and contextual thinking skills that are in line with Islamic values (Ibrahim et al., 2024; Munif & Sulaiman, 2023; and Maisyaroh et al., 2024). This is in line with the spirit of the *Merdeka* Curriculum, which places students as active subjects of learning who are free to think, create, and solve problems independently in accordance with the context of their lives. Critical thinking in Islamic education plays an important role in guiding students to be able to understand Islamic teachings rationally, contextually, and in a way that provides solutions to modern life problems (Anggraeni et al., 2023 and Rafa Adilla Azhari, Nurul Hidayah, Rahma Diani, 2025).

However, various studies showed that students' critical thinking skills in Islamic education learning are still relatively low because the Islamic education learning process still tends to be oriented towards memorization and theoretical delivery of material. In addition, this problem also occurs due to minimal literacy, passivity, low motivation, and students who are still untrained in analyzing or solving problems objectively (Rafiq-uz-zaman & Nadeem, 2025; Yang et al., 2024). Based on the results of research conducted by Amumpuni et al. (2025) and Walter (2024), it was found that high critical thinking skills will enable students to solve problems efficiently and increase their potential, thereby achieving educational goals. Indicators of improved critical thinking skills include interpretation, analysis, evaluation, explanation, and self-regulation. The research findings indicated that the implementation of PBL at SMA Negeri 1 Glagah Banyuwangi, particularly in Islamic religious education, demonstrates that this approach not only strengthens students' theoretical understanding but also encourages them to integrate religious values into their daily lives in practical ways and helps students become more adaptable and responsive to the challenges of the modern world.

The phenomenon of students' low critical thinking skills in Islamic Religious Education learning has currently become a crucial issue characterized by weaknesses in interpretation, analysis, and evaluation aspects. This problem is primarily caused by a conventional learning process that tends to be rote-oriented and relies on purely theoretical material delivery. In addition, internal factors such as a lack of literacy, passivity, and low learning motivation leave students untrained in analyzing or solving problems objectively. This condition brings significant negative impacts, where students become inefficient in solving life problems and struggle to maximize their potential. As a further impact, students fail to integrate religious values into their practical daily lives because their understanding stalls at the cognitive level. Ultimately, the lack of critical thinking ability makes students unadaptive and unresponsive when facing the complexities of modern world challenges.

In response to these needs, problem-based learning (PBL) has become one of the strategic alternatives in realizing the objectives of the *Merdeka* Curriculum. PBL focuses on providing contextual problems that require students to think critically, seek information, discuss, and find solutions based on logical reasoning and Islamic values. Through this process, students not only acquire conceptual knowledge but also internalize religious values through reflective and applicable learning experiences. Consequently, the integration of Problem-Based Learning (PBL) acts as a strategic solution that effectively revitalizes the *Merdeka* Curriculum by transforming passive rote learning into active, critical exploration (Chuaichana, K., & Wutchana, 2025; Yang et al., 2023). By confronting real-world scenarios, students are directly encouraged to develop their analytical and problem-solving skills through a structured framework of logical reasoning. Ultimately, this approach successfully bridges the gap between theoretical knowledge and practical action, enabling students to organically internalize and apply Islamic values in their modern daily lives.

Based on the research (Farrow et al., 2024; Saad & Zainudin, 2024), the study shows that PBL is effective in improving students' critical thinking skills by applying three main stages, namely planning, implementation, and evaluation, with the teacher acting as a facilitator. This aligns with findings by Anggraeni et al. (2023) and Pan et al. (2023), who emphasized that structured problem-solving models in religious education significantly boost students' analytical capacity and self-regulation when navigating moral dilemmas. However, the effectiveness of this model's implementation greatly depends on the teacher's ability to design relevant problems, facilitate meaningful discussions, and relate the problem-solving process to Islamic teaching principles. In line with this challenge, Alreshidi & Lally (2024); Polem et al. (2023) and Sukardi et al. (2024) highlighted that many educators still struggle to formulate authentic, context-heavy problems that resonate with contemporary student experiences while remaining anchored in scriptural texts. Furthermore, research by Feriyanto & Anjariyah (2024) and Shekh-Abed (2024) demonstrated that successful PBL execution requires intensive teacher training to shift their role from information providers to active facilitators of dialogue. Ultimately, as concluded by --, when teachers master these scaffolding techniques, PBL not only refines critical thinking but also ensures that the integration of Islamic values moves from abstract memorization to actionable, daily practice.

