



Problem-Based Learning Method to Improve Students' Critical Thinking Skills in Islamic Religious Education Learning at SD Negeri 24 Banda Aceh

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Abstract: This study aims to analyze the effectiveness of the Problem-Based Learning (PBL) method in improving students' critical thinking skills in Islamic Religious Education (PAI) learning at SD Negeri 24 Banda Aceh. Critical thinking skills are essential competencies in 21st-century education, including in PAI learning which not only emphasizes cognitive aspects, but also understanding and applying religious values in everyday life. The PBL method places students as the center of learning by presenting contextual problems that encourage exploration, analysis, and problem solving independently and collaboratively. This study used a quantitative approach with a quasi-experimental design. The research sample consisted of two groups of fifth-grade students, namely the experimental group using the PBL method and the control group using the conventional method. Data were collected through critical thinking tests, observations, and interviews. The results showed that students taught using the PBL method experienced a significant increase in critical thinking skills compared to the control group. In addition, this method also increases students' active participation, learning motivation, and conceptual understanding of PAI material. These findings indicate that the application of PBL in PAI learning can be an effective strategy to develop students' critical thinking skills from an early age. Therefore, teachers are advised to integrate PBL in learning planning to create a more meaningful and relevant learning experience for students.

Keywords: Problem-based learning, critical thinking skills, islamic education, active learning.

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INTRODUCTION

Islamic Religious Education (PAI) learning in elementary schools plays an important role in shaping students' character and morals. In an era of globalization that is full of challenges and changes, PAI learning does not only focus on the transfer of religious knowledge, but must also be able to develop students' critical thinking skills so that they can understand, analyze, and apply Islamic values in everyday life. However, the reality in the field shows that many students still have difficulty in critical thinking because the learning methods used are still conventional and do not challenge students to think deeply.

One learning method that can be used to improve students' critical thinking skills is Problem-Based Learning (PBL). PBL is a learning approach that emphasizes problem solving as the main focus of learning. Through this method, students are encouraged to analyze a problem, explore various alternative solutions, and develop critical thinking

skills independently or in groups. Thus, students not only gain a deeper conceptual understanding, but are also able to connect the material learned with real-life situations. A number of previous studies have shown that the PBL method is effective in improving students' critical thinking skills in various subjects. However, studies on the implementation of this method in Islamic Religious Education learning are still limited, especially at the elementary school level. Therefore, this study aims to examine the effectiveness of the PBL method in improving students' critical thinking skills in Islamic Religious Education subjects at SD Negeri 24 Banda Aceh. With this study, it is expected to contribute to the development of more innovative learning methods that are in accordance with the needs of today's students.

The PBL method is considered relevant to the objectives of Islamic Religious Education learning because it is able to provide a more meaningful learning experience for students. In problem-based learning, students are invited to understand Islamic teachings in the context of real life, not just memorizing theoretical arguments or concepts. The critical thinking process developed through this method will help students face various life problems with a broader and deeper perspective, in accordance with the Islamic values taught.

In addition, the PBL method also provides opportunities for students to actively participate in the learning process. Teachers are no longer the only source of information, but act as facilitators who help students find solutions to the problems given. This approach is in line with the principles of constructivist learning, where students build their own understanding through interaction with the environment and peers. Thus, learning becomes more interesting and challenging for students.

Based on this background, this study seeks to explore how the application of the PBL method can contribute to improving students' critical thinking skills in Islamic Religious Education learning at SD Negeri 24 Banda Aceh. The results of this study are expected to be a reference for educators in designing more innovative and effective learning to improve the quality of Islamic religious education in elementary schools.

METHODS

1. Type and Design of Research

This study uses a quantitative method with a quasi-experimental design to test the effectiveness of the Problem-Based Learning (PBL) method in improving students' critical thinking skills in Islamic Religious Education (PAI) learning. The quasi-experimental design was chosen because the study was conducted in an existing class without random grouping, but still using the experimental group and control group as a comparison.

This study uses a pretest-posttest control group design, where both groups are given a pretest before treatment and a posttest after treatment. The experimental group is given learning with the PBL method, while the control group is taught using conventional learning methods. The results of the pretest and posttest are compared to see the difference in the improvement of critical thinking skills between the two groups.

2. Population and Sample

The population in this study were all fifth grade students of SD Negeri 24 Banda Aceh in the 2024/2025 academic year. The sample was selected using a purposive sampling technique, taking into account the characteristics of students who were relatively homogeneous in terms of age and level of initial understanding of PAI. The sample consisted of two classes, namely:

- Experimental group: 30 students taught using the PBL method.
- Control group: 30 students taught using conventional methods.

The total number of samples in this study was 60 students.

3. Research Instruments

This study used several instruments to collect data, namely:

1. Critical Thinking Skills Test: Essay-based questions based on critical thinking indicators from Facione (1990), namely interpretation, analysis, evaluation, inference, and explanation.
2. Observation: Observation sheets were used to assess student involvement during the learning process, including activeness in discussions, collaboration, and problem solving.
3. Interviews: Interviews were conducted with students and teachers to determine their perceptions of the PBL method.
4. Documentation: Documentation in the form of photos, video recordings, and field notes to support research findings.

4. Research Procedures

This research was conducted in several stages as follows:

1. Preparation Stage: Preparation of research instruments, validation of questions, and coordination with the school.
2. Implementation Stage:
 - A pretest was given to both groups to measure initial critical thinking skills.
 - Treatment: The experimental group received learning with the PBL method, while the control group used the conventional method for four weeks.
 - Observations and interviews were conducted during the learning process to see student engagement.
 - A posttest was given to measure the increase in critical thinking skills after treatment.
3. Data Analysis Stage: Data were analyzed to see the effectiveness of the PBL method compared to the conventional method.

