



The Effectiveness of Project-Based Learning Model in Improving Student Learning Outcomes at SD Negeri 0406 Aek Tinga

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ABSTRACT

This study aims to test the effectiveness of the Project-Based Learning (PjBL) learning model in improving student learning outcomes on the subject of Faith in the Books of Allah in Grade 6 of SD Negeri 0406 Aek Tinga. This study uses a Classroom Action Research (CAR) approach with a research design consisting of two cycles, where each cycle includes planning, implementation, observation, and reflection. The population of this study was 30 students of Grade 6 of SD Negeri 0406 Aek Tinga. The sample of this study was all students of Grade 6 selected by total sampling. The research data were obtained through instruments in the form of learning outcome tests, observations, and interviews. Data analysis was carried out using descriptive analysis and t-tests to determine significant differences between student learning outcomes before and after the implementation of the PjBL model. The results showed that the implementation of the PjBL model had a significant impact on improving student learning outcomes. This is evidenced by an increase in the average score of test results before and after project-based learning, as well as from observations that showed an increase in student involvement and motivation during the learning process. Based on the t-test, there is a significant difference between the experimental group using the PjBL model and the control group using the conventional method. The PjBL model also has a positive impact on developing students' social and collaboration skills. This study concludes that the PjBL model is effective in improving student learning outcomes on the material of Faith in the Books of Allah in Grade 6 of SD Negeri 0406 Aek Tinga. Therefore, it is recommended that the PjBL model be applied more widely in schools as an alternative to improve the quality of learning that is more active, creative, and enjoyable.

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Introduction

Education is an important aspect in the development of a nation, especially in producing a quality young generation with good personalities. One of the main goals of education in Indonesia is to create human resources who are not only intellectually intelligent, but also have noble morals in accordance with religious teachings, especially in Islamic religious education. Islamic Religious Education (PAI) in elementary schools has a very important role in shaping the character and faith of students from an early age. However, in practice, PAI learning in elementary schools often faces various challenges, such as lack of interest and attention from students to the material being taught, as well as limited learning methods used by educators.

This affects student learning outcomes which are still relatively low, especially on materials that are considered difficult or difficult by students, one of which is material on Faith in the Books of Allah. The material on Faith in the Books of Allah in the Islamic Religious Education curriculum for Grade 6 of Elementary School is indeed very important, because it is part of the learning of faith that must be understood by every student. However, many students find it difficult to understand and remember information about the books of Allah, such as the Qur'an, the Gospel, the Torah, and the Psalms. The main cause is the conventional way of delivering material, which tends to be monotonous and does not involve active student participation in the learning process. To overcome this problem, a more innovative and effective approach is needed in learning. One learning model that can be applied to improve student learning outcomes is Project-Based Learning (PjBL). This learning model prioritizes learning based on real project activities, where students are invited to be directly involved in the learning process by working on a project that is relevant to the material being taught. Through this method, students not only learn in theory, but also gain direct experience that can deepen their understanding of the material.

The implementation of the Project-Based Learning (PjBL) learning model is expected to provide a more enjoyable and meaningful learning experience for students, so that they can more easily understand the concepts taught, including the material on Faith in the Books of Allah. With a more creative and innovative approach, students are expected not only to memorize, but also to understand the values contained in each book of Allah and to be able to apply them in everyday life. The implementation of the Project-Based Learning (PjBL) model is expected to improve student learning outcomes, especially in understanding the material on Faith in the Books of Allah in Class 6 of SD Negeri 0406 Aek Tinga. Therefore, this study aims to determine the extent to which the effectiveness of the PjBL learning model is in improving student learning outcomes on the material.

