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Problem-Based PAI Learning Strategy in Improving Students' Analytical and Problem-Solving Skills

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Abstract*: Islamic Religious Education (PAI) learning in universities still tends to lecturer-centered and focused on content mastery, which limits its effectiveness in developing students' analytical and problem-solving skills in addressing religious issues and real-life situations. This study aims to analyze problem-based learning strategies in Islamic Religious Education (PAI) to develop students' analytical and problem-solving skills. The study uses a qualitative approach with library research by reviewing various journal articles, academic books, proceedings, and educational documents relevant to Problem-Based Learning (PBL), PAI learning, analytical skills, and problem-solving abilities. Data was collected through literature searches and documentation, then analyzed using qualitative content analysis through steps of data reduction, categorization, interpretation, comparison, and synthesis of findings. The study shows that problem-based Islamic Education learning mainly involves the use of authentic and contextual problems, student-centered learning, independent and collaborative investigation, use of various information sources, argument development, creating alternative solutions, and reflection. This strategy gives students the space to develop analytical skills through processes like identifying problems, breaking down information, comparing perspectives, evaluating evidence, and building arguments. At the same time, problem-solving skills grow through problem formulation, developing alternative solutions, making decisions, evaluating solutions, and reflecting. The study also points out that the effectiveness of problem-based Islamic Education is highly influenced by the quality of the problems, the lecturer's role as a facilitator, active student involvement, the availability of credible learning resources, and the reflection process.*

Keywords: *PIslamic Religious Education; Problem-Based Learning; analytical skills; problem solving; students; problem-based learning.*

INTRODUCTION

Higher education in the 21st century is expected not only to produce graduates with a strong command of knowledge but also to foster higher-order thinking skills that are essential for addressing to the complexities of contemporary life and scientific advancement (González-Pérez & Ram\'\irez-Montoya, 2022; Lazorenko & Krasnenko, 2019; Thornhill-Miller et al., 2023). Students need to be able to analyze information, identify problems, evaluate various alternatives, and make decisions rationally and responsibly. These abilities are an important part of 21st-century skills because students will face increasingly complex academic, social,

professional, and religious issues. In the context of Islamic Religious Education (PAI), developing higher-order thinking skills is particularly important because learning should extend beyond the mastery of Islamic concepts, principles, and knowledge(Putri & Setiawan, 2022; Ramadhan & Arsyad, 2025; Wakifah, Fatimah, & Sulistiawati, 2023). PAI learning needs to give students space to connect Islamic values with current issues in society. Therefore, the learning process in PAI should be aimed at building analytical and problem-solving skills through active, contextual, and reflective learning experiences. One pedagogical approach that aligns with these objectivesis Problem-Based Learning (PBL).

However, the implementation of Islamic Religious Education (PAI) in higher education still faces challenges in optimally developing students' analytical and problem-solving skills. Learning in some contexts still tends to position lecturers as the primary source of knowledge, while students mostly receive, understand, and repeat the information delivered. This situation can lead to students having good mastery of religious material, but not yet fully able to use that knowledge to analyze issues and formulate solutions to real-world problems. In fact, contemporary religious issues such as intolerance, digital ethics, religious disinformation, social changes, and value conflicts require critical thinking and problem-solving skills. Problem-based learning has the advantage of putting real-life problems at the starting point of the learning process and encourages students to identify, analyze, look for information, discuss, and come up with solutions. This process allows students not only to understand PAI concepts but also to build knowledge through experiences dealing with issues relevant to their lives. Therefore, problem-based learning strategies in PAI are considered to have the potential to transform the learning process from a primary focus on knowledge acquisition toward the development of analytical thinking and problem-solving skills.

