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THE EFFECT OF PROBLEM SOLVING-BASED PAI LEARNING ON STUDENTS' CRITICAL THINKING SKILLS

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| **Keywords:** |  | **ABSTRACT** |
| PAI Learning, Problem Solving, Critical Thinking Skills |  | This study aims to analyze the effect of problem solving-based Islamic Religious Education (PAI) learning on students' critical thinking skills. This research method uses a quantitative approach with a pseudo-experimental design. The research sample consisted of 60 students divided into control and experimental groups. Data were obtained through critical thinking skills test and analyzed using t-test. The results showed that problem solving-based learning significantly improved students' critical thinking skills compared to conventional learning. The implication of this study emphasizes the importance of implementing innovative learning strategies in PAI curriculum to develop 21st century skills in students. |

1. **INTRODUCTION**

In the context of Islamic education, the focus on developing critical thinking has gained prominence due to its relevance in addressing the multifaceted challenges of the 21st century. Critical thinking enables students to analyze problems, synthesize knowledge, and make decisions effectively (Hidayat, 2022). The incorporation of innovative pedagogies like Problem-Based Learning (PBL) and Creative Problem Solving (CPS) is essential to elevate these skills within Islamic Religious Education (PAI) (Rahanyiar et al., 2024). Traditional methods of rote learning, commonly associated with PAI, have often limited students' ability to connect theoretical knowledge with real-life applications (Primadoniati, 2020). This disconnection underscores the need for methodologies that engage students in dynamic and reflective learning processes, fostering intellectual and spiritual growth (Yolanza & Mardianto, 2022).

Research has highlighted that problem-solving models enhance students' critical thinking by emphasizing inquiry, analysis, and solution generation (Adilah & Rosyida, 2024). These strategies also align with constructivist theories, which advocate for active student participation in constructing their understanding (Sholeh et al., 2024). This shift is particularly vital in modern education systems aiming to produce individuals capable of addressing global challenges with nuanced perspectives (Ayu Lestari & Shofariyani Iryanti, 2024).

Moreover, the integration of digital tools and blended learning approaches within problem-solving models has been shown to further enhance student engagement and critical thinking. These methods allow for more interactive and collaborative learning environments, essential in fostering the 4Cs—Critical Thinking, Creativity, Collaboration, and Communication.(Habibah et al., 2022) Islamic education institutions increasingly recognize the importance of aligning pedagogical strategies with the cognitive demands of the 21st century. The adoption of problem-solving-based learning in PAI enables students to critically evaluate ethical dilemmas and societal issues, rooted in Islamic values.(Sawaluddin & Muhammad, 2020) By bridging religious principles with practical problem-solving scenarios, students are better prepared to navigate complex moral and social landscapes.

Research at SMPN 21 Malang demonstrated that the Creative Problem Solving model significantly improved students' critical thinking skills compared to conventional methods. These findings are consistent with broader studies indicating that active learning strategies, like CPS and PBL, cultivate higher-order thinking skills and student autonomy. The emergence of student-centered pedagogies marks a significant shift from teacher-centric models, encouraging students to take ownership of their learning. This shift is crucial in developing metacognitive skills, enabling students to reflect on their reasoning processes and outcomes.(Sholeh et al., 2024)​

Furthermore, problem-solving-based approaches in PAI not only advance critical thinking but also promote collaborative skills. Group-based learning activities provide opportunities for students to exchange ideas, challenge assumptions, and develop collective solutions to shared problems.(Adilah & Rosyida, 2024) Incorporating real-world problem scenarios into PAI curricula ensures that students are not only well-versed in Islamic teachings but also equipped to apply these principles in practical contexts. For instance, addressing issues like social justice or environmental sustainability through an Islamic lens deepens students' moral reasoning and social awareness. The integration of innovative teaching methodologies is pivotal in addressing the evolving expectations of modern education. With the increasing emphasis on critical thinking as a cornerstone of academic and personal success, Islamic education must adapt to ensure its relevance and effectiveness in a globalized world.(Primadoniati, 2020)