Methods

This study uses a quantitative approach with an experimental research type. Experimental research was chosen because its main objective is to determine the effectiveness of the implementation of the Project-Based Learning (PjBL) model in improving student learning outcomes on the material of Faith in the Books of Allah in Class 6 of SD Negeri 0406 Aek Tinga. Specifically, this study uses a quasi-experimental design, where the researcher does not randomize or randomize samples in the group that will be used as research subjects, but still tries to observe and measure the results that can be obtained after the implementation of the PjBL model. In this design, the researcher will observe the differences in student learning outcomes before and after the implementation of the PjBL model on the material studied, namely Faith in the Books of Allah. In this section, various theories will be explained that are the basis or foundation for understanding and exploring this research, which involves the Project-Based Learning (PjBL) learning model and the material of Faith in the Books of Allah in the context of Islamic Religious Education (PAI). This theoretical basis consists of several components including theories about learning, theories about Project-Based Learning (PjBL), and theories related to teaching Faith in the Books of Allah.

The explanation of these theories will provide a strong foundation in explaining how the Project-Based Learning (PjBL) model can be applied to improve student learning outcomes in Class 6 of SD Negeri 0406 Aek Tinga. Learning is a complex process, in which a person acquires knowledge, skills, attitudes, and values through experience and interaction with the environment. In the context of Islamic religious education, learning has an important role in shaping students' understanding of basic religious concepts, such as faith in Allah, His messengers, and His books. Various learning theories have been put forward by experts, which can provide an overview of how learning should be carried out to achieve optimal results. Some learning theories that are relevant to this study include: 1) Constructivism Theory. Constructivism theory suggests that learning is an active process that involves individuals in building their own knowledge through experience and interaction with the environment. According to Piaget (1970), learning occurs when individuals actively organize their experiences into more complex cognitive structures. In this case, students do not only receive information passively, but also interact with the material and construct their own knowledge. This is relevant in learning Faith in the Books of Allah, where students need to build a deep understanding of the books; 2) Social Learning Theory. The social learning theory proposed by Albert Bandura (1977) emphasizes the importance of social influence in the learning process. Bandura argues that individuals learn through observation, imitation, and modeling, where they imitate the behavior they observe from others, especially people who are considered models (such as teachers, parents, peers).

In Islamic Religious Education learning, teachers and the surrounding environment greatly influence the development of students' understanding of religious teachings, including about the books of Allah. Therefore, positive social interactions in learning will greatly help students in gaining a better understanding; 3) Construction-Based Learning Theory. Construction-based learning theory explains that new knowledge is built on previous knowledge. In this context, students begin learning with ideas and concepts that they already know, and then develop their understanding through exploration and discussion. Learning Faith in the Books of Allah is expected to begin with students' basic knowledge of religion, which is then deepened through the application of appropriate learning models, such as Project-Based Learning (PjBL). Reasons for Choosing the Type of Research: 1) Quantitative Approach. The quantitative approach is used to obtain numerical data that can be analyzed statistically to determine the extent to which the application of the PjBL model affects student learning outcomes. This approach allows for objective measurements and provides a clear picture of the impact of the variables being tested; 2) Quasi-Experimental Design Given the limitations in terms of controlling the experimental and control groups, a quasi-experimental design is used to obtain valid data even though full randomization is not carried out. This design can still provide useful information about the effectiveness of a learning method in more realistic conditions.

The main focus of this study is to test the effect of implementing the Project-Based Learning (PjBL) model on student learning outcomes in the material of Faith in the Books of Allah. In this case, the researcher will measure the difference in student learning outcomes using tests before and after the implementation of the learning model. This study aims to analyze how the implementation of the PjBL model can affect students' understanding of Islamic teachings, especially in recognizing the books of Allah, and how this method improves students' critical thinking skills, teamwork, and communication skills in the learning process.

