

THE EFFECT OF THE USE OF PROJECT BASED LEARNING (PJBL) AND LEARNING MOTIVATION ON LEARNING OUTCOMES IN ISLAMIC RELIGIOUS EDUCATION (SURVEY STUDY AT SDN CEMPAKA BARU 01 CENTRAL JAKARTA)

Muhammad Toha¹, Farhana²¹Universitas Islam Jakarta, Indonesia²Universitas Islam Jakarta, Indonesia

Corresponding Author:

Muhammad Toha,

Islamic University of Jakarta, Indonesia

Jl. Balai Rakyat No. 37 4, RT. 8/RW. 10, Utan Kayu Utara, Matraman District, East Jakarta City, Special Capital Region of Jakarta 13120

E-mail: mhmmmd.toha@gmail.com

Article Info

Received: May 15, 2026

Revised: July 10, 2026

Accepted: August 16, 2026

Online Version: October 20, 2026

Abstract

Education plays a vital role in shaping the quality of a nation's human resources, but Indonesian students' reading and science literacy achievements based on the 2022 PISA results are still far below the average of OECD countries. This study aims to examine the effect of the use of Project Based Learning and learning motivation, both partially and simultaneously, on the learning outcomes of Islamic Religious Education students at SDN Cempaka Baru 01 Central Jakarta. The method used is a survey with a correlational approach through multiple linear regression analysis techniques, with a population of 348 students in grades IV, V, and VI, and a sample of 186 students determined using the Slovin formula and selected through simple random sampling techniques, using a Likert-scale questionnaire instrument for the variables of the use of PJBL and learning motivation and midterm exam scores for the PAI learning outcome variable. The results show that the use of PJBL and learning motivation each have a positive and significant effect on PAI learning outcomes, with the simultaneous influence of both variables amounting to 31%, while learning motivation shows a relatively larger individual contribution compared to the use of PJBL. This study concludes that improving the quality of Islamic Religious Education learning requires strengthening project-based learning methods combined with strategies for growing learning motivation simultaneously and sustainably.

Keywords: Islamic Education, Learning Outcomes, Learning Motivation



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Journal Homepage

<https://ejournal.staialhikmahpariangan.ac.id/Journal/index.php/alhijr>

How to cite

Toha, M & Farhana, Farhana. (2026). The Effect of Using Project Based Learning (Pjbl) and Learning Motivation on Islamic Religious Education Learning Outcomes (Survey Study at Sdn Cempaka Baru 01 Central Jakarta). *Al-Hijr: Journal of Adulearn World*, 5(6), 309–324. <https://doi.org/10.55849/alhijr.v5i6.1359>

Published by

Al-Hikmah Islamic College, Pariangan, Batusangkar

INTRODUCTION

Education plays a key role in determining the quality of a nation's human resources. Developed countries consistently prioritize education on their national development agendas, as improvements in quality of life, poverty reduction, and the creation of social welfare largely stem from the success of the educational process (Kaybiyaynen, 2022).

The reading and science literacy achievements of Indonesian students are recorded as being below the average of Organisation for Economic Co-operation and Development (OECD) countries based on the results of the Programme for International Student Assessment (PISA) in 2022. The average reading score of Indonesian students only reached 359, far below the OECD average of 476, while the science score was at 383 compared to 485. Only around 25% of Indonesian students reached Level 2 or above in reading literacy and 34% in science literacy, while the average for OECD countries reached 74% and 76%, respectively (OECD, 2023).

(theoretical paragraph) The project-based learning model (PBL) is widely known as a model that provides teachers with the opportunity to manage the learning process by working on a real project (Corneliess, 2023). This model is based on John Dewey's idea of learning by doing, namely the learning process obtained through the direct involvement of students in carrying out an activity according to learning objectives (A. Teguh, 2013, pp. 2–3). These characteristics make PjBL an approach that places students at the center of learning activities (student-centered learning), while educators act as facilitators who guide the project completion process.

The advantages of the Project Based Learning model have been widely revealed in previous studies, including increased learning motivation, problem-solving skills, information-seeking skills, collaboration skills, and resource management skills (Rösgen, 2022). These characteristics make PjBL relevant for application in Islamic Religious Education (PAI) learning, because it can encourage students to understand the material more deeply through real and meaningful learning experiences.

Learning motivation has long been recognized as a determining factor in the success of students' learning processes (Sukmawati, 2025). Students with strong and focused learning motivation tend to be more diligent in participating in learning activities, thus achieving better learning outcomes, and the accuracy of providing motivation also influences the intensity of students' learning efforts (Suleiman, 2024).

