The Effectiveness of Contextual Teaching and Learning (CTL) and Project Based Learning (PJBL) Methods on Student Learning Outcomes

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Abstract

Objective: This research aims to assess the effectiveness of the Project-Based Learning (PJBL) method on student achievement in the Aqidah Akhlak subject in class X at Ma Ma’arif Balong. Method: The research method was a quasi-experiment with a pretest-posttest control group design. The research sample consisted of two classes: one class as experimental group 1, which received Aqidah Akhlak learning using the Contextual Teaching and Learning method, and one class as experimental group 2, which received learning Aqidah Akhlak using the Project Learning method. Data was collected through test instruments covering various aspects of the learning material of class X. Results: The research results were analyzed using descriptive and inferential statistical analysis techniques. The analysis results show that students who study using the PJBL method significantly increase their learning achievement compared to students who use the conventional method, which only reaches 48.20%. Students involved in PJBL learning show a better understanding of concepts, applying moral values, and problem-solving abilities. Novelty: This research contributes to strengthening empirical evidence regarding the effectiveness of the PJBL method in improving student learning achievement in the Aqidah Akhlak subject. The implication is that innovative and interactive learning approaches such as PJBL must be implemented to improve the quality of Islamic learning at the upper secondary level. Researchers hope that the results of this research can provide valuable contributions to teachers, schools, and other educational stakeholders to improve learning approaches in the future.

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INTRODUCTION

Moral subjects are essential to the school curriculum, especially in Madrasahs, Madrasah Aliyah, and High Schools. This subject has different characteristics from others, mainly emphasizing affective aspects. The main goal of teaching moral beliefs is to help students understand, reflect, and apply the values and concepts contained in learning. This subject aims to guide students in understanding beliefs and behaviors based on religious teachings and principles of morality. The concept of faith comes from the word 'and,' which means to bind, referring to the binding of the heart to that belief. Aqidah is a belief that a person believes in. Meanwhile, morals come from Arabic, the plural word "khuluqun," which means manners, behavior, conduct, and manners. From a moral perspective, it refers to knowledge that explains the differences between good and bad, regulates human social interactions, and determines the ultimate goals of human endeavors and activities.

Aqidah Akhlak lessons are an inseparable part of the Islamic Religious Education curriculum, which is significant in forming students. The values taught in this subject are very relevant to today's life. By learning Aqidah Akhlak, students are given an understanding of good behavior based on Islamic principles. The standard of behavior used is the ability to differentiate between good and bad actions and apply them in...
everyday life. Shaping students' character is educators' primary responsibility, considering each individual has uniqueness (Maros et al., 2023). Combining individual uniqueness is often challenging for teachers when providing guidance and direction. Therefore, a teacher must prepare himself with materials and methods to help shape students' character more effectively.

Tusyana (2022) explained that learning effectiveness can be measured based on achieving all competency indicators by learning objectives, both during the process and student learning outcomes. In the context of learning Aqidah Akhlak, the aim is to direct children to behave well and have good morals. The quality of learning moral beliefs, good or bad, will directly influence student behavior because schools have an essential role in shaping children's character. The benefits of learning moral beliefs include: 1) Understanding various types of human behavior that can be good or bad. 2) Encourage individual awareness to develop good morals. 3) Strengthen awareness of the importance of avoiding bad behavior in everyday life.

One of the current problems in teaching Aqidah Akhlak may be influenced by the lack of attractiveness and effectiveness of the teaching methods teachers use, which ultimately cannot improve student learning outcomes in this subject. Most teachers have used various existing learning methods, such as CTL (Contextual Teaching Learning). However, they cannot inspire students to actively participate in learning (Ida & Fauziah, 2023). Students are often not fully involved in learning, with the teacher as the main driver in the learning process, which results in a less clear understanding of the material being taught and reduces the overall effectiveness of learning (Aldrup et al., 2022; Castro-Alonso et al., 2021; Hailikari et al., 2021; Nguyen et al., 2021; Strelan et al., 2020). Therefore, improvements are needed in implementing learning to overcome these challenges. Based on the observations of the Aqidah Akhlak learning process at Ma Ma'arif Balong, it was found that student learning outcomes were still low. For example, in class Therefore, many students still need to reach the minimum standards for the Aqidah Akhlak subject. This shows that the learning objectives of Aqidah Akhlak have yet to be achieved optimally, and it is necessary to improve the quality of learning to improve student learning outcomes.

