

The Effectiveness of Problem-Based Learning in Improving Critical Thinking and Emotional Intelligence of Students at SMK Negeri 3 Barru

Saparuddin¹, Sitti Aminah², Ahdar³,

Institut Agama Islam Negeri Parepare¹²³

uddinsapar01@gmail.com¹

sittiaminah@iainpare.ac.id²

ahdar@iainpare.ac.id³

Abstract

This study aims to find out: How the Problem-Based Learning (PBL) strategy is implemented by Islamic Religious Education (PAI) teachers at SMK Negeri 3 Barru; How to develop students' critical thinking skills and emotional intelligence after participating in PAI learning using PBL strategies; and the influence of PBL strategies on students' critical thinking skills and emotional intelligence. This study uses a quantitative approach with a quasi-experimental method. Data collection techniques include tests, questionnaires, and documentation. Data analysis was carried out through normality, homogeneity, t-test, and Multivariate Analysis of Variance (MANOVA) tests with the help of the SPSS for Windows version 26.0 program. The results of the study showed that: The Problem-Based Learning Strategy was implemented in three main stages, namely before, during, and after treatment. The stage before treatment includes instrument validity testing and pre-test implementation. The implementation stage includes context-based learning activities on authentic religious issues, collaborative group discussions, exploration of Islamic sources, presentation of results, and joint reflection, with teachers acting as facilitators. The average score of students' critical thinking skills increased from 53.10 to 69.10, while the average emotional intelligence increased from 53.10 to 67.75 after the implementation of the PBL strategy. The results of the multivariate test (MANOVA) showed a significance value of 0.000 on all indicators (Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root), which indicated a significant influence of the Problem-Based Learning strategy on improving the critical thinking skills and emotional intelligence of students at SMK Negeri 3 Barru. These findings confirm that the application of Problem-Based Learning strategies in PAI learning is not only effective in improving students' critical thinking skills, but also able to develop their emotional intelligence, which contributes to character formation and reflective thinking skills in the context of religious education in vocational schools.

Keywords: Problem-Based Learning, Critical Thinking, Emotional Intelligence, Islamic Religious Education

*Corresponding author: uddinsapar01@gmail.com

DOI: <https://doi.org/10.35905/aliftah.v6i2.14770>

AL-IFTAH with CC BY SA license. Copyright ©, the author(s)



1. INTRODUCTION

Learning strategies in Islamic Religious Education (PAI) play an important role in shaping the character and intelligence of students (Abdullah, A. C., & Amalia, 2025). PAI is not only the transmission of knowledge, but also a medium for moral formation, internalization of faith values, and strengthening critical thinking skills and emotional intelligence. This is clearly reflected in Law Number 20 of 2003 Article 3 which emphasizes that the goal of national education is to develop the potential of students to become human beings who have faith, piety, noble character, intelligence, and independence (Abdullah, A. C., & Amalia, 2025). The implementation of the right learning strategies will greatly determine success in achieving these goals, especially in the modern era that demands the adaptation of 21st century skills (Burhana et al., 2021).

Empirically, the implementation of PAI at SMK Negeri 3 Barru is identical to conventional approaches such as lectures and memorization, making the learning process tend to be one-way and reliant on teachers. This situation causes students to be inactive, poorly trained in critical thinking, and weak emotional management. Initial observations show that students still have difficulty in understanding the material in depth and have not optimally applied religious values in the context of daily life. This issue became even more relevant when the World Economic Forum in 2020 placed critical thinking skills and emotional intelligence as two key competencies that are urgently needed in the world of work of the future (Jukhairin, 2024).

To answer these challenges, student-centered learning innovations are a must. The Problem-Based Learning (PBL) approach is designed to overcome the weaknesses of teacher-centered learning by presenting real problems in a religious context that must be solved collaboratively by students. PBL requires active engagement, group discussions, exploration of Islamic teaching sources, and presentation of solutions with teachers acting as facilitators (Fransiska et al., 2024). This model is in line with the content of QS. An-Nahl: 125 (*Al-Qur'anulkarim*, 2020) which advocates the use of wisdom and good lessons in educating and inviting people, thus emphasizing the urgency of developing a rational and affective approach in religious education. (Hermin, n.d.)