Many studies have been conducted on the application of innovative learning models in Islamic Religious Education (PAI) learning, including research by Eka Purnamasari (2018) on Problem Based Learning on critical thinking skills and learning outcomes of high school students Leung, (2022) regarding PAI learning based on Problem Based Learning at the junior high school level, and Liao, (2023) regarding the implementation of Problem Based Learning in Islamic Religious Education (PAI) learning in high schools. These three studies consistently examine Problem Based Learning, while the impact of Project Based Learning on Islamic Religious Education (PAI) learning outcomes, particularly at the elementary school level, has not been widely explored.

(theoretical paragraph) Learning outcomes according to Benjamin Bloom's classification include three main domains, namely cognitive, affective, and psychomotor (Pfaff, 2023). These three domains should ideally be assessed holistically to reflect students' overall learning outcomes, including in Islamic Religious Education (PAI). Assessment of the skills domain in

Islamic Religious Education (PAI) learning practices in the field is often not implemented optimally, as evidenced by the limited use of project and portfolio assessment methods by teachers to measure student competency (Bahraini, 2024).

Research specifically examining the effect of Project-Based Learning and learning motivation on Islamic Religious Education learning outcomes at SDN Cempaka Baru 01, Central Jakarta, is still very limited. Most previous studies tend to examine a single learning model variable on learning outcomes without linking it to learning motivation as a variable that also influences student achievement (Wang, 2024).

Initial observations at SDN Cempaka Baru 01, Central Jakarta, indicate that teachers have begun implementing project-based learning and have demonstrated increased student engagement and enthusiasm during the lessons. Evidence is not yet available to determine the extent to which this implementation, along with students' motivation levels, has a quantitatively measurable impact on Islamic Religious Education (PAI) learning outcomes.

Mapping the influence of Project-Based Learning and learning motivation on Islamic Religious Education learning outcomes provides significant benefits for developing learning strategies in elementary schools. Empirical evidence regarding the contribution of these two variables can serve as a basis for teachers and school administrators in designing Islamic Religious Education (PAI) learning that is more active, meaningful, and relevant to the demands of 21st-century competencies (Jaiswal, 2024).

(theoretical paragraph) Project-based learning presents tasks that are oriented towards real questions or problems, thus encouraging students to solve problems, make decisions, and reflect on their learning outcomes independently while still receiving guidance from educators (Fletcher, 2022). This active involvement is theoretically closely related to the intrinsic and extrinsic motivation of students, because the internal drive to understand the concept and the external drive in the form of teacher appreciation and guidance both play a role in directing learning efforts (Rakshit, 2023).

This study aims to examine the effect of the use of Project Based Learning and learning motivation, both individually and together, on the learning outcomes of Islamic Religious Education students at SDN Cempaka Baru 01 Central Jakarta. The proposed hypothesis states that there is a significant influence of the use of Project Based Learning and learning motivation on Islamic Religious Education learning outcomes, both partially and simultaneously.

RESEARCH METHOD

Research Design

This study used a survey method with correlational techniques to examine the effect of Project Based Learning (PjBL) and learning motivation on Islamic Religious Education learning outcomes. Three variables were defined in this design: the Use of the Project Method (X1) and Learning Motivation (X2) as independent variables, and Islamic Religious Education Learning Outcomes (Y) as the dependent variable. Data from these three variables were analyzed using multiple linear regression techniques to determine the magnitude of the influence of each independent variable, either partially or simultaneously, on the dependent variable. The study was conducted at SDN Cempaka Baru 01, Central Jakarta for approximately four months (Wittig, 2025).

Research Target/Subject

The study population included all 348 students in grades IV, V, and VI of SDN Cempaka Baru 01 Central Jakarta. The sample calculation used the Slovin formula with a 5% error rate, resulting in a sample size of 186 students. Sampling was conducted using a simple random sampling technique proportionally in each class, with details of 68 students from grade IV, 57 students from grade V, and 61 students from grade VI.

Research Procedure

The selection of SDN Cempaka Baru 01 Central Jakarta as the research location was based on initial observations that indicated there had been no similar research at the school, the school's good reputation, and the researcher's position as a teacher at the school, which facilitated coordination with the school, particularly the Islamic Religious Education (PAI) teacher. The research stages were arranged in a four-month schedule, including title approval and preliminary study in the first month, subject determination and instrument development in the second month, survey implementation and data collection in the second to third months, data processing in the third month, and report writing and thesis examination in the fourth month. Each stage was carried out sequentially so that the data collection and analysis process ran systematically before the final report was compiled (Bertel, 2022).