5. Data Analysis Techniques

The research data were analyzed using the following statistical techniques:

1. Normality Test: Using the Kolmogorov-Smirnov or Shapiro-Wilk test to ensure that the data is normally distributed.
2. Homogeneity Test: Using the Levene test to see the similarity of variance between the experimental and control groups.
3. t-Test (Independent Sample t-Test): Used to test the difference between the posttest scores of the experimental and control groups to determine the effectiveness of the PBL method.
4. Descriptive Analysis: Used to describe the level of student engagement based on the results of observations and interviews.

6. Research Ethics

In this study, several ethical principles applied include:

1. Informed Consent: Students' participation in the study was carried out with the permission of their parents and the school.
2. Data Confidentiality: Students' identities are kept confidential, and research data is used only for academic purposes.
3. Research Objectivity: Data is analyzed objectively without any subjective intervention from the researcher.

RESULTS

1. Pretest and Posttest Results

Before the treatment, a pretest was conducted on both groups to measure students' initial critical thinking skills. The pretest results showed that there was no significant difference between the experimental group and the control group. However, after treatment with the Problem-Based Learning (PBL) method, the posttest results showed a significant increase in the experimental group compared to the control group.

The results of the pretest and posttest comparison can be seen in Table 1 below:

Group	Average Pretest	Average Posttest	Increase (%)
Experimental (PBL)	58.4	82.7	41.6
Control	57.9	68.2	17.8

Based on the table above, it can be seen that the experimental group experienced an increase in score of 41.6%, while the control group only experienced an increase of 17.8%. These results indicate that the PBL method is more effective in improving students' critical thinking skills compared to conventional methods.

2. Statistical Test Analysis

To ensure that the differences between the two groups are statistically significant, a t-test was conducted on the posttest results. The results of the t-test analysis showed that the p-value < 0.05 , which means that there is a significant difference between the experimental group and the control group. This confirms that the PBL method contributes significantly to improving students' critical thinking skills.

DISCUSSION

1. Effectiveness of PBL in Improving Critical Thinking Skills

The results of this study are in line with previous studies showing that the PBL method can improve students' critical thinking skills. PBL requires students to actively explore problems, analyze information, and develop logical and systematic solutions. This process allows students to understand concepts more deeply and improve high-level thinking skills.

In this study, students who learned using PBL showed a higher increase in critical thinking indicators, such as:

- 1) Interpretation - Students are better able to understand problems and relate them to concepts in Islamic Religious Education learning.
- 2) Analysis - Students can identify various aspects of the given problem and relate them to Islamic arguments.
- 3) Evaluation - Students are more critical in assessing information and finding the best solution based on Islamic principles.
- 4) Inference - Students can draw conclusions based on existing data and relate them to everyday life.
- 5) Explanation - Students are able to communicate their thoughts and solutions more clearly and systematically.

2. Student Participation and Motivation

In addition to improving critical thinking skills, the PBL method also has a positive impact on student participation and motivation in learning. Based on the results of observations, students in the experimental group were more active in discussing, asking questions, and expressing opinions compared to the control group. Problem-based learning makes students more directly involved in the learning process, thus increasing their curiosity and involvement.

The results of interviews with several students showed that they felt more challenged and motivated in learning with the PBL method. One student stated:

"I prefer to learn this way because we can discuss and find solutions ourselves, not just listen to explanations from the teacher."

3. Implications for Islamic Religious Education Learning

This study provides important implications for Islamic Religious Education learning in elementary schools. The application of the PBL method allows students to understand Islamic teachings in the context of real life, not just memorizing theories. By thinking critically, students can be wiser in making decisions that are in accordance with Islamic values.

In addition, the results of this study also indicate that teachers need to adjust their role from merely providing information to being facilitators who guide students in finding solutions to the problems they face. This requires teachers to be more creative in designing relevant and challenging learning scenarios.

CONCLUSION

Based on the results of the study, it can be concluded that the Problem-Based Learning (PBL) method has proven effective in improving students' critical thinking skills in Islamic Religious Education (PAI) learning at SD Negeri 24 Banda Aceh. The results of the analysis show that students who learn with the PBL method experience a more significant increase in critical thinking compared to students who use conventional learning methods. This is evidenced by the higher increase in posttest scores in the experimental group and the results of statistical tests that show significant differences between the two groups.

In addition to improving critical thinking skills, the PBL method also has a positive impact on student involvement and motivation in learning. Students are more active in discussing, analyzing problems, and finding solutions that are relevant to Islamic teachings. This shows that the PBL method not only improves students' cognitive aspects but also trains their social skills, such as cooperation, communication, and problem solving. With a problem-based approach, students become more interested in understanding Islamic religious concepts and can relate them to everyday life.

The results of this study provide implications that teachers need to consider using the PBL method in PAI learning to create a more interactive and meaningful learning atmosphere. Teachers not only act as sources of information, but also as facilitators who help students explore their critical thinking potential. Therefore, training is needed for teachers so that they can implement PBL effectively in the learning process.

As a suggestion, further research can expand the scope of the study by involving more schools and different grade levels to test the effectiveness of the PBL method in a broader context. In addition, qualitative research can be conducted to explore more deeply the experiences of students and teachers in implementing this method. Thus, it is hoped that Islamic Religious Education learning can continue to develop with a more innovative approach and in accordance with the needs of students in this modern era.

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