This research focuses on three main questions: how is the implementation of PBL strategies by PAI teachers at SMK Negeri 3 Barru, how to develop critical thinking skills and emotional intelligence after learning with PBL, and whether PBL has a real influence on these two aspects. The research seeks to provide a comprehensive understanding by integrating theoretical studies, field practice, and empirical test results. This research is systematically designed with three main interrelated objectives. First, this study aims to describe in depth how the practice of implementing the Problem-Based Learning (PBL) strategy is carried out by Islamic Religious Education (PAI) teachers in the classroom (Jukhairin, 2024). This process includes steps for preparation, implementation, and evaluation of learning that focuses on the role of teacher facilitators and the active involvement of students in solving real problems relevant to religious materials. Furthermore, the study sought to analyze the level of critical thinking skills and emotional intelligence of students after participating in PBL-based PAI learning (Burhana et al., 2021). This analysis is carried out by comparing pre-test and post-test data to see the changes and developments of these two aspects quantitatively. This process provides an overview of the effectiveness of PBL strategies not only on cognitive aspects, but also on the affective dimensions of students, such as self-awareness, empathy, and social skills (Istiqomah et al., 2023).

The benefits of this research are significant in three aspects theoretical, practical, and methodological. Theoretically, the results of the study enrich the literature on PAI learning methodologies, especially those that focus on strengthening character and soft skills (Fransiska et al., 2024). From a practical perspective, this research offers an innovative reference for schools and is useful for students who want to develop high-level thinking skills and emotional intelligence. Meanwhile, methodologically, the design of this research can be used as a reference for future further research related to the development of problem-based learning strategies or other relevant innovations (Amin, 2023).

The entire preliminary description emphasizes that Saparuddin's research has been scientifically and empirically designed by paying attention to the context of modern educational needs, integrating theory and practice, and based on the

urgency of strengthening 21st century competencies in the learning of Islamic religious education in secondary schools.(Hartanto et al., 2020)

2. METHODS

The research method in this thesis uses a quantitative approach with a quasi-experimental type of research. The research population is all class XI students at SMK Negeri 3 Barru which totals 40 people. Sampling is carried out using the total sampling technique, meaning that all members of the population are sampled. The sample was randomly divided into two groups: class XI TKJ as an experimental class and class XI AP as a control class, each consisting of 20 students. The experimental class received treatment in the form of a Problem-Based Learning (PBL) strategy, while the control class learned with conventional methods.(Akbar et al., 2023)

In the data collection technique, researchers use tests to measure critical thinking skills and questionnaires to determine students' emotional intelligence, both before and after (post-test) treatment (Sugiyono, 2022). In addition, documentation is also carried out to obtain complementary data. Data analysis included instrument validity and reliability tests, normality and homogeneity tests, and inferential statistical analysis in the form of t-tests (to compare averages between groups) and MANOVA (Multivariate Analysis of Variance) to determine the influence of PBL strategies on two dependent variables (critical thinking and emotional intelligence) simultaneously. All data is processed and analyzed with the help of SPSS software version 26.

3. RESULT AND DISCUSSION

Implementation of *Problem-Based Learning Strategy* for PAI Teachers at SMK Negeri 3 Barru

The researchers began the study by conducting validity and reliability tests on the critical thinking test instrument and emotional intelligence questionnaire. All items were declared valid (Sig. < 0.05) and reliable (Cronbach's Alpha > 0.6), making them suitable for use (Insani et al., 2017). Afterward, a pre-test was administered to the experimental and control classes. The results indicated that students' initial abilities were still in the moderate to low category, both in critical

thinking and emotional intelligence, particularly in constructing arguments, drawing conclusions, managing emotions, and collaborating. This low initial ability was influenced by conventional learning methods, which have been passive and provide little space for higher-order thinking and affective development. Therefore, a Problem-Based Learning strategy was chosen to activate students cognitively and emotionally (Fransiska et al., 2024). Normality and homogeneity analyses showed that the data were normally distributed and the variances of both classes were homogeneous, allowing for treatment (Abdullah, A. C., & Amalia, 2025).

Medication Giving

In the experimental class, PBL was applied for two meetings. Learning begins with reflective perception to build emotional awareness, then students work in small groups to solve real cases about the procedures for handling the body. They analyze problems, gather information from the Qur'an, hadith, and fiqh, and then formulate solutions. The teacher acts as a facilitator without giving a direct answer. Group discussions make students actively argue, listen to opinions, and work together empathically. At the second meeting, each group presented a solution and responded to the other group, so that critical thinking skills and emotional intelligence were honed simultaneously. Reflection session closes the learning to strengthen understanding and self-awareness (Gusniwati, 2015).

After Treatment

Post-tests showed a significant improvement in the experimental class. The average critical thinking ability increased from 53.10 to 69.10, while emotional intelligence increased from 53.10 to 67.75. Students are able to formulate stronger arguments, formulate independent solutions, and demonstrate better empathy and emotional control while working in groups. This success was achieved because PBL placed students as the main actors of learning, related PAI material with real experiences, and integrated intellectual and emotional aspects. This strategy creates an active, contextual, and meaningful learning atmosphere.

Overall, the implementation of PBL has been proven to be able to improve students' critical thinking skills and emotional intelligence, while presenting PAI

learning that is more lively, reflective, and relevant to their developmental needs (Akbar et al., 2023).