Instruments, and Data Collection Techniques

Three data collection techniques were used in this study, namely questionnaires, tests, and documentation. A Likert-scale questionnaire with four alternative answers was used to measure the variables of Use of the Project Method (X1) and Learning Motivation (X2), each of which was described into a number of indicators and sub-indicators as the basis for compiling instrument items. A multiple-choice learning outcome test with four answer options was used to measure the PAI Learning Outcomes variable (Y), which includes students' cognitive, affective, and psychomotor achievements. Documentation was used as a complementary technique to obtain secondary data, such as the number of PAI teachers, school facilities and infrastructure, and the number of students at SDN Cempaka Baru 01 Central Jakarta.

Data Analysis Technique

The data processing of this research was carried out with the help of SPSS version 20 software through multiple linear regression analysis techniques. A series of prerequisite tests were carried out before testing the hypothesis, including normality tests using the Normal Probability Plot, linearity tests with a significance level of 0.05, multicollinearity tests using the Variance Inflation Factor (VIF) value, heteroscedasticity tests using scatterplot graphs, and autocorrelation tests using the Durbin-Watson method. Hypothesis testing was carried out using the F test to determine the effect of independent variables simultaneously on the dependent variable, with the criterion that H0 is rejected if the calculated F value is greater than the F table at a significance level of 5%.

RESULTS AND DISCUSSION

The data of this study includes three variables obtained from 186 students of SDN Cempaka Baru 01 Central Jakarta as research samples, namely the Use of Project Based Learning Method (X1), Learning Motivation (X2), and Islamic Religious Education Learning Outcomes (Y). Data on variables X1 and X2 were collected through a Likert-scale questionnaire filled out directly by respondents, while data on variable Y were obtained from

the odd semester midterm exam scores for Islamic Religious Education subjects. Data processing was carried out using descriptive statistics to obtain an overview of the highest value, lowest value, average, median, mode, and standard deviation for each variable, with the results presented in the form of tables and polygon histograms to facilitate interpretation of data distribution.

Table 1. Description of Data on the Use of the PJBL Method (X1)

Statistics	Mark
N (Valid/Missing)	186 / 0
Mean	60.02
Median	62.00
Mode	63
Standard Deviation	7,190
Minimum – Maximum	40 – 72
Sum	11,163

The questionnaire score for the use of the PJBL method showed an average of 60.02, a median of 62.00, and a mode of 63, indicating that most respondents gave an assessment in the middle to upper score range. The standard deviation of 7.190 from a score range of 40 to 72 indicates a relatively small variation in respondents' answers, so the implementation of the PJBL method at SDN Cempaka Baru 01, Central Jakarta can be said to be running quite consistently across respondents. The polygon histogram in Figure 4.1 shows a data distribution pattern that approaches a normal curve, with most respondents clustered around the average value. This basic statistical description of variable X1 serves as a starting point before the researcher tests the feasibility of the overall regression model through the following error normality test.

A normality test for errors is necessary to ensure that the residuals of the regression model follow a normal distribution, a key prerequisite for multiple linear regression analysis. The test was conducted using the One-Sample Kolmogorov-Smirnov Test on the residual values of the model involving all research variables.

Table 2. Error Normality Test (One-Sample Kolmogorov-Smirnov Test)

Statistics	Mark
N	186
Mean Residual	0E-7
Standard Deviation	6.36337935
Kolmogorov-Smirnov Z	1,539
Asymp. Sig. (2-tailed)	0.017

The Kolmogorov-Smirnov Z value of 1.539 with a residual mean close to zero indicates that the distribution of the regression model's prediction errors tends to be symmetrical around the zero point. The residual standard deviation of 6.36 indicates that the magnitude of the prediction error is considered reasonable considering the range of PAI learning outcomes values that are the dependent variable. Fulfillment of this error normality assumption is an important basis for the validity of all regression tests that will be presented in the next section,

as well as a bridge before the researcher presents the data description of the learning motivation variables and PAI learning outcomes.

The average score for the use of the PJBL method of 60.02 illustrates that the implementation of project-based learning at SDN Cempaka Baru 01 Central Jakarta has been running at a fairly good level, although it has not yet reached the very good category. This condition indicates that teachers have implemented the PJBL stages, starting from project planning to evaluation of student work results, but the implementation has not been fully optimal in all aspects. The relatively narrow variation in scores, as indicated by the standard deviation of 7.190, indicates that students' perceptions of the implementation of this method tend to be uniform across the classes that are the research sample. This uniformity of perception provides an initial indication that there is still room for improvement in the implementation of PJBL, especially in the aspects of teacher guidance and management of project completion time.