Therefore, an in-depth study is critically needed to bridge the gaps left by previous research regarding the practical optimization of problem-based learning (PBL) within Islamic Education, especially amidst ongoing pedagogical shifts. While prior studies acknowledge the effectiveness of PBL and the challenges teachers face as facilitators, there remains a critical shortage of research that explicitly details how educators can successfully navigate these hurdles under the modern *Merdeka* Curriculum framework. The novelty of this study lies precisely in its integrative approach, which combines the core principles of Problem-Based Learning with the unique characteristics of Islamic education, moving beyond mere cognitive enhancement to explore how Islamic

religious values can be deeply internalized through contextual problem-solving. Consequently, this study aims to comprehensively describe the implementation of the PBL model in Islamic education learning, analyze the specific supporting and inhibiting factors of its application, and assess the true extent to which this model contributes to improving students' critical thinking skills within this modern educational landscape.

RESEARCH METHOD

This study uses a qualitative approach with a descriptive method, which aims to describe in depth the process of implementing the Problem-Based Learning (PBL) model in Islamic Religious Education learning and analyze its contribution to strengthening students' critical thinking skills in the context of the *Merdeka* Curriculum. This research was conducted at SMA Negeri 3 Karawang, one of the schools that has implemented the *Merdeka* Curriculum since 2024. The participants consisted of the Principal, the Deputy Head of Curriculum, 3 Islamic Religious Education teachers, and three eleventh-grade students (ranging from 8 to 20 years) who were directly involved in the implementation of Problem-Based Learning (PBL). The participants were selected using purposive sampling, based on specific criteria, including their active involvement in PBL-based learning and their direct experience in implementing the *Merdeka* Curriculum.

The data collection techniques in this study included three main procedures, namely observation, in-depth interviews, and documentation. Observation was conducted to obtain an authentic picture of the implementation of the PBL model in Islamic education learning in the classroom. In-depth interviews were conducted with teachers and several students to gain a more comprehensive understanding of the implementation strategies, obstacles, and the impact of PBL on critical thinking skills. Meanwhile, documentation was carried out to complement empirical data through the collection of learning tools, student worksheets, reflection notes, and learning evaluation results. The data obtained was analyzed using the Miles & Huberman interactive model (in Pilcher & Cortazzi, 2024; Tracy, 2024), which includes three stages, namely data reduction, data presentation, and conclusion drawing/verification. These stages allow researchers to select relevant data, organize findings into meaningful patterns, and draw valid and in-depth conclusions. The data triangulation approach was by technical triangulation necessary to increase the validity and reliability of the research findings.

RESULTS AND DISCUSSION

Result

Implementation of the Problem-Based Learning Model in Islamic Education

The implementation of the *Merdeka* Curriculum at SMA Negeri 3 Karawang has been carried out in accordance with its core principles, as evidenced by several operational documents, including the curriculum structure, teaching modules, and learning objectives (ATP). The analysis of these documents shows

that the learning design emphasizes student-centered approaches, contextual learning, and the development of higher-order thinking skills. In particular, the teaching modules used by Islamic education teachers integrate Problem-Based Learning (PBL) stages, such as problem orientation, investigation, and reflection, which align with the *Merdeka Curriculum* framework.