Critical Thinking Skills and Emotional Intelligence of Students at SMK Negeri 3 Barru

The results of the study showed that the critical thinking skills and emotional intelligence of students at SMK Negeri 3 Barru before the implementation of the Problem-Based Learning (PBL) strategy were still in the medium to low category. The pre-test score of each aspect was at 53.10, indicating that students were not able to display deep thinking skills and optimal emotional management in learning. In the early stages, students' critical thinking skills are generally limited to the identification of basic information and have not developed into the preparation of logical arguments or assessments of the relevance of sources. They are also less active in asking questions and opinions, allegedly because conventional learning methods are still dominant and do not involve students independently (Insani et al., 2017).

Students' emotional intelligence also shows weaknesses, such as difficulty controlling emotions when discussing, low empathy, and lack of confidence in expressing ideas. This condition reflects the need for a more supportive learning approach and encouraging healthy social interactions. After the implementation of PBL, there was a significant increase in both aspects. The average score of critical thinking increased to 69.10 and emotional intelligence to 67.75. Students begin to be able to identify problems, formulate logical solutions, and make decisions based on relevant data. They are more active in asking questions, discussing, and comparing arguments, in line with the characteristics of critical thinking according to Ennis. Increased emotional intelligence is also seen through their ability to manage emotions, show empathy, and work together more effectively in groups. The problem-based learning process provides space for students to understand the importance of collaboration, communication, and shared responsibility, according to Goleman's emotional intelligence indicators (Dani et al., 2022).

Overall, the PBL strategy has proven to be effective in improving students' critical thinking skills and emotional intelligence. This success is also supported by the role of teachers as facilitators who create a collaborative, reflective, and open

learning atmosphere. Thus, PBL provides a learning experience that is able to develop students cognitively as well as affectively (Darma, 2021).

The Influence of *Problem-Based Learning* Strategies on PAI Teachers to Improve Students' Critical Thinking Skills and Emotional Intelligence at SMK Negeri 3 Barru

This study applied the Problem-Based Learning (PBL) strategy to the experimental class for two meetings, while the control class continued to use conventional methods. The PBL model involves presenting real problems, group discussions, tracing Islamic sources, formulating solutions, and presentations. Teachers play the role of facilitators so that students are encouraged to think independently and critically. The results of the analysis showed that PBL provided a much greater improvement than traditional methods. In critical thinking skills, the average score of the experimental class increased from 53.10 to 69.10, while the control class only increased from 51.55 to 57.75. PBL has been shown to be more effective in encouraging higher-level thinking skills (Burhana et al., 2021).

A similar thing can be seen in emotional intelligence. The value of the experimental class increased from 53.10 to 67.75, while the control class only increased from 51.55 to 55.95. This increase shows that PBL not only strengthens cognitive aspects, but also develops empathy, cooperation, and emotion management. The independent sample t-test confirmed that both variables showed a significance value below 0.05, so there was a significant difference between the experimental and control classes. MANOVA's analysis also showed a significance value of 0.000 on all indicators, indicating that PBL had a simultaneous effect on critical thinking skills and emotional intelligence (Jukhairin, 2024).

These findings are in line with Barrows' theory that PBL strengthens problem-solving skills through active involvement of learners. Similarly, Goleman's theory supports that collaborative activities in PBL can build social skills and emotional control. Previous research by Ahmad Azzakil Amin and Nabila Nur Bakkah Nazrina also strengthens this result, that active and social reality-based strategies in PAI learning can improve the cognitive and affective quality of students. Overall, PBL has been shown to have a positive and significant influence on two important aspects of learning, making it an effective strategy to improve

critical thinking skills while forming emotional intelligence that is relevant to Islamic values (Djollong & Haq, 2021).

4. CONCLUSION

The implementation of the Problem-Based Learning (PBL) strategy by Islamic Religious Education teachers at SMK Negeri 3 Barru is carried out through three main stages, namely before, during, and after treatment. The initial stage includes the validity test of the instrument and the implementation of a pre-test which shows that the critical thinking ability and emotional intelligence of students are in the moderate category and tend to be low. In the implementation stage, learning takes place in two sessions through the presentation of authentic religious contexts, collaborative grouping, exploration of Islamic sources, structured discussions, and reflection, with teachers playing the role of facilitators. The final stage was marked by the implementation of *post-tests* which showed a significant increase in the two main variables. Thus, PBL strategies have been proven to be effective in improving students' critical thinking skills and emotional intelligence through an active, participatory, and contextual learning approach.