Research conducted by Samani et al. (2019) shows that Contextual Project-Based Learning (CPjBL) is effective in developing vocational high school students' critical thinking, creativity, and problem-solving skills, although improvements in analysis and evaluation skills for problem-solving are still limited(Samani et al., 2019). Research by Karaoglan Yilmaz (2022) shows that using learning analytics with recommendations and feedback can boost college students' academic self-efficacy and problem-solving skills in a flipped classroom setting(Karaoglan Yilmaz, 2022). Research by Musengimana et al. (2025) shows that various active learning strategies, like inquiry-based learning, IBMR, and the Polya method, are

effective in improving problem-solving skills while also supporting students' critical thinking and conceptual understanding in physics lessons(Musengimana, Yadav, Uwamahoro, & Nizeyimana, 2025). Research by Hasan (2024) shows that problem-based learning in math classes can boost problem-solving skills by encouraging students to think critically, creatively, and analytically when tackling problems related to real-life situations(Hasan, 2024).

Although research on Problem-Based Learning has developed quite extensively, there are still some limitations that need to be further examined in the context of PAI learning in higher education. Most studies focus more on critical thinking skills as the main variable, while analytical and problem-solving skills as two interrelated abilities have not been studied much together in PAI learning. Previous research also tends to focus on the overall effectiveness of PBL, while the mechanisms of problem-based learning strategies in developing students' abilities to analyze religious issues and formulate solutions have not been explained in depth. Besides that, there haven't been many studies specifically exploring how the characteristics of problems used in PAI learning can encourage students to link Islamic concepts with social issues and contemporary life. Another gap lies in the limited research that views problem-based learning not just as a teaching method, but as a strategy consisting of stages like problem identification, information analysis, developing alternative solutions, decision-making, and reflection. This situation shows the need for research that more specifically examines problem-based PAI learning strategies and their contribution to students' analytical and problem-solving skills. Therefore, this study is aimed at filling that gap by providing an empirical picture of implementing problem-based PAI learning strategies in developing both of these skills.

This study aims to test the argument that problem-based PAI learning strategies can be an effective approach to improving students' analytical and problem-solving skills. The argument is based on the assumption that students' direct involvement in dealing with authentic problems will encourage them to identify relevant information, analyze relationships between factors, evaluate various alternatives, and come up with solutions based on Islamic principles. This study specifically examines how the stages of problem-based learning can encourage a shift from learning patterns focused on receiving information to an active and investigative learning process. In addition, this research aims to show that integrating real-world problems with Islamic Education (PAI) material can strengthen the relevance of learning while giving students the space to apply Islamic knowledge in solving problems. Therefore, the main

argument of this study is that the more optimally problem-based PAI learning strategies are applied, the more students' abilities to analyze problems and come up with logical, contextual solutions aligned with Islamic values develop. This study is expected to provide empirical evidence regarding the contribution of problem-based learning to the development of students' analytical and problem-solving skills.

METHOD

This study uses a qualitative approach with a type of library research aimed at analyzing in depth the problem-based learning strategies in Islamic Religious Education (PAI) for developing students' analytical and problem-solving skills(Muhammad Mustofa, 2023). Library research was chosen because the research data comes from various relevant scientific literature rather than field data collection. The main data sources are scientific journal articles discussing Problem-Based Learning (PBL), PAI learning, analytical skills, problem-solving skills, and students' higher-order thinking skills. Supporting sources include academic books, conceptual articles, proceedings, and education policy documents relevant to the research focus. The literature was prioritized on publications from 2019–2026, while fundamental theoretical sources were still used as a conceptual foundation. Literature searches were conducted through various academic databases using keywords like "Problem-Based Learning," "Islamic Religious Education," "analytical thinking," "problem-solving skills," and "higher-order thinking skills." These keywords were used individually and in combination to identify literature relevant to the research objectives.