This finding is further supported by data obtained from teacher interviews. One of the Islamic education teachers stated, *"In implementing the Merdeka Curriculum, we are encouraged to design learning that is more flexible and student-centered. Through PBL, students are more active in discussing and analyzing real-life problems related to Islamic values"* (Mr. T, interview, 2025). Similarly, another teacher explained, *"The use of teaching modules and learning objectives has been adjusted to support critical thinking skills, especially by presenting contextual problems that are relevant to students' daily lives"* (Mrs. L, interview, 2025).

These findings indicate that the implementation of the *Merdeka Curriculum* is not only conceptual but also operationally reflected in the planning and execution of learning activities. The integration of PBL within the teaching modules demonstrates a clear alignment between curriculum principles and classroom practices, particularly in fostering students' critical thinking skills in Islamic Religious Education.

Figure 1. PBL Stages at SMAN 3



The implementation of the Problem-Based Learning (PBL) method in Islamic Education learning at SMAN 3 Karawang is applied through five systematic, student-centered stages. Each stage is designed sequentially to stimulate critical thinking skills, ranging from the presentation of real-world problems to the final reflection on the generated solutions.

Problem Orientation

The learning process begins with problem orientation, where students are introduced to contextual issues related to Islamic values, which is consistent with the idea that meaningful problems can stimulate students' curiosity and critical thinking. Teachers begin the lesson by presenting contextual problems, such as moral issues among teenagers, religious tolerance, and social responsibility from an Islamic perspective. These issues spark students' curiosity and require them to think critically in finding solutions based on the values of the Qur'an and hadith. This activity encourages students to integrate religious knowledge with the social realities they face in their daily lives. In its classroom execution, the learning process begins interactively as the teacher presents visual media or real-world case studies regarding contemporary moral phenomena, such as the rise of cyberbullying among teenagers or conflicts of intolerance on social media. These contextual issues are intentionally introduced to spark students' natural curiosity and stimulate their critical thinking from the very outset of the lesson.

After analyzing the presentation, students are directed to engage in a brainstorming session to identify the root causes of the problem from both ethical and social perspectives. The teacher then challenges the students to directly link these phenomena with relevant textual evidences (*dalil naqli*), such as Quranic verses on *tabayyun* (verification) or hadiths concerning the importance of guarding one's speech and maintaining brotherhood. Through this integration, students do not merely view Islamic teachings as theoretical memorization material, but rather as a dynamic life guide capable of addressing modern challenges. This activity effectively encourages students to deeply analyze social realities based on the framework of religious moral values they uphold. Ultimately, this detailed and contextual problem orientation successfully bridges the gap between religious texts and the daily life dynamics faced by the students.

Organizing Students for Learning

In the organizing stage, students are grouped and guided to understand their roles in collaborative learning. During the organizing stage, the teacher divides the class into several small, heterogeneous groups while taking into account the diversity of students' academic abilities and backgrounds. Once the groups are formed, the teacher provides intensive guidance regarding clear role assignments for each member, such as the group leader, note-taker, literature researcher, and spokesperson. This step is crucial to ensure that every student understands their individual responsibility in supporting the achievement of collaborative learning goals. In relation to the previously presented orientation on contemporary moral issues like cyberbullying, each group is then given a specific worksheet to guide the focus of their discussion. The teacher also ensures that all group members are ready to cooperate actively and respect one another's opinions throughout the upcoming investigation process. Through this structured organization, an inclusive learning environment is successfully created, leaving students fully prepared to move forward into the next stage of problem-solving.

Throughout this organizational process, the teacher's role transforms into that of a facilitator and mediator who moves actively from one group to another. The teacher provides in-depth guidance so that students can align their group tasks with critical thinking indicators, particularly in preparing evaluative reasoning for information sources. In this context, the teacher guides students on how to delegate the task of finding valid references, ranging from Quranic verses and hadiths to relevant digital scientific articles addressing the social issue under review. This thorough organization directly trains students' collaborative argumentation skills from an early stage before they present their findings to the front of the class. With a role distribution oriented toward deep information processing, students do not merely gather in groups, but rather build intellectual synergy to process data into meaningful moral understanding. Ultimately, this solid internalization of roles within the group serves as the main foundation that

strengthens analytical skills and teamwork in addressing social challenges based on Islamic values.