The critical thinking skills and emotional intelligence of students at SMK Negeri 3 Barru showed an increase after the implementation of the PBL strategy. The average critical thinking score of students in the experimental class increased from 53.10 to 69.10, while emotional intelligence increased from 53.10 to 67.75. This shows that learners not only experience development in the cognitive aspect through discussion, analysis, synthesis, and problem-solving activities independently and in groups, but also in affective aspects such as empathy, cooperation, self-awareness, and emotion management skills.

The influence of *problem-based learning* strategies on PAI teachers to improve critical thinking skills and emotional intelligence of students at SMK Negeri 3 Barru. This is evidenced by the results of the multivariate test (MANOVA) which shows a significance value of 0.000 on all test indicators (*Pillai's Trace*, *Wilks' Lambda*, *Hotelling's Trace*, and *Roy's Largest Root*), which means that there is a real and simultaneous influence of the PBL strategy on the two dependent variables. Thus, the PBL strategy is worthy of being used as an alternative approach in PAI learning which aims to form students who think critically, have character,

and are emotionally intelligent.

REFERENCES

- Abdullah, A. C., & Amalia, P. (2025). The Effectiveness of Islamic Religious Education in Shaping the Character of Elementary School Students. *Zabags International Journal of Education*, 3(1), 40-49.
- Akbar, R., Weriana, W., Siroj, R. A., & Afgani, M. W. (2023). Experimental Research Dalam Metodologi Pendidikan. *Jurnal Ilmiah Wahana Pendidikan*, 9(2), 465–474.
- Al-Qur'anulkarim*. (2020). al-Qur'an Al-Qosbah.
- Amin, A. A. (2023). *Strategi Pembelajaran Pendidikan Agama Islam (PAI) Dalam Meningkatkan Student Well-Being Siswa Di MA Miftahul Ulum Besuki, Situbondo*.
- Burhana, A., Octavianti, D., Anggraheni, L. M. R., Ashariyanti, N. D., & Mardani, P. A. A. (2021). Model Problem Based Learning (PBL) Untuk Meningkatkan Cara Berpikir Kritis Siswa Di Sekolah Dasar. *SNHRP*, 3, 302–307.
- Dani, F., Hastini, L. Y., Chairael, L., & Fitri, M. E. Y. (2022). Pengaruh Dukungan Teman Sebaya Dan Kecerdasan Emosional Terhadap Kematangan Karir. *Jurnal Ekonomi Dan Bisnis Dharma Andalas*, 24(2), 303–316.
- Darma, B. (2021). *Statistika Penelitian Menggunakan SPSS (Uji Validitas, Uji Reliabilitas, Regresi Linier Sederhana, Regresi Linier Berganda, Uji t, Uji F, R2)*. Guepedia.
- Djollong, A. F., & Haq, S. (2021). Pengaruh Strategi Guru Pendidikan Agama Islam Pada Pembelajaran Genius Learning Terhadap Peningkatan Keterampilan Berpikir Kritis Peserta Didik Smk Muhammadiyah. *Jurnal Al-Ibrah*, 10(1), 15–36.
- Fransiska, S., Sari, D. P., & Nasution, A. R. (2024). *Implementasi Model Pembelajaran Problem Based Learning (PBL) Dalam Pendidikan Agama Islam Dan Implikasinya Terhadap Keterampilan Berpikir Kritis Peserta Didik SMAN 1 Rejang Lebong*.
- Gusniwati, M. (2015). Pengaruh Kecerdasan Emosional Dan Minat Belajar Terhadap Penguasaan Konsep Matematika Siswa SMAN Di Kecamatan Kebon Jeruk. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, 5(1).
- Hartanto, S., Marmoah, S., & Murwaningsih, T. (2020). Analysis of Critical Thinking Ability of Sixth-Grade Students Primary School. *3rd International Conference on Learning Innovation and Quality Education (ICLIQE 2019)*, 817–826.

- Hermin. (n.d.). Challenges and Strategies of Moral Faith Teachers in Instilling Character in the Eran Digital at Mtsn Parepare. *Al - Iftah: Journal of Islamic Studies and Society*, 2025(6), 17–34.
- Insani, A. A., Nurdiyan, A., & Iryani, D. (2017). “Berpikir Kritis” Dasar Bidan Dalam Manajemen Asuhan Kebidanan. *Journal of Midwifery*, 1(2), 21–30.
- Istiqomah, D., Subandi, S., & Jatmiko, A. (2023). Pengaruh Media Al-Qur'an Tematik Digital Terhadap Kemampuan Berpikir Kritis Pada Mata Pelajaran Pendidikan Agama Islam Kelas Xi Sman 1 Banjar Margo Tulang Bawang. *Jurnal Ilmiah Mandala Education*, 9(2).
- Jukhairin, M. (2024). Pembelajaran Problem Based Learning Dalam Pembelajaran Pendidikan Agama Islam Di Sekolah. *Rabbani: Jurnal Pendidikan Agama Islam*, 5(1), 43–57.