Data was collected through documentation techniques and systematic literature review. The literature obtained was first selected based on the suitability of the title, abstract, keywords, substance, and its contribution to the research focus. Inclusion criteria included publications that discuss the implementation or study of PBL, PAI learning or Islamic education, analytical and/or problem-solving skills, and provide sufficient academic information to be analyzed(Muhammad Mustofa, 2023). The selection process involved identifying relevant publications, screening their titles and abstracts, and examining their full texts to determine their suitability for the study.Data from the selected literature was then extracted by noting the learning characteristics, PBL stages, student activities, types of problems used, and research findings related to analytical and problem-solving skills. This process was carried out to obtain structured data while also identifying similarities, differences, and trends in findings from

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previous studies. The validity of the data was strengthened through source triangulation, involving comparisons of concepts, arguments, and findings across different scholarly publications to support consistent and credible interpretations.

Data analysis was done using qualitative content analysis through the stages of data reduction, categorization, interpretation, and synthesis. In the reduction stage, information that is not directly related to the research focus is eliminated, while relevant data are grouped into several themes, including the characteristics of PBL in PAI learning, stages of problem-based learning strategies, development of analytical skills, development of problem-solving skills, as well as supporting and inhibiting factors for its implementation. Then, findings from various sources are compared to find patterns, relationships, consistencies, and differences in research results. The comparison results were then interpreted based on problem-based learning theory and the concept of higher-order thinking skills. The final stage was carried out through conceptual synthesis to formulate arguments on how problem-based PAI learning strategies can be used to develop students' analytical and problem-solving abilities. This synthesis served as the basis for drawing conclusions and the implications for developing PAI learning in higher education.

RESULT AND DISCUSSION

Result

The concept and characteristics of PAI learning strategies based on problem-solving in the context of higher education

Islamic Religious Education (PAI) in universities is essentially not only aimed at mastering religious knowledge, but also at students' ability to understand, analyze, and implement Islamic values in dealing with various life issues(Alfian, Herningrum, & Putra, 2025). Social changes, technological developments, societal pluralism, and the emergence of various contemporary religious issues require PAI learning that goes beyond just delivering material informatively. Students, as adult learners, need learning experiences that allow them to connect Islamic concepts with the realities they face in both academic and social life. In that context, problem-based learning (PBL) is relevant because it uses problems as the starting point of the learning process(Silva, Bispo, Rodriguez, & Vasquez, 2018). Problems aren’t just placed as exercises after the material is presented, but act as the main stimulus that drives students to search for, process, test, and construct knowledge. This way, problem-based PAI places

students as active participants in the learning process, while lecturers act as facilitators guiding the search for knowledge and development of arguments. This perspective makes PAI learning closer to the needs of higher education, which emphasizes independent learning, critical thinking, problem-solving, communication, collaboration, and responsible decision-making.

Conceptually, problem-based PAI learning is an integration of the principles of Problem-Based Learning with the substance and values of Islamic Religious Education. This integration means that the problems used in learning are not just general academic issues, but can be real-life problems that have religious, moral, social, cultural, technological, and student life dimensions. Issues like the ethics of social media use, the spread of invalid religious information, intolerance, inter-group conflicts, consumerist culture, AI ethics, the environment, corruption, social justice, and the relationship between religion and technological development can be used as learning contexts. Through these problems, students are guided not just to find right or wrong answers, but to understand the complexity of the issues and consider various perspectives. The main characteristics of this strategy lie in having real problems, investigative processes, self-directed learning, group discussions, using various information sources, building arguments, developing alternative solutions, and reflection. These traits distinguish problem-based Islamic education (PAI) from conventional learning, which tends to start with the material and treat problems as secondary. In problem-based PAI, religious material is actually used as a conceptual source to understand and solve the problems given. That’s why learning becomes more contextual because students aren’t just learning about Islam, but also learning how Islamic values and principles are applied to understand and respond to real-life situations.