By fostering a learning environment that prioritizes inquiry and critical analysis, educators can cultivate students who are not only knowledgeable but also capable of contributing constructively to their communities. This approach aligns with the Islamic educational philosophy of nurturing individuals who embody both intellectual excellence and moral integrity​. The potential of problem-solving-based learning to transform PAI lies in its ability to make learning more interactive, engaging, and meaningful. By emphasizing critical thinking and real-world applications, this methodology prepares students to navigate the complexities of contemporary life while staying grounded in their faith.(Habibah et al., 2022)

Although numerous studies have demonstrated the effectiveness of problem-solving-based learning models such as Problem-Based Learning (PBL) and Creative Problem Solving (CPS) in enhancing students' critical thinking skills across various subjects, research specifically exploring the implementation of these strategies in the context of Islamic Religious Education (PAI) remains scarce. Most previous studies tend to focus on science, technology, or other social sciences, without giving sufficient attention to how these approaches can be applied to integrate religious values with critical thinking skills.(Adilah & Rosyida, 2024) Furthermore, few studies address how these methods can help students connect theoretical Islamic concepts to real-life challenges in practical ways, creating a significant research gap in optimizing problem-solving-based learning approaches to achieve more relevant PAI educational goals in the era of globalization.

Previous research shows that problem-solving-based learning has a positive influence on critical thinking skills in various subjects. However, specific studies in the context of PAI are still limited. Therefore, this study focuses on the effect of problem solving approach in PAI learning on students' critical thinking skills. The problems to be answered in this study are: (1) How much influence does problem solving-based PAI learning have on students' critical thinking skills? (2) Is this method more effective than conventional learning methods?

1. **METHOD**

This study used a quantitative approach with a quasi-experimental design.(Sugiyono, 2020) The study population was grade VIII students in a junior high school in Jember Regency. The sample was selected using cluster random sampling technique, consisting of 30 experimental group students and 30 control group students. The experimental group was taught using a problem solving-based learning strategy, while the control group was taught using the lecture method. The material taught included "Praiseworthy Morals in Islam" for six meetings. The research instrument was a critical thinking skills test developed based on indicators: (1) analyze, (2) evaluate, (3) conclude, and (4) solve problems. The research procedure included preparation, implementation, and data analysis stages. The data were analyzed using t-test (independent sample t-test) to test the average difference of test results between experimental and control groups.

The experimental group was exposed to a structured problem-solving-based approach, which included presenting real-world scenarios related to Islamic moral values. Students were guided through stages of problem identification, hypothesis formulation, data analysis, and conclusion-making. During the implementation phase, collaborative learning techniques were emphasized to encourage peer discussions and exchange of ideas, which further enhanced their critical thinking development. Meanwhile, the control group followed a traditional lecture-based method where the teacher delivered information directly, and students passively received the content without active engagement in problem-solving processes.

Additionally, the study ensured the validity and reliability of the critical thinking skills test by conducting a pilot test prior to its use. The test items were reviewed by experts in educational psychology and Islamic education to confirm their relevance and alignment with the study objectives. Data collection was carried out systematically at the beginning and end of the six-week intervention through pre-tests and post-tests. These tests were designed to capture measurable changes in critical thinking skills between the experimental and control groups, ensuring robust data for analysis.(Trianto, 2012)

1. **RESULT AND DISCUSSION**

After applying problem solving-based learning to the experimental group and conventional learning to the control group for six meetings, students' critical thinking ability data were analyzed. The t-test results showed that there was a significant difference between the experimental and control groups in terms of critical thinking ability. The mean score of the critical thinking test score for the experimental group was 85, while the control group obtained a mean score of 72. These results indicate that students who follow problem solving-based learning have better critical thinking skills than students who follow conventional learning.

The t-test conducted resulted in a significance value of 0.001, which is smaller than 0.05 (p < 0.05), indicating that the difference found between the two groups is statistically significant. This means that problem solving-based PAI learning has a positive impact on improving students' critical thinking skills.

In addition, the distribution of scores in the experimental group showed that most students experienced an increase in critical thinking skills, with the highest score reaching 95. Meanwhile, in the control group, although there were some students who showed improvement, the highest score only reached 80. This confirms that problem solving-based learning is more effective in encouraging the development of students' critical thinking skills.

The more significant improvement in the experimental group could be due to the active interaction that occurred during learning. Students did not just passively receive information, but were involved in the problem-solving process which required them to think more deeply and systematically.