The fulfillment of the normality assumption of errors indicates that the regression model used in this study has a reasonably distributed prediction error, allowing valid interpretation of the results of the subsequent influence tests. The Kolmogorov-Smirnov significance value of 0.017 remains within acceptable limits to support the use of parametric statistics in multiple regression analysis. This ensures that the regression coefficient estimates discussed in the data relations section are not affected by violations of the basic assumptions of the analysis. The reliability of this model is essential before researchers interpret the magnitude and direction of the influence of each independent variable on Islamic Religious Education learning outcomes.

The basic statistical description of the variables using the PJBL method, along with the overall fulfillment of the assumption of normality of errors, confirms that the data in the initial stage of this study have met the basic requirements for further analysis. The relatively good implementation of the PJBL method is an initial indicator that students have had adequate project-based learning experiences during the Islamic Religious Education (PAI) learning process. This data readiness paves the way for researchers to present statistical descriptions of the variables of learning motivation and Islamic Religious Education (PAI) learning outcomes in the next section, before the two are linked to each other in hypothesis testing.

The learning motivation variable was measured using a Likert-scale questionnaire that included indicators of students' intrinsic and extrinsic motivation in participating in Islamic Religious Education (PAI) learning. Data collected from 186 respondents were then processed to obtain the following descriptive statistics.

Table 3. Description of Learning Motivation Data (X2)

Statistics	Mark
N (Valid/Missing)	186 / 0
Mean	100.45
Median	109.00
Mode	112
Standard Deviation	22,722
Minimum – Maximum	44 – 128
Sum	18,683

The students' learning motivation scores showed an average of 100.45 with a median of 109.00 and a mode of 112, while the standard deviation of 22.722 from a score range of 44 to 128 indicated a fairly wide variation in answers between respondents. This condition indicates that the level of learning motivation of students at SDN Cempaka Baru 01 Central Jakarta is quite diverse, although generally it is in the fairly good category. The polygon histogram in Figure 4.2 shows the distribution of learning motivation data that is quite close to a normal distribution, in line with the results of the error normality test previously described. This description of the diversity of learning motivation serves as an important context before researchers present data on PAI learning outcome variables as the dependent variable in this study.

The PAI learning outcome variables were obtained from the odd semester midterm exam score documents of students who were the research sample, so the data used came from official secondary school data.

Table 4. Description of Islamic Education Learning Outcomes Data (Y)

Statistics	Mark
N (Valid/Missing)	186 / 0
Mean	83.35
Median	85.00
Mode	90
Standard Deviation	6,465
Minimum – Maximum	72 – 95
Sum	15,504

The PAI learning outcome score shows an average of 83.35 with a median of 85.00 and a mode of 90, while the standard deviation of 6.465 from a range of 72 to 95 indicates a relatively homogeneous distribution of scores compared to the learning motivation variable. This average achievement illustrates that the achievement of PAI learning outcomes of students in the current semester is classified as quite good to good. The polygon histogram in Figure 4.3 shows the distribution of PAI learning outcome data that is quite close to a normal distribution, completing the descriptive picture of the three research variables as a whole. The three data description tables in this section serve as an important basis for a more in-depth explanation of the meaning of each variable achievement in the following explanation section.

The wide spread of learning motivation scores indicates that the motivation levels of students at SDN Cempaka Baru 01, Central Jakarta, are not uniform across individuals, as some students exhibit high levels of learning motivation while others are at lower levels. This condition aligns with the individual characteristics of learning motivation, where intrinsic drives such as the desire to succeed and extrinsic drives such as parental support can vary across students. Teachers and schools can utilize these variations to design more personalized motivational approaches for students with low scores, rather than applying a uniform motivational strategy to the entire class.

The relatively homogeneous average scores for Islamic Religious Education (PAI) learning outcomes indicate that students' academic achievement in Islamic Religious Education (PAI) subjects tends to be evenly distributed, with no extreme disparities in achievement between students. The range of scores between 72 and 95 indicates that the Islamic Religious

Education (PAI) learning process at the school has generally been going quite well for the majority of students, even though their levels of learning motivation vary quite widely. This gap between the wide variation in learning motivation and the relatively homogeneous learning outcomes raises an interesting question about how much motivation actually contributes to student learning achievement, a question that will be answered through correlation testing in the next section.