Choosing an appropriate learning method is crucial to improve Aqidah Akhlak's learning quality. Learning methods present learning material to students to achieve predetermined learning targets (Uteuova et al., 2019). Appropriate learning methods by the Aqidah Morals' learning objectives and student characteristics can help increase learning effectiveness. This helps students understand the material, apply practice well, retain the material, and hone their skills in solving problems around them. One learning method that can be used in learning Aqidah Akhlak is Project-Based Learning (PJBL). PJBL is a learning method that focuses on students solving problems in stages using a scientific approach so that students can learn to understand knowledge related to existing problems (Tamam et al., 2021). The PJBL model offers contextual learning by presenting problems that stimulate students' interest in learning (Pratiwi et al., 2021; Purwaningsih et al., 2020; Suradika et al., 2023; Wardah et al., 2022).

From the several views that have been explained, the PJBL learning method is a learning approach that emphasizes problem-solving to activate students during the learning process. The main goal is to train and improve thinking and problem-solving skills and gain crucial conceptual knowledge. Some of the characteristics of PJBL learning include (a) initiation of questions or problems, (b) focus on interdisciplinary
relationships, (c) authentic inquiry, (d) producing products and presenting them, and
(e) collaboration.

This research has a significant level of novelty because it integrates two innovative
learning approaches, namely Contextual Teaching and Learning (CTL) and PJBL, to
evaluate their effectiveness on student learning outcomes comparatively. Given the
increasing need for learning methods that are more interactive and relevant to real life,
it is urgent to carry out this research to provide empirical evidence that supports
implementing these methods in the educational curriculum. Thus, the results of this
research can provide valuable guidance for educators and policymakers in efforts to
improve the quality of learning and student learning outcomes at various levels of
education.

RESEARCH METHOD

This research uses quantitative methods to collect and analyze research data. This
research design adopted the Quasy experimental method with a non-random pretest-
posttest control group design (Faidah et al., 2024; Nurdian et al., 2024; Pratiwi et al.,
2024; Soimah et al., 2024). There are two classes in quasi-experimental research:
experimental class 1 and experimental class 2. Experimental Group 1 and Experimental
Group 2 were not chosen randomly but used classes available at MA Ma’arif Balong.
The reason for choosing this method is something that is taken into consideration by
researchers. Experimental group 1 was treated by applying the CTL model, while
experimental group 2 was treated by applying the PJBL model.

The research design for data collection uses a Pretest-Posttest Non-Equivalent
Control Group Design to reveal the influence on cognitive aspects. Therefore, two tests
were conducted: the initial (Pretest) and the final (posttest). The pretest was used to
evaluate the initial knowledge of the two groups before being given treatment in the
form of a learning model. The posttest was carried out after the learning period to
assess the learning outcomes of the two groups after being given this treatment. The
pretest and posttest results were compared (Kurnia Setiawati et al., 2018). The following
is a research design table for the Pretest-Posttest Non-Equivalent Control Group
Design.

<table>
<thead>
<tr>
<th>Class</th>
<th>Pretest</th>
<th>Treatment</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>O11</td>
<td>X1</td>
<td>O12</td>
</tr>
<tr>
<td>E2</td>
<td>O21</td>
<td>X2</td>
<td>O22</td>
</tr>
</tbody>
</table>

Information:
- E1 = group with the CTL learning model
- E2 = group with PJBL learning model
- O11 = initial test results (Pretest) for Experiment 1 class
- O21 = initial test results (Pretest) for Experiment 2 class
- O12 = final test results (Posttest) for Experiment 1 class
- O22 = final test results (Posttest) for Experiment 2 class

In this research, the population studied was class X students at MA Ma’arif Balong,
totaling 30 students. The sampling technique used is non-probability sampling, which is
a sampling technique that does not provide an equal opportunity for each element or
member of the population to be selected as a sample. The type of Non-Probability
Sampling used in selecting samples is saturated sampling. Saturated sampling is a
technique where all population members are used as samples (Veselov et al., 2019). This
is usually done when the population is relatively small, less than 30 people, or in
research that wants to make generalizations with minimal errors. In the context of this research, all 30 students from class X at MA Ma’arif Balong were selected as samples for the research.