1. Effectiveness of Problem Solving Based Learning

Problem solving-based learning involves students actively in the learning process. This process helps students develop critical thinking skills through a series of steps, namely identifying problems, formulating hypotheses, analyzing data, and concluding solutions. This approach puts students as the subject of learning, so they feel more responsible for their learning process.

Problem-solving-based learning fosters active student involvement, which is essential in developing critical thinking skills. Unlike traditional lecture methods that often position students as passive recipients, problem-solving methods engage students through systematic steps. These steps identifying problems, formulating hypotheses, analyzing data, and concluding solutions promote deeper cognitive engagement and self-regulation in learning. By participating in these steps, students not only gain knowledge but also learn to apply it critically to real-life scenarios.

Research has consistently demonstrated that active learning strategies like problem-solving are more effective in developing higher-order thinking skills compared to conventional methods. For example, Adilah and Rosyida found that problem-solving models significantly improved students' ability to evaluate and analyze information, enabling them to connect theoretical knowledge with practical applications​.(Adilah & Rosyida, 2024) Similarly, a study by Habibah et al. highlights that students exposed to problem-solving-based learning exhibit greater motivation and engagement, which are critical for cultivating independent learning skills​.(Habibah et al., 2022)

Moreover, this approach aligns with the constructivist paradigm, which emphasizes the importance of student-centered learning. Constructivist theories suggest that knowledge is best constructed through active participation and problem-solving activities, where students take ownership of their learning process. By engaging in structured problem-solving exercises, students develop a sense of responsibility for their learning outcomes, which contributes to sustained academic and personal growth​. This emphasis on active learning and responsibility ensures that students are not only learning content but are also mastering the skills necessary to navigate complex problems in diverse contexts.(Sholeh et al., 2024)

1. Improvement in Critical Thinking Indicators

The most prominent critical thinking indicators in this study are analysis and evaluation skills. Students are able to connect PAI materials, such as praiseworthy morals, with the context of everyday life. For example, in the case of learning about "Honesty in Islam," students are able to analyze real situations, such as the practice of honesty in economic transactions, and evaluate relevant solutions based on religious values.

The enhancement of analysis and evaluation skills observed in this study reflects the transformative potential of problem-solving-based learning in Islamic Religious Education (PAI). These skills are critical for enabling students to dissect complex issues and develop well-reasoned conclusions. For example, when learning about "Honesty in Islam," students demonstrated the ability to analyze situations such as unethical business practices and evaluate them against Islamic principles, fostering a deeper understanding of how religious values apply to everyday ethical dilemmas.

This finding aligns with previous studies indicating that problem-solving approaches cultivate critical thinking by requiring students to engage actively with the material. Yolanza emphasized that critical thinking involves not just understanding concepts but also applying them in diverse contexts. For instance, students engaged in problem-solving activities are more likely to critically assess real-world scenarios, bridging theoretical content with practical applications. This active engagement enhances their ability to make ethical judgments, a key aspect of Islamic education​.(Adilah & Rosyida, 2024)

Moreover, the development of these critical thinking indicators highlights the broader implications of integrating real-life contexts into learning. According to Yolanza, providing students with scenarios that mirror real-world challenges enables them to connect academic knowledge with societal needs, thereby enhancing the relevance and applicability of their education​. This approach not only improves their analytical and evaluative skills but also nurtures their ability to address real-world problems through an Islamic lens. Such outcomes underscore the importance of embedding practical and ethical dimensions into the PAI curriculum to prepare students for both academic and personal success.(Yolanza & Mardianto, 2022)

1. Contribution to Curriculum Development

The results of this study support the importance of innovative approaches in the PAI curriculum. By implementing problem-solving-based learning, teachers can integrate 21st century skills, such as critical thinking and problem solving, into the learning of religious values. The integration of problem-solving-based learning into the PAI curriculum represents a significant shift towards modernizing Islamic education. This approach equips students with essential 21st-century skills such as critical thinking, problem-solving, and adaptability, which are crucial in addressing the complexities of contemporary life. As noted by Lestari and Iryanti, incorporating these skills into the curriculum allows students to better navigate ethical and societal challenges while remaining grounded in Islamic values​.(Ayu Lestari & Shofariyani Iryanti, 2024) This alignment of modern educational goals with religious teachings ensures that the curriculum remains relevant and effective.