Research variables are everything that can be measured, observed, or controlled in a study to determine the influence or relationship between these variables. In this study, there are two main variables, namely the independent variable (the variable that influences) and the dependent variable (the variable that is influenced). The following is an explanation of the research variables in this study: (1) Independent Variable (X) The independent variable is the Project-Based Learning (PjBL) learning model. This learning model is applied as a learning approach to the material of Faith in the Books of Allah in Class 6 of SD Negeri 0406 Aek Tinga. The application of the PjBL model is a variable that will be tested for its influence on student learning outcomes. Some elements of Project-Based Learning (PjBL) applied in this study include Project-based activities. Students will be given project assignments that are directly related to the material of Faith in the Books of Allah, such as making concept maps or presentations about the books of Allah. Collaborative learning: Students work in groups to complete a joint project, Reflection

process: After the project is completed, students will be invited to reflect on their experiences in working on the project, Active student involvement: Students are actively involved in the planning, implementation, and presentation of the project, which encourages them to think critically and creatively. (1) Dependent Variable (Y). The dependent variable in this study is student learning outcomes on the material of Faith in the Books of Allah. Student learning outcomes will be measured from the increase in their understanding of the material taught, as well as the skills achieved after implementing the Project-Based Learning (PjBL) model.

This variable can be measured in two aspects, namely Cognitive Aspect: Mastery of material on Faith in the Books of Allah, which includes understanding of the books of Allah (Al-Qur'an, Gospel, Torah, Zabur) and the teachings contained therein. Affective Aspect: Attitudes and values held by students towards learning materials, such as respect for the books of Allah and appreciation of the teachings of Islam. Psychomotor Aspect: Skills acquired by students during the project, such as the ability to work together in groups, communication skills in presentations, and problem-solving skills. The sampling technique in this study used saturated sampling, namely all students registered in Class 6 of SD Negeri 0406 Aek Tinga in this academic year were used as samples. The researcher did not conduct randomization or random selection, but rather selected students as a whole from each class that had been determined as the experimental group and the control group. The data analysis technique in this study aims to identify the effect of the application of the Project-Based Learning (PjBL) model on student learning outcomes in the material on Faith in the Books of Allah. For this reason, the analysis techniques used are quantitative and qualitative analysis, according to the type of data collected in this study.

Quantitative analysis is used to analyze data in the form of numbers or scores obtained from cognitive tests (pre-test and post-test), project product assessments, and other quantitative data. The analysis techniques used are: 1) Normality Test. Before conducting further statistical analysis, a normality test is carried out to determine whether the data obtained from the pre-test and post-test are normally distributed or not. The normality test is carried out using the Kolmogorov-Smirnov test or the Shapiro-Wilk test. If the data is normally distributed, then parametric statistical analysis can be continued; 2) Homogeneity Test. To ensure that both groups (experimental and control) have homogeneous variances, a homogeneity test is carried out using the Levene test. This test is useful for checking whether both groups have similar variances, which is important so that the results of the comparison between the experimental and control groups can be considered valid; 3) T-Test (Independent Samples T-Test) After conducting normality and homogeneity tests, to test the differences in learning outcomes between the experimental group using the PjBL model and the control group using the conventional method, an independent t-test (Independent Samples T-Test) was used. This test will measure whether there is a significant difference between the average pre-

test and post-test scores in the two groups. H0 (null hypothesis): There is no significant difference in learning outcomes between students who take part in learning using the PjBL model and students who use the conventional method.

H1 (alternative hypothesis): There is a significant difference in learning outcomes between students who take part in learning using the PjBL model and students who use the conventional method; 3) Effect Size In addition to the t-test, to measure how much influence the application of the PjBL model has on student learning outcomes, an effect size calculation is carried out using Cohen's d. Cohen's d provides an overview of the magnitude of the difference between the two groups, namely the experimental group and the control group, in terms of mastery of the material. After the quantitative and qualitative data are analyzed, the researcher will interpret the results of the analysis to provide answers to the research questions. The researcher will compare the results obtained from the experimental group using the PjBL model and the control group using conventional methods to see the extent to which the PjBL model influences student learning outcomes in the material of Faith in the Books of Allah. The researcher will also identify factors that influence the success or failure of the implementation of the PjBL model, based on qualitative data obtained from interviews and observations.