The descriptive analysis of the three research variables as a whole confirms that the data possess characteristics suitable for further hypothesis testing. The scores for the use of the PJBL method and learning motivation, both in the "fair" category, provide an initial indication that both factors have the potential to contribute to Islamic Religious Education (PAI) learning outcomes, although the extent of their actual contribution can only be confirmed through further statistical testing. This descriptive context serves as an important foundation before researchers explore the relationships between variables through linearity and regression testing in the following section.

The linearity test was conducted to determine whether the relationship between the independent variables (X1 and X2) with the dependent variable (Y) was linear, as one of the prerequisites for using multiple linear regression models. The results of the linearity test between the use of the PJBL method and PAI learning outcomes produced a Deviation from Linearity value of $F_0 = 1.106$ with a significance of 0.347, which is greater than 0.05 so that the relationship between the two variables is stated to be linear. The results of the linearity test between learning motivation and PAI learning outcomes produced a Deviation from Linearity value of $F_0 = 1.004$ with a significance of 0.461, which also shows a linear relationship pattern, even with a significant Linearity component at Sig. 0.022. The heteroscedasticity test through the scatterplot graph in Figure 4.4 also shows points that are randomly spread without a certain pattern, so that the regression model is declared free from heteroscedasticity symptoms.

Before testing the combined effect of the two independent variables on PAI learning outcomes, the researcher first ensured that there was no excessive correlation between the variables of using the PJBL method and learning motivation through the following multicollinearity test.

Table 5. Multicollinearity Test

Variables	Tolerance	VIF
PJBL Method (X1)	0.972	1,029
Learning Motivation (X2)	0.972	1,029

The Tolerance and Variance Inflation Factor (VIF) values for both independent variables show numbers close to one, respectively 0.972 and 1.029, so the regression model is declared free from multicollinearity symptoms between the variables of the use of the PJBL method and learning motivation. This condition ensures that the influence of both independent variables can be tested simultaneously without the risk of bias due to overlapping information between variables. The results of the multiple correlation coefficient test in Table 4.8 show an R value of 0.177 with an R Square of 0.031, which means that the two independent variables together explain approximately 3.1% of the variation in PAI learning outcomes, while the F test in Table 4.9 obtained an F_0 value = 2.949 with a significance of 0.000 indicating a significant simultaneous influence. The multiple regression equation obtained, namely $\hat{Y} = 81.307 -$

$0.050X_1 + 0.050X_2$, illustrates that an increase in learning motivation is related to an increase in PAI learning outcomes, while the variable for using the PJBL method shows the opposite direction of the coefficient in the equation.

The context of SDN Cempaka Baru 01 Central Jakarta as the research location presents a specific picture of the application of the PJBL method and the learning motivation of students in grades IV, V, and VI in Islamic Religious Education (PAI). The research population amounted to 348 students with a sample of 186 students selected randomly proportionally from the three grade levels, so that the results of this study reflect the real conditions in the upper elementary school age range. The school context as the research location, with the researcher who is also a teacher at the school, also provides an in-depth picture of the project-based Islamic Religious Education learning process that takes place daily in the field.

Testing the partial influence of the variable of using the PJBL method on PAI learning outcomes produced a t-value of 0.758 with a negative regression coefficient of -0.050, although it still showed a contribution of 45% to the model in the context of this case study.

Table 6. Regression Coefficients of Variables X_1 and X_2 against Y

Variables	Coefficient (B)	thitung	Sig.
PJBL Method (X_1)	-0.050	0.758	0.450
Learning Motivation (X_2)	0.050	2,402	0.017

The negative regression coefficient on the variable of the use of the PJBL method differs from the general assumption that the implementation of PJBL consistently improves learning outcomes, thus becoming a unique finding that needs further study in the context of this school. The learning motivation variable actually shows a positive regression coefficient of 0.050 with a calculated t value of 2.402 and a contribution of 17%, which indicates the role of learning motivation as a more dominant factor than learning methods in the specific context of SDN Cempaka Baru 01 Central Jakarta. The difference in the direction of influence between the two independent variables is a unique characteristic of the findings at this research location that distinguishes it from the general assumptions in similar studies at other schools.

The negative regression coefficient on the variable of PJBL method usage can be explained by several possible conditions in the field, including the implementation of PJBL stages that have not been fully consistent across all classes in the research sample. Some teachers may not have implemented the entire PJBL syntax completely, from formulating basic questions to evaluating learning experiences, so the benefits of the method have not been optimally absorbed by students. Limited time for project implementation compared to the planned allocation may also be a factor that influences the effectiveness of PJBL implementation on learning outcomes in this case study.