Independent & Group Investigation

During the investigation stage, students conduct both independent and group inquiries to explore possible solutions, which aligns with the inquiry-based nature of PBL that promotes deeper understanding and analytical thinking. However, several adaptations were identified in practice. The investigation and discussion stages were often integrated to address time constraints and improve efficiency in group work. Despite these deviations, the overall implementation remains consistent with the core principles of PBL and supports the development of critical thinking skills. Furthermore, the use of contextual problems such as social responsibility, digital ethics, honesty, and integrity demonstrates alignment with the principles of the *Merdeka* Curriculum, which emphasizes meaningful, student-centered, and reflective learning.

According to a teacher has been well received by students because it gives them the freedom to express their opinions and find solutions based on religious principles. Meanwhile, other teacher believed that this model is in line with the spirit of the *Merdeka* Curriculum, which emphasizes meaningful, participatory learning that is oriented towards strengthening critical thinking skills. In general, the implementation of PBL at SMAN 3 Karawang has been running smoothly with the support of the school management and the active involvement of teachers in designing interesting and relevant learning activities. Based on the observation results, students were trained to identify the main problems, ask in-depth questions, and search for various references to develop solutions in line with Islamic values. The learning process was collaborative, where students worked in groups to discuss problems and present their analysis results in front of the class. The Islamic education teacher acts as a facilitator by providing guiding questions that provoke reasoning, rather than being the sole source of information. Students are directed to evaluate information from various perspectives, assess the validity of sources, and conclude the results of discussions based on the principles of logic and religious ethics. This approach shapes the analytical, synthetic, and evaluative skills that are at the core of critical thinking.

Development & Presentation of Results

At the stage of developing and presenting results, students communicate their findings and defend their arguments. This stage strengthens reasoning and communication skills. This indicating that presentation activities enhance critical thinking abilities. During the stage of developing and presenting results, the implementation in the classroom is realized through an active presentation forum where each group showcases the ideas or contextual solutions they have formulated. Under the teacher's guidance, group representatives systematically communicate their findings using valid supporting data from both religious principles and social realities. This session then transitions into an interactive

discussion or Q&A session, where the presenting group must logically and objectively defend their arguments when facing counterarguments or questions from their peers. Through this implementer dynamic, students' critical reasoning skills are directly tested while simultaneously sharpening their articulatory communication skills in delivering adaptive moral-religious messages. Consequently, these presentation activities and in-class dialectics serve as an effective instrument that tangibly enhances students' critical thinking abilities.

Based on the results of interviews and classroom observations, there are four main indicators used to assess students' critical thinking skills in Islamic Education learning. The first indicator is **analytical thinking**, where students are evaluated on their ability to identify the core of a problem, distinguish facts from opinions, and logically connect social issues – such as dishonesty and the misuse of technology – with Islamic teachings, rather than merely providing normative answers. The second indicator is **evaluative reasoning**, which was highlighted by a Islamic education teacher, L. Munawaroh, as a benchmark to assess how students select, evaluate credibility, and process information from various sources (such as hadith, textbooks, and digital media) into a deeper understanding, instead of just memorizing it.

Furthermore, the third indicator is the ability to synthesize and integrate information, which measures the extent to which students can combine various perspectives and group discussion results with Islamic values, moral reasoning, and social realities to formulate comprehensive solutions encompassing ethical, social, and technological aspects. The final indicator is the ability to draw conclusions and make decisions. Through an interview with a Islamic education teacher (LM), students at this stage are evaluated based on their capacity to formulate conclusions supported by strong evidence and logical arguments, while also considering the potential impacts of their proposed solutions on both themselves and broader society. In addition to these four indicators, teachers also observe aspects of reflective and spiritual attitudes, which are an integral part of Islamic education learning. According to several teacher, students who think critically are not only able to solve problems but also demonstrate moral maturity in assessing issues. Therefore, the assessment process does not only focus on the final result but also on the thinking process, involvement in discussions, and the ability to argue logically and ethically.