The sample used in this research consisted of all students in class X Science and X Social at MA Ma’arif. Class X Science consists of 15 students, and class X Social also consists of 15 students. In this research, class X Science is considered as experimental class 1, while class In this study, there were two groups. The first group consisted of students who were given special treatment as experimental class 1, where they used the CTL method (Rahayu & Sidabalok, 2023). On the other hand, the second group consisted of students who were treated as experimental class 2, where they used the PJBL model.

Various data collection techniques for these variables include: (1) documentation techniques, aimed at collecting data about students' previous learning outcomes in order to evaluate students' initial abilities; (2) test techniques, used to assess students' cognitive abilities through learning outcomes tests; and (3) observation techniques. In this research, the measurement instruments used were pretest and posttest. The pretest and posttest instruments have been tested using validity and reliability tests. Next, normality and homogeneity tests are carried out (if the data is normally distributed), followed by hypothesis testing.

Testing the validity of the pretest and posttest instruments is the first step in this research. To determine validity, the Point Biserial Correlation formula is used, where the instrument is considered valid if the calculated correlation value (count) is greater than the table correlation value (label) (Atoulloh et al., 2024; Putri & Daryono, 2024). Conversely, if the count is smaller than the table, then the question is considered invalid (Kamila et al., 2024; Mukaromah et al., 2024; Prihastuti & Daryono, 2024; Saifudin et al., 2024). The validity test was carried out using 20 questions on the pretest and posttest, all of which were declared valid. After ensuring the instrument's validity, the next step is a reliability test using the KR.20 formula developed by Richardson. The pretest and posttest instruments were declared reliable after carrying out this test. At the research stage at Ma Ma’arif Balong with experimental class 1 and experimental class 2, overall data was obtained.

After that, the researchers carried out a normality test using the Shapiro-Wilk test, considering the number of respondents was less than 50. Table 2 is the instrument framework used to measure student learning outcomes.

<table>
<thead>
<tr>
<th>Material</th>
<th>Aspect</th>
<th>Indicator</th>
<th>Question Number</th>
<th>Question Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyzing adolescent social morals and efforts to have them</td>
<td>Knowledge</td>
<td>Knowing the meaning of adolescent social morals</td>
<td>1, 5, 7</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Know the various kinds of commendable morals in teenage relationships</td>
<td>3, 6, 9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Know the various kinds of despicable behavior in teenage relationships</td>
<td>11, 15</td>
<td>2</td>
</tr>
<tr>
<td>Understanding</td>
<td>Explaining Teenage Social Ethics</td>
<td></td>
<td>2, 4</td>
<td>2</td>
</tr>
</tbody>
</table>
The Effectiveness of Contextual Teaching and Learning (CTL) and Project Based Learning (PJBL) Methods on Student Learning Outcomes

<table>
<thead>
<tr>
<th>Material</th>
<th>Aspect</th>
<th>Indicator</th>
<th>Question Number</th>
<th>Question Items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Understanding commenda</td>
<td>Understanding commendable morals in adolescent relationships</td>
<td>8, 10, 16</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>bale morals in</td>
<td>Understanding despicable morals in adolescent relationships</td>
<td>13, 17, 18</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Application</td>
<td>Apply social ethics in looking for or choosing friends</td>
<td>14, 12</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Evaluation</td>
<td>Observe the morals of teenagers in the environment where they live</td>
<td>19, 20</td>
<td>2</td>
</tr>
</tbody>
</table>

Amount 20

RESULTS AND DISCUSSION
Results
The cognitive learning outcomes of class After that, the researcher provided treatment by applying the Contextual Teaching and Learning method to experimental class 1. In contrast, experimental class 2 received Project Based and Learning. The learning process begins with opening activities, followed by core activities, and ends with closing activities as usual. During the learning process, students listen to explanations of the material, participate in question-and-answer sessions, and evaluate and summarize learning at the end of the session. At the end of the lesson, they are also given a Student Worksheet as part of the post-test to measure their learning outcomes (Jubhari et al., 2022). Pretest and posttest data from experimental class 1 and experimental class 2 were collected, and the results are presented in Table 3.

Table 3. Pretest the posttest results of the experiment class and control class students.