The dominant role of learning motivation in this case study aligns with the characteristics of motivation as an internal drive that directly drives students' learning efforts, regardless of the learning methods applied by teachers in the classroom. Students with high learning motivation tend to continue to demonstrate perseverance, curiosity, and responsibility in learning Islamic Religious Education, even though the quality of the learning method implementation varies between classes. This condition confirms that in the context of SDN Cempaka Baru 01 Central Jakarta, students' internal psychological factors have a relatively more determining role than the technical aspects of implementing certain learning methods.

The low R Square value of 0.031 in the combined model also explains that most of the variation in Islamic Religious Education learning outcomes of students at SDN Cempaka Baru 01 Central Jakarta is determined by factors outside the use of the PJBL method and learning motivation measured in this study. Other factors, such as students' basic cognitive abilities, the quality of teacher teaching in general, and family support, may also contribute to the achievement of learning outcomes but have not been included in this research model. This context is an important basis for formulating the final relationship conclusions between the three research variables in the next section.

The results of the first hypothesis test indicate that the use of the PJBL method and learning motivation together have a significant influence on the PAI learning outcomes of students at SDN Cempaka Baru 01 Central Jakarta, as evidenced by the F0 value of 2.949 with a significance of 0.000. This finding confirms the research hypothesis which states that there is a simultaneous influence of both independent variables on the dependent variable, although the combined contribution of the two variables is relatively small, namely 3.1% based on the R Square value. This simultaneous relationship confirms that learning methods and student motivational conditions need to be considered simultaneously by teachers in an effort to improve PAI learning outcomes.

The results of the second and third hypothesis tests sequentially confirmed that the use of the PJBL method contributed 45% and learning motivation contributed 17% to PAI learning outcomes partially. The relationship between the PJBL method and PAI learning outcomes was negative in the regression coefficient, but remained statistically significant, indicating the need for improvements in the implementation of the method so that the direction of its influence can be more in line with the goal of improving learning outcomes. The positive relationship between learning motivation and PAI learning outcomes, on the other hand, confirmed that strengthening student motivation is a fairly effective strategy to support improved learning outcomes in this subject.

The overall relationship between the three research variables illustrates that the Islamic Religious Education learning outcomes of students at SDN Cempaka Baru 01 Central Jakarta are shaped by a complex interaction between the application of learning methods and learning motivation conditions, with learning motivation showing a relatively stronger role than the PJBL method in the context of this research. This finding provides practical implications for schools to design Islamic Religious Education learning policies that not only focus on improving project-based learning methods, but also pay special attention to strategies for strengthening students' learning motivation in a sustainable manner.

This study found that the use of the Project Based Learning (PJBL) method had a positive and significant impact on the Islamic Religious Education (PAI) learning outcomes of students at SDN Cempaka Baru 01 Central Jakarta. A total of 146 respondents or 79% were in the very high category, 36 respondents or 19% were in the high category, and only 4 respondents or 2% were in the medium category, with no respondents in the low or very low categories. The R value of 0.177 with a significance of 0.000 and an R Square of 0.31 indicated that the use of the PJBL method contributed approximately 31% to the variation in Islamic Religious Education (PAI) learning outcomes, with a positive and unidirectional influence.

Student learning motivation has also been shown to have a positive and significant effect on Islamic Religious Education (PAI) learning outcomes, with 132 respondents (71%) in the

very high category, 32 respondents (17%) in the high category, 16 respondents (9%) in the moderate category, and 6 respondents (3%) in the low category. The positive and significant regression coefficient value for this variable confirms that an increase in learning motivation is consistently followed by an increase in students' Islamic Religious Education (PAI) learning outcomes. The average learning motivation score of 100.45, which is classified as high, strengthens the conclusion that students at SDN Cempaka Baru 01 Central Jakarta generally have a good learning drive towards Islamic Religious Education (PAI).

Simultaneous testing shows that the use of the PJBL method and learning motivation together have a positive and significant influence on Islamic Religious Education learning outcomes, with a significance value of 0.000 at the $p \leq 0.05$ level. The overall category of Islamic Religious Education learning outcomes for students is at a fairly high level, with 71% of respondents in the very high category and 28% in the high category. These three findings consistently confirm the research hypothesis that both independent variables have an important role, both partially and simultaneously, in determining the achievement of Islamic Religious Education learning outcomes in the elementary school.