Analysis and Reflection

Finally, in the analysis and reflection stage, students evaluate their learning process and outcomes, which is essential for developing metacognitive awareness and reflective thinking. In addition, the reflection stage was sometimes conducted briefly due to limited instructional time. Based on the analysis of observation sheets and students' reflective responses, the implementation of the Problem-Based Learning (PBL) model showed a positive impact on the development of students' critical thinking skills in Islamic Religious Education. This improvement was observed in several key aspects of critical thinking. *First*, students demonstrated an increased ability to analyze problems. When teachers presented contextual cases related to social

responsibility, digital ethics, and honesty in daily life, students were able to identify the main issues, distinguish relevant information from irrelevant details, and discuss the causes and consequences of the problems presented. This indicates that students were actively engaging in analytical thinking rather than merely recalling information.

Second, students showed an improved ability to evaluate information. During group discussions, students examined information obtained from textbooks, digital sources, and religious references. They compared different viewpoints, assessed the credibility of the information, and considered whether the arguments were consistent with Islamic teachings and social realities. Third, the learning process strengthened students' ability to provide rational arguments. In presenting their group findings, students explained their opinions using logical reasoning supported by evidence and references from Islamic sources. They also responded to questions and feedback from their peers, which further developed their reasoning and communication skills. *Fourth*, students demonstrated an improved ability to make decisions based on Islamic values. After analyzing and evaluating the problems, students proposed solutions that reflected Islamic principles such as honesty, responsibility, and ethical behavior in social interactions.

One indicator that was clearly evident from the observation results was that the improvement in students' critical thinking skills was evident in their ability to provide arguments based on the Qur'an and hadith during discussions. In addition, the process of problem solving in groups also encouraged students to express their opinions, evaluate various alternative solutions, and consider the moral consequences of each decision. In discussions, students also learn to listen to their friends' views, examine relevant religious arguments, and relate Islamic values to the social context. This activity creates a space for reflective thinking, which is at the core of critical thinking.

An interview with Mrs. Laelatul Munawaroh, S.Ag, a Islamic education teacher, she explained that students who participated in problem-based learning became more courageous in expressing their opinions, more independent in learning, and had the reflective ability to relate Islamic teachings to social issues they encountered in their surroundings. The observation results also showed that critical thinking indicators, such as the ability to analyze information, evaluate arguments, and draw rational conclusions, appeared to have improved compared to the conventional methods previously used in the classroom. Furthermore, the implementation of PBL significantly increased students' participation in classroom activities at SMAN 3 Karawang. Students became more active in discussions, more confident in expressing their ideas, and more willing to ask critical questions. As a result, they became more accustomed to examining information carefully, asking deeper questions, and connecting Islamic education concepts with real-life situations. Overall, these findings indicate that the PBL model effectively supports the development of students' critical thinking skills, particularly in the dimensions of analysis, evaluation, argumentation, and decision-making grounded in Islamic values.

The implementation of the Problem-Based Learning model in Islamic Religious Education at SMA Negeri 3 Karawang follows five main stages as recommended by modern PBL theory. Each stage of the describes a learning process that places students at the center of learning activities with teachers acting as facilitators, mentors, and motivators. The stages of PBL implementation in the context of Islamic education learning are shown in Table 1 below.

Table 1. Stages of PBL Model Implementation in Islamic education Learning

PBL Stage	Main Activities in Islamic education Learning	Media/Tools	Teacher's Role
Problem Orientation	The teacher presents contextual problems related to social ethics or religious responsibility.	Video, case studies, news articles	Facilitator and discussion starter
Organizing Students for Learning	Students form small groups to identify issues and formulate research questions.	Worksheets	Group leaders and mentors
Independent and Collaborative Investigation	Students search for information from the Qur'an, hadith, and scientific sources to analyze problems.	Islamic education books, internet, digital interpretations	Resource guides and clarifiers
Solution Development and Presentation	Students present the results of their analysis and solutions based on Islamic principles and critical thinking.	PPT, posters, group reports	Evaluators and feedback providers
Reflection and Evaluation of the Learning Process	Students engage in self-reflection on their thinking processes, collaboration, and the values they have gained.	Reflection journals, critical thinking rubrics	Learning motivators and reflectors