<table>
<thead>
<tr>
<th>Learner Code</th>
<th>Cognitive Learning Outcomes</th>
<th>Learner Code</th>
<th>Cognitive Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Posttest</td>
<td>Pretest</td>
<td>Posttest</td>
</tr>
<tr>
<td>X1-01</td>
<td>45</td>
<td>X2-01</td>
<td>60</td>
</tr>
<tr>
<td>X1-02</td>
<td>60</td>
<td>X2-02</td>
<td>50</td>
</tr>
<tr>
<td>X1-03</td>
<td>50</td>
<td>X2-03</td>
<td>60</td>
</tr>
<tr>
<td>X1-04</td>
<td>55</td>
<td>X2-04</td>
<td>45</td>
</tr>
<tr>
<td>X1-05</td>
<td>45</td>
<td>X2-05</td>
<td>45</td>
</tr>
<tr>
<td>X1-06</td>
<td>65</td>
<td>X2-06</td>
<td>55</td>
</tr>
<tr>
<td>X1-07</td>
<td>60</td>
<td>X2-07</td>
<td>55</td>
</tr>
<tr>
<td>X1-08</td>
<td>50</td>
<td>X2-08</td>
<td>60</td>
</tr>
<tr>
<td>X1-09</td>
<td>50</td>
<td>X2-09</td>
<td>65</td>
</tr>
<tr>
<td>X1-10</td>
<td>55</td>
<td>X2-10</td>
<td>50</td>
</tr>
<tr>
<td>X1-11</td>
<td>60</td>
<td>X2-11</td>
<td>50</td>
</tr>
<tr>
<td>X1-12</td>
<td>50</td>
<td>X2-12</td>
<td>55</td>
</tr>
<tr>
<td>X1-13</td>
<td>45</td>
<td>X2-13</td>
<td>60</td>
</tr>
<tr>
<td>X1-14</td>
<td>70</td>
<td>X2-14</td>
<td>55</td>
</tr>
<tr>
<td>X1-15</td>
<td>60</td>
<td>X2-15</td>
<td>50</td>
</tr>
</tbody>
</table>

IJORER: https://journal.ia-education.com/index.php/ijorer
The information presented in the table above describes the results of the pretest and posttest learning of students from experimental class 1 and experimental class 2. Before learning Aqidah Akhlak began, related to the material on morals in teenage relationships, the pretest results of experimental class 1 students showed that they had below-average achievements (Husna et al., 2020) -average Minimum Completeness Criteria. However, after they were taught using the Project-Based Learning method, there was a significant increase in the students' posttest results. On the other hand, the pretest and post-test results from experimental class 2 showed that students' understanding of the material on adolescent social morals before learning Aqidah Akhlak was still inadequate, so they recorded learning outcomes below the average Minimum Completeness Criteria score. However, after following the learning process using the Contextual Teaching and Learning model, the increase in students' posttest results was insignificant. This research involved 30 respondents, a number less than 50 respondents. Therefore, the normality test used is the Shapiro-Wilk test. The following are the results of the normality test using.

### Table 4. Shapiro Wilk normality test result.

<table>
<thead>
<tr>
<th>Group</th>
<th>Statistic</th>
<th>Df</th>
<th>Sig</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest CTL</td>
<td>0.92</td>
<td>15</td>
<td>0.21</td>
<td>Significant</td>
</tr>
<tr>
<td>Posttest CTL</td>
<td>0.94</td>
<td>15</td>
<td>0.39</td>
<td>Significant</td>
</tr>
<tr>
<td>Pretest PJBL</td>
<td>0.93</td>
<td>15</td>
<td>0.27</td>
<td>Significant</td>
</tr>
<tr>
<td>Posttest PJBL</td>
<td>0.89</td>
<td>15</td>
<td>0.08</td>
<td>Significant</td>
</tr>
</tbody>
</table>

From the output results, it can be seen that for the CTL group, the significance value (Sig.) on the pretest was 0.21, and on the posttest, it was 0.39. Meanwhile, for the PJBL group, the Sig. on the pretest was 0.27, and on the posttest, it was 0.08. Because of the Sig value. For both groups, it is more significant than 0.05, according to the Shapiro-Wilk normality test criteria. The data on student learning outcomes in the CTL and PJBL groups have a normal distribution. Assuming that data normality has been fulfilled based on the Shapiro-Wilk test, then if you want to carry out hypothesis testing to compare student learning outcomes between CTL classes and PJBL classes, you can use the Independent Sample Test (Tusyana, 2022). his technique can be applied because the data normality assumption has been met. Researchers have carried out an Independent Sample Test to compare the pretest and posttest scores between the CTL class. Table 5 shows the results of the Independent Sample Test on the pretest scores between the CTL and the PJBL class.