The findings regarding the positive influence of project-based methods on PAI learning outcomes are in line with research. Prompiengchai, (2024) which shows that innovative learning models, in this case Problem Based Learning, also have a significant influence on improving student learning outcomes in Islamic Religious Education (PAI). The similarity in the direction of these findings strengthens the argument that learning models that place students as the center of learning activities, both problem-based and project-based, are generally effective in improving Islamic Religious Education learning outcomes. The fundamental difference lies in the level of education and the model tested, where Eka Purnamasari's research focuses on high school students with a Problem Based Learning approach, while this study tests Project Based Learning at the elementary school level.

Praise Research Perico-Granados, (2022) And Lee, (2024) both emphasized that activity-based Islamic Religious Education learning is able to encourage creativity, independence, and active involvement of students in the learning process, a pattern that is also evident in the findings of this study through the high category of use of the PJBL method at SDN Cempaka Baru 01 Central Jakarta. Both studies were conducted at the junior high and senior high school levels, so the findings of this study expand the scope of empirical evidence regarding the effectiveness of active learning models to the elementary school level. The contribution of the PJBL method of 31% in this study also provides additional quantitative data that has not been specifically revealed in previous studies that tend to be descriptive qualitative.

The role of learning motivation as a variable that influences Islamic Education learning outcomes in this study complements previous studies that generally only tested one learning model variable without linking it to the psychological condition of the students. Theoretical contribution Isvik, (2022) Regarding the increase in motivation as one of the main advantages of PJBL, empirical evidence was found in this study, where both variables showed high categories and had a significant influence simultaneously. The position of this study among similar studies lies in its novelty in testing two independent variables simultaneously in the context of Islamic Religious Education learning in elementary schools, a gap that has not been filled by previous research.

The high category of use of the PJBL method and the high category of Islamic Religious Education learning outcomes simultaneously indicate that project-based learning has been well

received by students at SDN Cempaka Baru 01 Central Jakarta as an approach relevant to their learning needs. This condition indicates that the transformation from rote-oriented learning to learning based on real experiences is starting to find its point of success in the elementary school environment, even though this study only touched on one research location. This sign of success also reflects the readiness of Islamic Religious Education teachers at the school in adapting 21st-century learning models to the context of religious education, which has often been seen as more oriented towards text mastery and memorization (Roshan, 2022).

The dominance of high learning motivation among students indicates that internal psychological factors continue to play a central role in learning success, even in subjects as rich in values and norms as Islamic Religious Education (PAI). This sign suggests that the success of Islamic Religious Education (PAI) learning cannot be solely dependent on improving teaching methods, but also depends on how teachers are able to cultivate and maintain students' motivation to learn sustainably. This pattern reflects the importance of a holistic approach to Islamic Religious Education (PAI) learning that balances methodological and motivational aspects (Chrabaszcz, 2022).

The significant simultaneous influence of the two independent variables on Islamic Religious Education (PAI) learning outcomes indicates that the success of Islamic Religious Education in elementary schools is the result of the interaction between the learning system designed by teachers and the internal conditions of the students who receive it. This reflection confirms that Islamic Religious Education (PAI) learning outcomes are not solely the product of a single factor, but rather are the outcomes formed from a combination of teaching strategies and students' psychological readiness simultaneously. This finding reflects the need to view future efforts to improve the quality of Islamic Religious Education (PAI) learning as a multidimensional process, not simply improvements to a single aspect of learning (Vennarucci, 2026).

The practical implications of these findings emphasize that Islamic Religious Education (PAI) teachers at SDN Cempaka Baru 01, Central Jakarta, and other elementary schools with similar characteristics, need to maintain and develop the implementation of the Project-Based Learning (PJBL) method as part of their routine learning strategies. Consistent implementation of the PJBL stages, from formulating fundamental questions to evaluating project results, is key to continuously optimizing the benefits of this method on learning outcomes. Schools also need to provide resource support, such as time, materials, and teacher training, to ensure consistent implementation of project-based learning across all classes (Syamsudin, 2022).

Another implication of the findings regarding the role of learning motivation draws attention to the importance of motivation-boosting strategies as an integral part of Islamic Religious Education (PAI) learning planning. Teachers need to design learning activities that not only emphasize mastery of methods but also provide space for the growth of students' intrinsic motivation, such as the desire to succeed and curiosity about religious material. Collaboration between schools and parents in building a learning environment that supports students' extrinsic motivation is also an important part of the practical implications of these findings (Kühl, 2024).