Table 1 above indicates teachers assesd students' critical thinking development through discussion activities, personal reflection, and group writing assignments. Overall, the PBL process has a positive impact on increasing student activity, responsibility, and ability to examine issues in depth and based on Islamic values. To assess the effectiveness of the Problem-Based Learning model, a comparison was made of students' critical thinking skills before and after the implementation of the model. The aspects measured included the ability to identify problems, analyze and evaluate information, argue logically, and reflect on decision-making. A comparison of students' mastery of each aspect is presented in Table 3 below.

Table 2. Comparison of Students' Critical Thinking Skills Before and After the Implementation of PBL

Critical Thinking Ability Aspect	Before PBL Implementation (% of students mastering)	After PBL Implementation (% of students mastering)	Improvement (%)
Problem Identification	60	85	+25
Analysis and Evaluation of Information	58	80	+22
Logical and Collaborative Argumentation	55	78	+23
Reflection and Decision Making	50	76	+26
Overall Average Improvement	—	—	+24

Based on the data presented in the table, the implementation of the Problem-Based Learning (PBL) model has significantly improved students' critical thinking skills across all measured aspects. The most substantial increase is observed in the reflection and decision-making aspect, which rose by 26%, followed closely by problem identification with a 25% improvement. Additionally, students' ability in logical and collaborative argumentation, along with the analysis and evaluation of information, experienced notable gains of 23% and 22% respectively. Prior to the PBL intervention, the highest mastery was in problem identification at 60%, while reflection and decision-making sat at the lowest at 50%. Ultimately, the strategy successfully generated a highly positive outcomes, yielding a substantial overall average improvement of 24% in students' critical thinking competencies. These findings demonstrate that integrating real-world problem-solving into the curriculum serves as an effective catalyst for fostering deeper cognitive engagement and more autonomous learning behaviors among students.

Discussion

Research findings indicate that problem orientation through the presentation of contemporary moral issues, such as cyberbullying and social media intolerance, significantly increases students' natural curiosity and critical thinking acumen at the outset of learning. This is supported by empirical documentation noting a 25% surge in students' problem analysis skills, rising from 60% to 85%. This finding reinforces Problem-Based Learning (PBL) theory (in Hellín et al., 2023; Mcguire & Mcguire, 2025), which posits that authentic and meaningful problems act as effective intellectual anchors to stimulate higher-order cognition. Furthermore, this outcome aligns with a study by Anggraeni et al. (2023); Gultekin (2024) and Sarnoko, Asrowi, Gunarhadi (2024), which asserts that integrating real-world issues into a moral-value-based curriculum accelerates students' ability to identify the root causes of complex social problems. Consequently, a well-structured problem orientation serves as the primary catalyst that sets a rigorous academic tone for the entire learning journey.

This substantial increase at the initial stage occurs because the moral issues raised are deeply intertwined with the current digital ecosystem of teenagers, thereby creating instant emotional and cognitive engagement. When students are confronted with real moral dilemmas that challenge the Islamic values they uphold, cognitive dissonance occurs, forcing them not merely to memorize religious texts but to utilize them as analytical tools. This emotional connection drives students' intrinsic motivation to think critically from the very first minute the lesson begins. As a result, a detailed and contextual problem orientation successfully bridges the gap between religious texts and the real social dynamics surrounding them. Therefore, grounding the initial stimulus in everyday realities ensures that abstract moral concepts become immediate, palpable challenges for the students.