The next characteristic is focusing on students' thinking processes. Problem-based learning requires students to go through a series of cognitive processes before arriving at a conclusion or solution(Arifin, Setyosari, Sa’dijah, & Kuswandi, 2020; Silva et al., 2018). Students need to identify the main issues, separate facts from opinions, determine the information they need, look for relevant sources, compare various pieces of information, connect theory with reality, and evaluate possible solutions. In PAI learning, this process can be strengthened through the use of the Qur'an, hadith, Islamic literature, research results, policy documents, and various academic sources as materials for analysis. So, students are not only expected to understand religious texts but also to develop skills in interpretation and

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contextualization. This process is important because life issues don't always have a simple, single answer. Many religious issues require considering social and cultural contexts, scientific developments, and community needs. PBL (Problem-Based Learning) provides space for students to deal with this complexity in an academic and structured way. That's why problem-based learning strategies in religious education are dialogic, investigative, collaborative, reflective, and contextual, which matches the way college students learn.

Another key characteristic that makes a difference is the role of lecturers and students in the learning process. In problem-based learning, lecturers are no longer the only source of information controlling the entire learning process, but act as facilitators, mediators, and guides for students' thinking. Lecturers design problems, provide stimuli, ask triggering questions, facilitate discussions, give feedback, and help students evaluate the quality of arguments and solutions produced. Meanwhile, students have greater responsibility in managing the learning process, both individually and in groups. Students are expected to actively seek information, ask questions, defend their arguments, accept criticism, and reflect on the process they have gone through. Learning relationships then shifted from a one-way pattern to more of a dialogic interaction. This situation supports the principles of student-centered learning, which is one of the key features of modern higher education. In the context of Islamic Education, this pattern also creates space for students to develop more mature religious thinking because they don't just receive explanations but also learn to take responsibility for their understanding of Islam through academic argumentation.

Based on a synthesis of these characteristics, problem-based PAI learning strategy can be understood as a learning strategy that integrates authentic problems, Islamic knowledge, investigation processes, academic dialogue, solution development, and reflection into a single learning sequence. This strategy is highly relevant to higher education because it connects mastering PAI material with developing higher-order thinking skills. Its advantage is not just in using problems as a learning tool, but in its ability to turn problems into a space for students to build knowledge and develop ways of thinking. Learning PAI, therefore, is not only focused on what students know, but also on how students think and how they use what they know. As a result, the success of this strategy is measured not just by students' ability to answer questions about Islamic concepts, but also by their ability to use these concepts to understand reality and offer solutions that are rational, ethical, and in line with Islamic values. For this reason,

problem-based PAI holds a strategic position in developing religious learning that is more relevant to the demands of higher education and the complexities of student life.

The implementation of problem-based PAI learning strategies in developing students' analytical skills based on previous research results

The literature review results show that developing analytical skills in problem-based PAI learning is closely related to how problems are designed and used as learning stimuli. An effective problem isn't one that has a simple answer, but rather one that contains complex information, has more than one possible interpretation, and requires students to do information searching before drawing conclusions. In the context of PAI, problems can be designed based on religious and social phenomena that are close to students' lives. Lecturers can start the lesson by presenting a case about the spread of religious information through social media, for example, and then ask students to identify the issues that arise from the case(Greenhow & Chapman, 2020; Reiso\uglu & Çebi, 2020; Susanti, Faizah, Sinaga, & others, 2023). Students are not immediately given the concept of Islamic communication ethics, but are guided to discover the aspects that need to be studied on their own. This process requires students to map out the elements of a problem before linking them to PAI concepts. From a cognitive perspective, the problem identification stage is the foundation for analytical skills because students learn to determine which information is important and which is not relevant. Therefore, the quality of the problems used in learning becomes an important factor in determining the quality of students' analysis process.

The next stage is the process of investigation and gathering information. At this stage, students are guided to look for various sources that can be used to understand the issues more comprehensively. In PAI learning, these sources can include Qur'anic verses, hadiths, Islamic books, journal articles, research findings, policy documents, as well as credible digital information sources. Students then compare different sources to see how they align, differ, and relate to the issue being studied. This process is important for developing analytical skills because students are not just accepting information, but learning to assess its quality. They need to question the sources of information, the context in which an argument appears, and the relationship between the information and the issue being studied. This skill becomes increasingly important in the digital era because students face a wide range of religious information, not all of which is academically valid. Therefore, problem-based Islamic education

learning can be a way to develop analytical skills as well as information literacy and religious literacy. The learning process then moves from simply gathering information to evaluating information and constructing meaning.