Furthermore, problem-solving-based learning fosters a curriculum that emphasizes active student engagement and real-world application of knowledge. According to Adilah and Rosyida, integrating problem-solving approaches into classroom instruction helps students connect theoretical concepts to practical situations, thereby enhancing their understanding and retention of key principles​.(Adilah & Rosyida, 2024) For example, teaching concepts such as zakat and sadaqah through real-world scenarios enables students to design actionable community programs, linking religious teachings with tangible societal benefits.

This shift also supports the goals of constructivist pedagogy, which emphasizes student-centered learning and knowledge construction. Yolanza highlights that a curriculum incorporating active learning strategies like problem-solving not only enhances critical thinking but also fosters independent and collaborative learning environments. By embedding these strategies in the PAI curriculum, educators can create a holistic learning experience that integrates intellectual, moral, and practical dimensions. This innovation aligns Islamic education with broader educational reforms aimed at producing globally competent, ethically conscious individuals prepared for the challenges of the 21st century.(Rahanyiar et al., 2024)

1. Dynamics of the Learning Process

Observations show that the problem solving-based learning process creates a more dynamic classroom atmosphere. Group discussions become a means for students to exchange ideas and broaden their horizons. In addition, students who were initially passive became more active because they were motivated to find solutions to the problems given. The implementation of problem-solving-based learning has been shown to transform the learning environment into a dynamic and interactive space. Group discussions play a pivotal role in this transformation, providing students with opportunities to articulate their thoughts, challenge each other's perspectives, and collaboratively develop solutions. According to Rahanyiar, such cooperative learning environments promote deeper engagement and foster critical thinking skills as students navigate diverse viewpoints and refine their arguments. These interactions create a sense of community and collective learning, which are essential in enhancing classroom dynamics​.(Rahanyiar et al., 2024)

Additionally, the shift from passivity to active participation observed among previously disengaged students underscores the motivational impact of this learning approach. Problem-solving tasks inherently challenge students to take ownership of their learning, encouraging them to become active contributors rather than passive recipients of knowledge. As noted by Habibah et al, this active engagement enhances intrinsic motivation, as students find value in solving meaningful problems that relate to real-world scenarios​. This increased motivation not only improves classroom participation but also helps students develop a stronger sense of responsibility and autonomy in their educational journey.(Habibah et al., 2022)

Furthermore, the dynamic nature of problem-solving-based learning aligns with the principles of constructivist theory, which emphasize active involvement and meaningful interaction in the learning process. According to Yolanza, learning environments that encourage exploration and dialogue help students construct their own understanding of complex concepts. This approach not only supports cognitive development but also nurtures soft skills such as communication and teamwork. By fostering a collaborative and dynamic classroom atmosphere, problem-solving-based learning prepares students to engage effectively in diverse social and professional contexts.(Yolanza & Mardianto, 2022)

1. Advantages of Problem-Solving Approach

One of the advantages of this approach is its flexibility in linking PAI materials with real-life issues. For example, learning about "Zakat and Sadaqah" not only discusses theoretical concepts, but also encourages students to design a simple donation program in the school environment. This shows that problem-solving-based learning is able to develop critical thinking skills while forming a proactive attitude.

One of the significant advantages of the problem-solving approach is its ability to connect abstract theoretical concepts to practical, real-life situations. This connection not only enhances understanding but also empowers students to apply their knowledge in meaningful ways. For instance, incorporating activities such as designing a donation program related to "Zakat and Sadaqah" transforms passive learning into an active and impactful experience. According to Adilah and Rosyida, problem-solving-based learning enables students to contextualize religious teachings within contemporary challenges, fostering a deeper appreciation and practical application of Islamic values​.(Adilah & Rosyida, 2024)

Another strength of this approach is its emphasis on cultivating a proactive attitude among students. Problem-solving activities encourage learners to take initiative, identify solutions, and act upon them. This aligns with the findings of Lestari and Iryanti, who observed that students engaged in problem-solving not only develop critical thinking skills but also exhibit higher levels of empathy and social responsibility​.(Ayu Lestari & Shofariyani Iryanti, 2024) For example, when tasked with addressing community issues through the lens of Islamic teachings, students often demonstrate increased awareness and a willingness to contribute positively to their environments.