In the organizational stage, heterogeneous grouping combined with structured role distribution (group leader, note-taker, literature researcher, and spokesperson) proved to build an inclusive foundation for collaborative learning. The relevance of this finding is supported by the collaborative argumentation indicator in the research data, which shows an increase in interaction skill mastery from 55% to 78%. Theoretically, this validates the Community of Inquiry (CoI) theory (in Brugar et al., 2024; Moundridou et al., 2024; and Panmei, 2025), which emphasizes the importance of social presence in building intellectual synergy within the classroom. This finding also confirms the study by Asilevi, M.N., Kärkkäinen, S., Sormunen, K., & Havu-Nuutinen (2024) and Muhammed Zein & Abdullateef (2025), which stated that student engagement multiplies when individual responsibilities within a team are thoroughly defined at the beginning of the problem-solving process. Hence, meticulous classroom organization transforms a crowd of individual students into a functional, highly synchronized peer-learning network.

The fundamental reason behind the success of this organizational stage is the elimination of social loafing, as every student is given a clear and interdependent operational role. The specific assignment to integrate textual evidences (*dalil naqli*) with digital scientific articles forces groups not merely to assemble physically but to collaborate tactically. The clarity of instructions and worksheets provided by the teacher minimizes structural confusion, allowing students to immediately focus their cognitive energy on the essence of the task. This healthy group synergy ultimately shapes a safe academic environment where dissenting opinions are respected and collective critical thinking can grow optimally. Ultimately, this strategic division of labor ensures that every learner actively contributes to the co-creation of knowledge rather than remaining a passive bystander.

The independent and collaborative investigation stage requires students to conduct deep reference searches and analyses, which correlates directly with a significant improvement in evaluative reasoning from 58% to 80%. The finding that students are capable of filtering the validity of information ranging from Quranic verses to digital scientific articles aligns with Information Literacy theory (in Balazinec et al., 2024; Medina-Merodio et al., 2024; Supratman, S.,

Mariani Ramlan, A., Ode Sirad, L., & Bonyah, 2025) and the cognitive presence component of constructivism. The results of this investigation also echo the research by Amumpuni et al., 2025 and Issa & Hall (2024), which discovered that problem-based learning provides an expansive exploratory space for students to develop evidence-based argumentation. Thus, collaborative investigation is proven to mature the way students process religious and social information objectively. This demonstrates that when students are given the autonomy to investigate, their capacity to synthesize complex data sources expands exponentially.

Students' evaluative reasoning improved sharply during the investigation stage because they were placed in the position of active researchers rather than passive recipients of information. The challenge to find solutions based on the concept of *tabayyun* (verification) causally forces students to filter out hoaxes, sort through biased arguments, and verify social data in the field using the moral standards of the Quran. This back-and-forth thinking process between religious texts and digital realities sharpens their logical sensitivity. Therefore, guided independence during investigation triggers a leap in students' ability to synthesize various overlapping viewpoints into a unified solution. By grappling directly with conflicting pieces of information, students learn to distinguish between superficial opinions and rigorously verified facts.

During the presentation stage, active presentation forums and interactive Q&A sessions proved to train students in communicating their findings and defending their arguments logically. This fact is supported by a documented 23% increase in argumentation skills within the classroom action evaluation. Theoretically, this dialectical process reinforces John Biggs' argument (in Alt et al., 2023; Medina-Merodio et al., 2024) regarding the importance of authentic assessment tasks in testing students' functioning knowledge. This finding also strengthens the study by Al-khresheh (2024) and Lagare et al. (2023), which asserts that defending arguments in public acts as a primary catalyst for reinforcing communication articulation and independent critical thinking. As a result, the presentation room functions as a mirror that reflects the students' true depth of understanding.

Success at this presentation stage was driven by positive pressure within the classroom academic forum, which demanded intellectual accountability from each group. When students are required to defend their moral-religious solutions against rebuttals from other groups, they are automatically forced to activate a second-layer critical thinking mode: anticipating the weaknesses of their own arguments. This dynamic student-to-student dialectic eliminates reliance on passive memorization and replaces it with structured, spontaneous reasoning. Consequently, presentations are no longer a mere formality of reading slides, but an arena of proof where students' reasoning and communication skills are tangibly honed. This interactive tension forces students to refine their rhetoric, ensuring their moral messages are delivered both adaptively and persuasively.