### Table 5. Independent Sample Test on the pretest scores between the CTL and PJBL classes.

<table>
<thead>
<tr>
<th></th>
<th>T</th>
<th>DF</th>
<th>Sig.(2-tailed)</th>
<th>Mean Difference</th>
<th>Std. error Difference</th>
<th>95% Confidence Interval of the Difference</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
<td></td>
</tr>
<tr>
<td>Pretest CTL</td>
<td>0.13</td>
<td>28</td>
<td>0.89</td>
<td>0.33</td>
<td>2.50</td>
<td>-4.79</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Posttest PJBL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.46</td>
<td></td>
</tr>
</tbody>
</table>
Table 5 shows that the pretest results in the CTL and PJBL classes show a significance value (Sig.) of 0.895, indicating that Sig— is more significant than 0.05. Therefore, the null hypothesis (H0) is accepted, and the alternative hypothesis (Ha) is rejected. This shows no significant difference in the pretest results between using Project-Based Learning and Contextual Teaching and Learning methods in the classroom (Manangkari, 2018). Meanwhile, the results of the Independent Sample Test on the posttest scores for the PJBL and CTL classes are in Table 6.

**Table 6. Independent Sample Test on the posttest scores between the CTL class**

<table>
<thead>
<tr>
<th></th>
<th>T</th>
<th>DF</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
<td></td>
</tr>
<tr>
<td>Posttest</td>
<td>-3.13</td>
<td>28.00</td>
<td>0.004</td>
<td>-7.33</td>
<td>-12.12 - 2.54</td>
<td>Significant</td>
</tr>
<tr>
<td>PJBL</td>
<td>-3.13</td>
<td>27.78</td>
<td>0.004</td>
<td>-7.33</td>
<td>-12.12 - 2.54</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The analysis shows that the significance value (Sig.) of the posttest results in the CTL and PJBL classes is 0.00. This indicates that the Sig value. Less than 0.05, so the null hypothesis (H0) is rejected, and the alternative hypothesis (Ha) is accepted. Therefore, there is a significant difference in student learning outcomes between the Contextual Teaching and Learning learning method and the Project Learning learning method in class. Furthermore, researchers used the Paired Sample Test to determine whether CTL and PJBL learning methods influence student learning outcomes in Aqidah Akhlak, likely in Table 7.

**Table 7. Paired sample test results.**

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>-17.19</td>
<td>14</td>
<td>0.00</td>
<td>Significant</td>
</tr>
<tr>
<td>Pair 2</td>
<td>-44.00</td>
<td>14</td>
<td>0.00</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Based on the test results, the significance value (2-tailed) is 0.00, smaller than 0.05. Therefore, the null hypothesis (H0) is rejected, and the alternative hypothesis (Ha) is accepted. This indicates a significant difference in the average student learning outcomes between CTL and PJBL classes. Thus, it can be concluded that using the Project-Based Learning learning method improves the learning outcomes of class X students in learning Aqidah Akhlak (Kaharu et al., 2023). Furthermore, to evaluate the difference in average learning outcomes between experimental class students who use the Project-Based Learning method and experimental class 2 students who use the CTL model, this is done through the N-Gain Test or comparison of pretest and posttest scores as in Table 8.