Moreover, the flexibility of this method allows educators to adapt the curriculum to address diverse student needs and societal contexts. Habibah et al emphasize that the problem-solving approach is versatile and can be tailored to incorporate various challenges and scenarios relevant to students' lives​.(Habibah et al., 2022) This adaptability ensures that PAI materials remain relevant and engaging, bridging the gap between religious education and contemporary realities. By equipping students with the skills to critically evaluate and respond to real-life issues, the problem-solving approach not only enhances academic learning but also prepares students for lifelong ethical decision-making.

1. Challenges in Implementation

Despite the positive results, the problem-solving approach requires careful preparation. Teachers must be able to design learning scenarios that are challenging, but still relevant to students' abilities. In addition, time constraints are the main obstacle in fully implementing this method in every meeting. The implementation of problem-solving-based learning presents challenges, particularly in the area of preparation and planning. Teachers must invest significant effort in designing scenarios that are both engaging and relevant to students' levels of understanding. According to Rahanyiar, the effectiveness of problem-solving approaches heavily relies on the appropriateness of the problems posed; they need to be complex enough to stimulate critical thinking but not so difficult that they overwhelm students​.(Rahanyiar et al., 2024) Striking this balance requires not only subject matter expertise but also a deep understanding of students' cognitive and emotional development.

Time constraints further complicate the adoption of this approach. Problem-solving-based learning often requires more time than traditional methods, as students need sufficient opportunities to explore, discuss, and evaluate solutions. Habibah et al highlight that this method involves multiple steps problem identification, hypothesis formulation, and solution testing all of which demand extended classroom sessions​.(Habibah et al., 2022) Teachers working within rigid timetables may struggle to allocate the necessary time, leading to superficial engagement with the material and limiting the method's potential impact.

Additionally, resource limitations can hinder the full realization of problem-solving-based learning. Effective implementation often requires supplementary materials, such as case studies, digital tools, or real-world data sets, to enrich the learning experience. As noted by Lestari and Iryanti, schools with limited resources may find it challenging to provide the infrastructure needed to support this approach​.(Ayu Lestari & Shofariyani Iryanti, 2024) Addressing these challenges requires institutional support, including professional development for teachers and investments in learning resources, to ensure the long-term sustainability and success of problem-solving-based learning in Islamic Religious Education.

1. Comparison with Conventional Learning

The control group taught using the lecture method showed lower results in critical thinking skills. This was due to the lack of student involvement in the learning process. Students tend to be passive, only receiving information without involving the process of analysis or evaluation. The stark contrast in outcomes between the experimental group and the control group highlights the limitations of conventional lecture-based methods in fostering critical thinking skills. Lecture methods often position students as passive recipients of knowledge, leaving little room for active engagement or inquiry. According to Rahanyiar, critical thinking thrives in environments where students are encouraged to interact with content actively, evaluate information, and draw connections to real-world contexts. The absence of these elements in traditional teaching methods contributes to lower critical thinking outcomes​.(Rahanyiar et al., 2024)

Furthermore, the lack of opportunities for discussion and collaborative problem-solving in the lecture-based approach limits students' ability to analyze and evaluate ideas effectively. Research by Habibah et al. (2022) found that students in conventional learning environments struggle to develop higher-order thinking skills because they are rarely challenged to question or synthesize information​.(Habibah et al., 2022) This passive learning approach often results in surface-level understanding rather than the deep comprehension and critical reasoning fostered by problem-solving-based methods.

In addition, the lecture method does not cater to the diverse learning needs and styles of students. As noted by Adilah and Rosyida, conventional methods tend to focus on rote memorization and knowledge transmission, which may disengage students who thrive in interactive and exploratory learning environments​.(Adilah & Rosyida, 2024) By contrast, problem-solving-based learning allows students to take ownership of their education, actively participate in discussions, and connect theoretical concepts to practical applications. This adaptability not only enhances learning outcomes but also motivates students to engage more deeply with the material.

1. Linkage to Constructivist Theory

The results of this study are in line with constructivist learning theory that emphasizes the importance of students' active involvement in constructing knowledge. Through the problem-solving approach, students are given the opportunity to construct their own understanding of PAI material, which ultimately improves critical thinking skills.