Analytical skills also develop through the process of discussion and exchanging arguments among students. In small groups, students can have different interpretations of the same issue. These differences give students a chance to explain the reasons behind their opinions, test other groups' arguments, and revise their own understanding. Lecturers can support this process by asking analytical questions, like what the main cause of the problem is, which factors have the biggest impact, what evidence backs up the argument, how Islamic values relate to the issue, and what the consequences of the proposed solutions are. Questions like that push students to move from descriptive answers to deeper reasoning. It's not enough for students to just say that a phenomenon conflicts with Islamic values, but they have to be able to explain why the phenomenon is problematic, which Islamic principles are relevant, and how those principles can be applied in a specific context. In this way, discussions become a tool to practice the ability to analyze, compare, connect, and evaluate information. Problem-based PAI learning ultimately becomes a space that allows analytical skills to grow through the interaction between problems, knowledge, arguments, and reflection.

The solution development stage is also closely linked to analytical skills. Before coming up with a solution, students need to understand the structure of the problem and the various factors that influence it. A socio-religious issue can't be solved using just one concept or one perspective. Students need to consider individual, family, social environment, cultural, technological, economic factors, as well as religious values related to the issue. This process encourages students to build cause-and-effect relationships and understand the consequences of each solution option. In PAI learning, this analytical process can be guided so that the solutions produced are not only practically effective but also have a moral and Islamic foundation. In this way, students learn that solving religious issues requires a balance between rational considerations and value-based considerations. Analytical skills then don't stand alone but become part of a responsible decision-making process. Literature synthesis shows that the more complex and contextual the problems used, the greater the chances students engage in deep analytical thinking.

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In the end, developing analytical skills through problem-based PAI doesn't just happen during the problem-solving stage, but also through reflection once the learning process is over. Reflection gives students the chance to reassess how they understood the problem, the sources of information they used, the arguments they built, and the solutions they came up with. Students can be guided to identify weaknesses in their thinking process and consider how different approaches might lead to different conclusions as well. This stage is important because analytical skills aren't just about finding answers, but about evaluating the process used to reach those answers. That's why applying problem-based PAI can develop analytical skills through a systematic process: understanding the problem, identifying its elements, gathering information, evaluating information, comparing perspectives, building connections, developing arguments, and reflecting. Based on this synthesis, students' analytical skills improve not because PBL automatically boosts higher-order thinking, but because the PBL learning structure provides cognitive experiences that constantly push students to analyze.

PAI learning strategies based on problems contribute to developing students' problem-solving skills

Problem-solving skills are one of the important competencies that need to be developed through Islamic Education (PAI) learning in universities because students not only face academic problems but also various life issues that require decision-making. In the context of problem-based learning, problem-solving skills develop through students' experiences in dealing with authentic problems that cannot be solved merely by memorizing information. Students need to understand the problem thoroughly, identify the root cause, develop several alternative solutions, consider the consequences, and determine the most appropriate solution. This process aligns with the goals of PAI education, which not only instills Islamic knowledge but also shapes the ability to apply Islamic values in life. When students are faced with real-life problems, they get the chance to test how far their religious knowledge can be used to understand and solve those problems. In this way, problem-based learning turns the concept of Islamic education from abstract knowledge into a source of guidance for decision-making. This helps build problem-solving skills that are more contextual and meaningful.

The first contribution is seen in students' ability to identify and formulate problems. Many issues that arise in life don't always have a clear problem, so students need to first determine what exactly needs to be solved. In problem-based PAI learning, students are guided

to distinguish between symptoms and the root of the problem. For example, when discussing conflicts on social media related to differences in religious understanding, students can't just say the problem is 'disagreements.' They need to identify the factors causing the conflict, such as lack of religious literacy, use of invalid information, fanaticism, unethical communication, or social media algorithms that reinforce polarization. This process helps students understand that problem-solving requires proper diagnosis before solutions are formulated. If students misinterpret a problem, the solutions they come up with can also be wrong. That's why the problem identification stage in PBL plays a crucial role in shaping students' problem-solving skills.