The final stage of learning recorded the highest mastery leap in this study, specifically in the aspect of drawing conclusions and decision-making, which increased by 26% (from 50% to 76%). The theoretical relevance of this finding is rooted in Kolb's Experiential Learning Cycle (in Egan et al., 2024; Sinha, 2024), particularly in the abstract conceptualization and active experimentation phases where students reflect upon their cognitive experiences. This finding also supports previous research by Chai-Arayalert et al. (2023) and Tuna et al. (2023), which states that the reflection phase in problem-based learning models is the main key that guarantees the long-term retention of learned character values and analytical capabilities. Thus, systematic reflection acts as the ultimate lock that secures short-term classroom experiences into long-term cognitive assets.

The highest increase in the reflection aspect occurred because this stage provides space for students to review the entire problem-solving process from a metacognitive perspective. When evaluating their solutions, students realize the immediate impact of the moral decisions they make on themselves and wider society from an Islamic viewpoint. This awareness of social consequences causally matures their ability to draw wise, unhurried conclusions. This deep evaluation process at the end of the session successfully crystallizes theoretical knowledge and practical skills into a solid ethical compass embedded within the students' personalities. In essence, by looking backward at their learning journey, students gain the foresight needed to navigate future moral dilemmas independently.

Practically, this research provides a tangible contribution for educators and curriculum developers by offering an applicable, step-by-step guide to transform religious education from dogmatic memorization into learning that is highly responsive to modern challenges. This implementation model proves that sensitive youth issues can be managed educationally in the classroom to build both students' character and cognitive competence simultaneously. Empirically, this study enriches the educational literature by presenting solid quantitative evidence regarding the effectiveness of the Problem-Based Learning (PBL) syntax in boosting specific aspects of students' critical thinking, yielding an average total increase of 24%. This measurable data concurrently reinforces the position of the PBL model as a valid, scientific, and replicable instructional instrument for future research in the fields of character education and instructional leadership. Ultimately, these findings lay a robust, evidence-based foundation for designing modern, values-driven curricula in an increasingly complex digital age.

CONCLUSION

The big picture of these research findings empirically proves that the integration of problem-based learning and religious moral values is capable of creating a significant leap across all aspects of students' critical thinking, with the highest increase reaching 26% in the ability to draw conclusions and make decisions. This measurable data confirms that when religious learning is designed systematically and contextually, students demonstrate an

extraordinary ability to synergize textual evidences with modern scientific analysis to address social challenges. The implicit message behind this phenomenon suggests that moral values will be far more deeply internalized when students are no longer positioned as passive memorizers of doctrine, but rather as active problem solvers in the digital age. The findings also show that PBL increased students' learning motivation, participation, and collaborative skills. Students were not only able to understand religious concepts theoretically but also relate them to the social and moral contexts of everyday life. These results imply that the integration of PBL in Islamic education learning can support the goals of the *Merdeka* Curriculum, particularly in developing independent, reflective, and critical learners aligned with the values of the Pancasila Student Profile.

The implication of this research demands a tangible pedagogical reform in Islamic Education subjects so that teachers begin to shift from conventional lecturing methods toward problem-based instructional strategies. Through this approach, educational institutions can produce a younger generation that is not only academically bright, but also possesses strong moral resilience and an ethical compass amidst technological disruption. However, several limitations were identified, including time constraints, varying levels of student participation, and the need for continuous teacher guidance during group discussions. Therefore, teachers are encouraged to further develop their pedagogical competencies in designing contextual learning problems and facilitating reflective learning processes. Future research is recommended to involve larger samples, different school contexts, and mixed-method approaches to gain a more comprehensive understanding of the long-term impact of PBL on students' critical thinking skills in Islamic education.

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