The findings of this study align closely with constructivist learning theory, which posits that knowledge is actively constructed by learners through their experiences and interactions. This theoretical foundation emphasizes the importance of student-centered learning environments, where students engage actively with content to build their understanding. According to Rahanyiar, active participation fosters critical thinking by encouraging learners to question, analyze, and synthesize information, all of which are key components of the problem-solving approach employed in this study​.(Rahanyiar et al., 2024)

Problem-solving-based learning directly supports constructivist principles by placing students at the center of the learning process. Students are not merely passive recipients of information but are actively involved in identifying problems, formulating solutions, and evaluating outcomes. This hands-on approach allows them to connect theoretical PAI concepts to practical real-world applications, deepening their comprehension and critical reasoning. Adilah and Rosyida (2023) argue that such methods empower students to take ownership of their learning, promoting both academic and personal growth​.(Adilah & Rosyida, 2024)

Moreover, the collaborative nature of problem-solving-based learning enhances the social aspect of constructivism, as students learn from and with their peers. Vygotsky's sociocultural theory, a cornerstone of constructivist thought, emphasizes the role of social interaction in knowledge construction. By engaging in group discussions and collaborative tasks, students refine their ideas and broaden their perspectives. As noted by Habibah et al, these interactions are instrumental in developing critical thinking skills and fostering a deeper understanding of the material​.(Habibah et al., 2022) This dynamic, interactive approach underscores the value of constructivist pedagogy in transforming PAI education to better prepare students for complex, real-world challenges.

1. Practical Implications

This finding has significant practical implications for the development of learning strategies in the classroom. PAI teachers can use the problem-solving approach to create learning that is not only interesting, but also relevant to the needs of students in the era of globalization.

The adoption of problem-solving-based learning has considerable practical implications for enhancing classroom strategies, particularly in the context of Islamic Religious Education (PAI). This approach enables teachers to transform abstract concepts into engaging and meaningful learning experiences that resonate with students’ everyday lives. As Adilah and Rosyida highlights, integrating real-world problem scenarios into teaching fosters critical thinking and ensures that learning remains relevant and impactful in an era defined by globalization and rapid societal change​.(Adilah & Rosyida, 2024)

Additionally, this method allows PAI educators to address diverse student needs by promoting active participation and fostering a deeper connection to the material. According to Adilah and Rosyida (2023), problem-solving-based learning encourages students to engage with content critically and collaboratively, equipping them with skills essential for navigating complex social and moral issues​.(Adilah & Rosyida, 2024) By incorporating scenarios that require ethical reasoning and practical solutions, teachers can help students internalize Islamic values while developing competencies such as collaboration, communication, and decision-making.

Moreover, the use of problem-solving strategies prepares students to meet the demands of the 21st century, including the need for adaptability and lifelong learning. Habibah et al emphasize that integrating problem-solving approaches into curricula supports the development of higher-order thinking skills, which are increasingly vital in modern educational and professional contexts​.(Habibah et al., 2022) These skills not only enhance students' academic achievements but also empower them to contribute meaningfully to their communities, reinforcing the broader objectives of PAI in shaping ethically and socially responsible individuals.

1. Effect on Affective and Psychomotor Aspects

In addition to cognitive aspects, problem solving-based learning also contributes to the development of students' affective and psychomotor aspects. Observations show that students are more empathetic towards social problems and motivated to take real actions, such as assistance programs to students in need. Problem-solving-based learning extends beyond cognitive development by significantly enhancing students' affective and psychomotor domains. Through engaging in real-life problem-solving tasks, students cultivate empathy and a deeper sense of social responsibility. For instance, activities that involve designing community assistance programs allow students to understand the importance of collaboration and altruism in addressing societal challenges. According to Adilah and Rosyida, such learning experiences help students internalize values like compassion and ethical decision-making, which are essential components of holistic education​.(Adilah & Rosyida, 2024)

Additionally, this approach encourages active participation, which develops psychomotor skills as students engage in hands-on activities. Tasks like creating visual aids, organizing events, or conducting surveys require students to apply fine motor skills and coordination effectively. As noted by Habibah et al, problem-solving-based learning that incorporates practical tasks not only reinforces knowledge but also enhances students’ ability to execute real-world actions with precision and confidence​.(Habibah et al., 2022) This experiential learning fosters a sense of achievement and boosts students’ motivation to engage further in their educational journey.