**Table 8. N-Gain test data score.**

<table>
<thead>
<tr>
<th>Class</th>
<th>N</th>
<th>Mean</th>
<th>Std.Deviation</th>
<th>Std. Error</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N-Gain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CTL</td>
<td>15</td>
<td>48.28</td>
<td>10.53</td>
<td>2.72</td>
</tr>
<tr>
<td>PJBL</td>
<td>15</td>
<td>65.22</td>
<td>10.08</td>
<td>2.60</td>
</tr>
</tbody>
</table>

Based on the results of the N-gain percent test calculation, it was found that the average N-gain value for experimental class 2 (using the Project Based Learning method) was 65.20%, which was included in the quite effective category, with a range of values N-gain minimum 50.00% and maximum 85.71%. Meanwhile, the average N-gain for experimental class 1 (using the Contextual Teaching and Learning method) is 48.20%, included in the less effective category, with a minimum N-gain value range of 25.00% and a maximum of 66.67%. Thus, the Project-Based Learning method has proven to be quite effective in improving learning outcomes in the Aqidah Akhlak subject, especially in Praiseworthy Morals material, for class X students at MA Ma’arif Balong in the 2023/2024 academic year. Meanwhile, the use of the contextual teaching-learning method turned out to be less effective in improving learning outcomes in the Aqidah Akhlak subject, especially in Praiseworthy Morals material, for class X students at MA Ma’arif Balong in the 2023/2024 academic year.

Discussion

In implementing the PjBL method, besides the many superior factors, several factors can become obstacles to its implementation. These factors include Limited Resources. One of the main obstacles is limited resources such as time, funds, and equipment needed to implement projects in PjBL. Not all schools have adequate resources to support PjBL implementation effectively. Teacher Readiness: PjBL implementation requires teacher readiness and skills in designing, supporting, and evaluating relevant and challenging student projects. Some teachers may require additional training to develop these skills. Change in Learning Culture: PjBL requires a change in the classroom learning culture where students become more active in their learning process. This can challenge schools with more traditional or teacher-centered learning traditions. Unconventional Assessment: Assessment methods in PjBL may differ from traditional assessment approaches. Determining appropriate assessment criteria for PjBL projects and evaluating results fairly and consistently can be challenging for teachers. Complex Classroom Management: Managing PjBL projects and facilitating student collaboration in a classroom environment can be complicated.

Teachers must have good classroom management skills to ensure that all students are actively engaged and get the support they need (Rohmahwati, 2016). Student Readiness: Students may need time to adapt to learning approaches such as PjBL. Some students may need help taking initiative and working independently in a project context. Curriculum Limitations: A curriculum that is too dense or focused on standardized tests can be a barrier to implementing PjBL effectively. Teachers may need to adapt or integrate the existing curriculum with PjBL projects. Support and Communication with Parents: Involving parents in the PjBL approach can help increase support and understanding of the learning method. However, parents need more understanding and support to implement PjBL widely.

Meanwhile, in experimental class 1, there was an increase in students' cognitive learning outcomes of only 48.20%. This can be explained because a. The CTL (Contextual Teaching and Learning) learning method requires students to take longer
To understand all the material. b. Teachers must provide additional, more intensive efforts in guiding because, in CTL, the teacher no longer acts as the primary source of information. c. Students often need help with trying to relate subjects to the realities of everyday life. Therefore, students need to experience failure repeatedly to find appropriate relationships. However, the advantages of CTL are as follows: a. Contextual learning can inspire students to establish connections between lesson material and real-life contexts. This means that students are indirectly encouraged to understand the relationship between learning experiences at school and daily life in society so that they can explore, discuss, develop critical thinking skills, and solve problems. b. Contextual learning can encourage students to apply the knowledge they gain in real life. This means that students are expected to understand the subject matter and how this material can shape their behavior or actions in everyday life (character/morals). c. Contextual learning emphasizes the active involvement of students in the process of discovering material. In other words, CTL-based learning focuses on direct experience. The learning process in the CTL framework is through exploring and discovering subject matter, not just receiving information from the teacher (Pangemanan, 2020).

Other findings also indicate that using the Project-Based Learning method can improve student learning achievement. This is supported by the research results presented by Agus Robiyanto, which were found by searching academic sources such as Google Scholar. According to this research, the average learning achievement of students before implementing the Project-Based Learning model was 57.14. After conducting classroom action research using the Project-Based Learning model, it increased to 79.09. These results indicate that Project-Based Learning methods can improve student learning achievement (Rochmat et al., 2022). The results of research conducted in class Therefore, development efforts are needed to increase the effectiveness of applying the PJBL method in learning. Several aspects can help increase the effectiveness of using the Project-Based Learning method in improving student learning outcomes, namely: 1) Learning context, 2) Learning input, 3) Learning process, 4) Products, and 5) Output or learning results (Rusli et al., 2020)

Collaboration and active involvement between teachers and students are essential to increase the effectiveness of the PJBL method in improving student learning outcomes in the learning context. Teachers need to increase collaboration with students and encourage their active involvement in the learning process. Teachers can create a supportive environment by selecting issues relevant to students’ lives, facilitating in-depth discussions, and providing guidance that fits students' needs. On the other hand, students must also be encouraged to actively solve problems, collaborate with classmates, and reflect regularly on their learning. The PJBL method can improve conceptual understanding, problem-solving skills, and overall student learning outcomes by strengthening interaction and active involvement between teachers and students.