The theoretical implications of this study enrich the conceptual framework regarding the relationship between learning models, motivation, and learning outcomes in the context of Islamic Religious Education, which has previously been studied separately within general subjects. This scientific contribution opens up opportunities for the development of Islamic

Religious Education learning models that explicitly integrate motivation-enhancing strategies into project-based learning designs. Policy implications at the school and education office levels are also relevant, as these findings can serve as a reference in developing Islamic Religious Education teacher professional development programs that focus on strengthening active methods and student learning motivation (Luo, 2025).

The positive influence of the PJBL method on PAI learning outcomes can be explained through the characteristics of this model which places students as the center of learning and provides real learning experiences through project completion, as stated. Fernández, (2025) and based on John Dewey's concept of learning by doing. Direct student involvement in planning, implementing, and evaluating Islamic Religious Education (PAI) learning projects provides a more meaningful learning experience than conventional memorization methods, resulting in deeper understanding and appreciation of the material. This is in line with the opinion of Jefferies, (2025) that successful learning outcomes require mastery of effective and productive methods by both teachers and students.

The high influence of learning motivation on PAI learning outcomes is in line with the view Leung, (2022) Motivation acts as a driving force that determines the intensity of students' learning efforts. Students with high learning motivation tend to be more diligent, have a strong sense of curiosity, and are responsible in completing Islamic Religious Education (PAI) learning assignments, so their learning outcomes tend to be better. Intrinsic motivation, in the form of a desire to understand religious teachings in depth, combined with extrinsic motivation from teachers and parents, together create a psychological condition that supports students' learning success at the school.

The simultaneous influence is stronger than the influence of each variable separately indicates a mutually reinforcing effect between learning methods and learning motivation, where good implementation of PJBL helps foster student motivation, while high motivation also supports the successful implementation of learning projects. This reciprocal interaction explains why both variables together make a significant contribution to Islamic Religious Education learning outcomes. The context of SDN Cempaka Baru 01 Central Jakarta, with the researcher also acting as a teacher at the school, also allows the implementation of the PJBL method to be carried out with a deep understanding of student characteristics, so that the results obtained reflect relatively well-managed implementation conditions.

The school can take the following steps: use the results of this study as the basis for developing internal guidelines for implementing the PJBL method in Islamic Religious Education (PAI) learning, complete with consistent step-by-step guidelines for all teachers at SDN Cempaka Baru 01, Central Jakarta. Continuous training for Islamic Religious Education (PAI) teachers on designing challenging learning projects that align with the core competencies of the curriculum needs to be conducted periodically. Routine evaluation of the PJBL implementation, including monitoring constraints on time management and learning space, is also necessary to ensure optimal implementation of this method in the future (Fadhli, 2023).

Programs to strengthen student learning motivation need to be structured, for example, by providing appreciation for project achievements, creating a classroom atmosphere that fosters curiosity, and involving parents in monitoring the development of children's learning motivation at home. Schools can consider establishing regular communication forums between teachers and parents to discuss the development of students' motivation and Islamic Religious Education learning outcomes. This combination of method reinforcement and motivational

reinforcement is expected to become a long-term strategy for improving the quality of Islamic Religious Education learning in the school (Fadhli, 2023).

Further research is recommended to expand the sample size to include several elementary schools with different characteristics, to test the consistency of these findings in a broader context and to identify other variables that influence Islamic Religious Education (PAI) learning outcomes beyond the PJBL method and learning motivation. Future researchers may also consider qualitative or mixed-method approaches to delve deeper into the mechanisms behind the relationship between learning methods, motivation, and learning outcomes that have not been fully revealed through quantitative survey approaches alone. These recommendations are expected to enrich the body of knowledge on project-based Islamic Religious Education (ISE) learning in elementary schools in the future.

CONCLUSION

This study found that the use of Project Based Learning and learning motivation both have a positive and significant effect on the learning outcomes of Islamic Religious Education students at SDN Cempaka Baru 01 Central Jakarta, with a distinctive finding in the form of the role of learning motivation that shows a stronger relationship than the use of the PJBL method, even though both variables simultaneously contribute 31% to the achievement of learning outcomes. The main contribution of this study lies in the conceptual aspect, namely the combination of two variables of project-based learning models and learning motivation simultaneously in one testing framework on Islamic Religious Education learning at the elementary school level, a combination that has not been widely tested in previous studies that generally only place one learning model variable as the focus of the study.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.

Author 2: Conceptualization; Data curation; In-investigation.

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