Moreover, the development of affective and psychomotor skills aligns with the broader goals of PAI to shape individuals who are not only knowledgeable but also proactive and ethical contributors to their communities. Adilah and Rosyida argue that by integrating affective and psychomotor elements into the curriculum, educators can ensure that learning remains meaningful and impactful​.(Adilah & Rosyida, 2024) This holistic approach prepares students to address social and moral issues effectively, combining cognitive insight with emotional intelligence and practical competence to make a positive difference in their environments.

1. Relevance to Previous Research

This research is consistent with the results of previous studies which show that problem solving-based learning is effective in improving critical thinking skills. However, this study provides added value by showing how this method can be applied in the context of PAI.

The findings of this study align with previous research demonstrating the effectiveness of problem-solving-based learning in fostering critical thinking skills. For example, Hidayat reported that problem-solving models significantly enhanced students’ ability to evaluate and analyze information in educational contexts​.(Hidayat, 2022) This study reinforces these findings by confirming that similar outcomes can be achieved within Islamic Religious Education (PAI), thereby expanding the scope of problem-solving approaches beyond general academic disciplines.

What sets this research apart is its emphasis on integrating problem-solving strategies with religious values, a relatively underexplored area in previous studies. Adilah and Rosyida (2023) emphasized the importance of contextualizing educational methods to fit specific subject matter​.(Adilah & Rosyida, 2024) This study fills a gap by demonstrating how problem-solving techniques can be used not only to teach critical thinking but also to enhance students' understanding and application of Islamic principles. By linking theoretical concepts such as "Honesty in Islam" to real-world scenarios, the research provides a practical framework for making PAI more engaging and relevant to students.

Additionally, this study contributes to the growing body of literature supporting constructivist learning theories, which emphasize active student involvement and the construction of knowledge through experience. Previous research by Habibah et al highlighted the transformative impact of active learning strategies, but limited evidence was available on their application within religious education​.(Habibah et al., 2022) This study bridges that gap, offering valuable insights into how problem-solving-based learning can be successfully implemented in PAI to cultivate not only cognitive but also affective and ethical competencies. These findings underscore the versatility and effectiveness of this approach across diverse educational contexts.

1. Recommendations for Further Research

Further research is recommended to explore the application of problem solving-based learning on other topics in the PAI curriculum. In addition, a study with a longitudinal design can be conducted to measure the long-term impact of this method on the development of students' critical thinking skills. Future research should focus on expanding the application of problem-solving-based learning to a wider range of topics within the PAI curriculum. Topics such as "Islamic Leadership" or "Environmental Ethics in Islam" offer opportunities to explore how this method can further enhance students’ understanding and critical thinking. According to Adilah and Rosyida, applying active learning strategies across diverse subjects not only improves critical thinking but also strengthens students’ ability to connect knowledge with practical and ethical dilemmas in various areas of life​.(Adilah & Rosyida, 2024)

Additionally, a longitudinal study would provide valuable insights into the long-term effects of problem-solving-based learning on students' critical thinking and personal development. While current research, including this study, demonstrates immediate improvements in critical thinking, little is known about how these skills evolve over time. Habibah et al suggest that longitudinal studies could reveal whether students retain and apply these skills in their future academic and personal endeavors​.(Habibah et al., 2022) Such research could also examine whether problem-solving approaches influence other dimensions, such as students' career readiness and civic engagement.

Another avenue for further investigation is exploring the integration of digital tools within problem-solving-based learning in PAI. As noted by Adilah and Rosyida, incorporating digital resources such as online simulations or collaborative platforms can enhance engagement and facilitate deeper learning experiences​.(Adilah & Rosyida, 2024) Examining the role of technology in problem-solving-based learning could lead to innovative teaching strategies that better align with the digital literacy needs of 21st-century learners. These future studies would not only enrich the understanding of this approach but also guide educators in optimizing its application for diverse educational contexts.

1. **CONCLUSION**

This research proves that problem solving-based PAI learning significantly improves students' critical thinking skills compared to conventional learning. This strategy allows students to actively analyze and solve problems, thus providing a more meaningful learning experience. PAI teachers are advised to integrate the problem-solving approach in daily learning. In addition, it is necessary to conduct training for teachers to improve competence in designing problem-based learning. The limitation of this study is that the sample coverage is limited to one school. Further research can be conducted by involving a wider and more diverse sample to generalize the findings.

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