The learning input aspect also plays a vital role in increasing the effectiveness of the Project-Based Learning method in improving student learning outcomes. The initial step is to ensure that the choice of problem or challenge is appropriate to the student's level of understanding and the learning context. Teachers must provide clear and supportive guidance to guide students in solving problems while encouraging them to seek additional information and collaborate to reach solutions. On the other hand,
students must be encouraged to develop skills in searching for information, analyzing data, and working together in teams. By ensuring that learning input from teachers and students is appropriate to students' needs and ability levels, the PJBL method can be an effective tool for improving concept understanding and overall student learning outcomes.

The learning process is one of the crucial aspects that must be considered to increase the effectiveness of the Project-Based Learning method in improving student learning outcomes. Teachers need to take an active facilitator role in guiding students through the problem-solving process. This includes providing clear, supportive, and relevant direction and facilitating in-depth and collaborative discussions. On the other hand, students must also be encouraged to formulate questions actively, look for solutions, and reflect on their learning process (Hendawati et al., 2019). The PJBL method can effectively improve critical thinking skills, problem-solving, and overall student learning outcomes by involving active collaboration between teachers and students.

The next aspect is the product aspect, which has a vital role in increasing the effectiveness of the PJBL method in improving student learning outcomes. Teachers need to facilitate the process of developing products that are creative and appropriate to the problems given. Teachers can provide clear guidance on expectations for the final product while allowing students to express their ideas innovatively. Additionally, facilitating collaboration and feedback sessions between fellow students and teachers can improve the quality of the final product. By encouraging students to produce products that can be applied in real-world contexts, such as presentations, prototypes, or practical solutions, PJBL can ensure that student learning outcomes focus not only on understanding concepts but also on the ability to create solutions that are useful and relevant in life their daily life.

In the output or results section, significant emphasis is placed on holistic and continuous evaluation of the solutions produced by students in solving problems (Appia et al., 2023). Teachers need to design evaluation rubrics that are clear and appropriate to learning objectives, which make it possible to assess students' conceptual understanding, creativity, critical thinking skills, and collaboration. Additionally, structured reflection sessions can help students identify strengths and areas that need improvement in their learning process. By providing constructive feedback and allowing students to revise their solutions, the Problem-Based Learning method is expected to encourage the development of skills relevant to today's demands and produce more meaningful learning achievements for students.

**CONCLUSION**

**Fundamental Finding:** This research concludes that using the PJBL learning method has proven effective in improving student learning outcomes in the Aqidah Akhlak subject in class X Ma Ma'arif Balong. The research results showed that students involved in PJBL learning experienced a significant increase in learning outcomes compared to students who used the Contextual Teaching and Learning method, who only achieved 48.20% in understanding concepts, applying moral values, and problem-solving abilities. Development efforts are needed to increase the effectiveness of applying the PJBL method in learning to achieve optimal student learning outcomes. **Implication:** The PJBL method allows students to be actively involved in learning, solve problems relevant to everyday life, and collaborate with peers. This allows students to gain a
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deep understanding of the learning material and develop critical and creative skills that are important in their lives. Therefore, the results of this research provide strong empirical support for using the PJBL method in learning moral beliefs. **Limitations:** In this study, the sample needs to be more prominent and representative of the overall population, so the research results may only be generalizable to some students with diverse backgrounds. Varying implementation of CTL and PJBL methods by teachers or instructors can affect the effectiveness, where the quality of implementation that is less than optimal may not reflect the full potential of the two methods. **Future Research:** Therefore, continued research and efforts to develop teacher professionalism in PJBL are fundamental to ensure the continuity and improvement of the quality of learning in the future

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