The next contribution comes at the stage of developing and evaluating alternative solutions. Problem-based learning doesn’t push students to immediately pick one solution, but gives them the chance to come up with several options and consider the pros and cons of each. In the context of Islamic Education (PAI), each alternative can be analyzed based on effectiveness, feasibility, social impact, and how well it aligns with Islamic values. Students may be asked to explain why one solution is more suitable than another. This process trains their decision-making skills as well as their ability to argue their points. Students learn that problem-solving isn’t just about finding the “answer,” but about considering various possibilities based on evidence and relevant principles. When students compare alternatives, they also learn to estimate the consequences of the decisions they will make. This ability becomes important in facing real-life problems, which usually have both short-term and long-term consequences.

PAI's problem-based contribution is also seen in students' ability to integrate Islamic knowledge with other knowledge when solving problems. Contemporary issues are often multidimensional and can't be solved through just one discipline. Environmental issues, for instance, require an understanding of ecology as well as the value of human responsibility as caliphs. Artificial intelligence challenges call for technological understanding along with considerations of ethics, responsibility, justice, and the common good. Social media issues need an understanding of communication along with the principles of tabayyun, honesty, and the prohibition of spreading harmful information. PBL allows students to integrate these various perspectives in the problem-solving process. That way, the problem-solving skills they develop aren't just technical abilities, but also the capacity to make decisions while considering moral

and value-based dimensions. This is one of the important contributions of problem-based Islamic Education, which is developing students' ability to come up with solutions that are not only rational but also ethical and aligned with Islamic values.

Besides that, problem-based learning gives students the space to learn from mistakes and evaluate the solutions they have come up with. The reflection process allows students to question whether the solutions actually address the root of the problem, whether they can be applied, and what possible consequences might arise. This kind of evaluation helps build a continuous problem-solving cycle: problems are understood, solutions are designed, solutions are evaluated, and then strategies are improved based on the evaluation results. In the context of PAI, this cycle can be linked to the principle of muhasabah or self-reflection, so the problem-solving process is not just cognitive but also has a moral dimension. Based on the literature synthesis, the contribution of problem-based Islamic Education (PAI) to problem-solving skills mainly lies in providing learning experiences that are authentic, investigative, collaborative, and reflective. This strategy helps students develop the habit of not rushing to make decisions, but instead understanding the problem, seeking evidence, considering alternatives, testing solutions, and evaluating their consequences. Therefore, problem-based PAI has strong potential to shape students who can face life challenges in a rational, critical, ethical way, and based on Islamic values.

CONCLUSION

Problem-based learning strategies in Islamic Religious Education (PAI) have strong potential to develop students' analytical and problem-solving skills because they use authentic and contextual issues as the starting point for learning. This strategy encourages students to identify problems, gather and evaluate information, analyze different perspectives, connect issues with Islamic concepts and values, develop alternative solutions, justify their arguments, and reflect on the learning process and outcomes. Analytical skills grow through activities like breaking down problems, finding relationships between factors, comparing information, and evaluating evidence, while problem-solving skills develop through the process of formulating problems, determining alternatives, choosing solutions, and assessing their consequences. The effectiveness of this strategy is greatly influenced by the quality of the problems provided, students' active involvement, the lecturer's ability as a facilitator, the availability of credible learning resources, collaborative interaction, and ongoing reflection. Therefore, problem-based

PAI learning not only serves as an alternative teaching method but can also be a pedagogical strategy to integrate mastery of Islamic knowledge with higher-order thinking skills, enabling students to understand religious and contemporary life issues in a critical, analytical, and contextual way, while producing rational solutions based on Islamic values.

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