Result

In this section, the researcher will present the results of the research conducted to test the effectiveness of the Project-Based Learning (PjBL) learning model in improving student learning outcomes on the material of Faith in the Books of Allah in Grade 6 of SD Negeri 0406 Aek Tinga. The results of this study are presented based on data obtained from the pre-test and post-test, observations during learning, and the results of interviews and student reflections. This study involved two groups, namely the experimental group using the PjBL model and the control group using conventional learning methods. The data obtained from both groups include: 1) Pre-Test and Post-Test Data. The pre-test was given before the application of the PjBL model to measure students' initial understanding of the material of Faith in the Books of Allah. The post-test was given after the application of the PjBL model to measure the extent to which students' understanding of the material increased. The pre-test and post-test scores of each group were recorded and analyzed using statistical tests; 2) Cognitive Test Results (Pre-Test and Post-Test). Based on the pre-test results, the average understanding scores of students in the experimental and control groups are as follows: Experimental Group: The average pre-test score is 55, with the highest score of 80 and the lowest score of 40. Control Group: The average pre-test score is 53, with the highest score of 78 and the lowest score of 35. After implementing the PjBL model, the following results were obtained in the post-test: Experimental Group: The average post-test score is 85, with the highest score of 98 and the lowest score of 70. Control Group: The average post-test score is 72, with the highest score of 90 and the lowest score of 60. From these

data, it can be seen that the experimental group using the PjBL model experienced a more significant increase compared to the control group.

To test whether there is a significant difference between the two groups, an independent t-test (Independent Samples T-Test) was conducted. The results of the t-test showed a p-value of 0.000, which is smaller than the significance level of 0.05. This shows that there is a significant difference between the experimental group using the PjBL model and the control group using the conventional method. Based on the results of the t-test, it can be concluded that the application of the PjBL model has a significant positive effect on improving student learning outcomes in understanding the material of Faith in the Books of God. Effect Size (Cohen's d) To measure the magnitude of the effect of the PjBL model on student learning outcomes, the Cohen's d value is calculated. Based on the calculation, the Cohen's d value is 1.2, which is included in the large category. This shows that the PjBL model has a very large influence on improving student learning outcomes. During the learning process, observations were made to see how students were involved in project-based activities. The results of the observations showed that students in the experimental group showed more active participation in learning activities, worked together in groups, and were more creative in completing projects. Student Collaboration: In the experimental group, students worked together more effectively in group discussions, shared ideas, and discussed various concepts related to Faith in the Books of God. This is clearly seen in the group presentations that illustrate a deeper understanding of the material. Presentation Skills: Students who participated in the PjBL model showed improved presentation skills, including communicating ideas and information clearly to their peers. Project Assessment: Based on the results of the assessment of the project products worked on by the experimental group, most of the projects produced showed good quality, with high creativity and accuracy in presenting information about the books of Allah.

The results of interviews with students showed that they felt more motivated and interested in participating in learning after the implementation of the PjBL model. Students felt that project-based learning allowed them to better understand and remember the material, and feel more involved in learning. Positive Perception: Students expressed that the PjBL model made them more active and happy in learning because they could work together with friends, and not just passively receive information from the teacher. Challenges Faced: Several students also expressed challenges in completing the project, especially in terms of fair division of tasks in groups and a deeper understanding of the material. Results of Interviews with Teachers Interviews with teachers revealed that although there were some challenges in managing the class during the implementation of the PjBL model, teachers felt that this model was very effective in increasing student engagement and their understanding of the material on Faith in the Books of God. Teachers also noted improvements in

students' collaboration skills and their ability to apply the knowledge gained in the form of projects.

Discussion

In this section, the researcher will discuss the results obtained in the study on the effectiveness of the Project-Based Learning (PjBL) learning model in improving student learning outcomes on the material of Faith in the Books of Allah in Class 6 of SD Negeri 0406 Aek Tinga. This discussion will link the findings from the research results with existing theories and provide interpretations related to the implications of these findings in the context of learning. The results of the study showed that the experimental group using the PjBL model experienced a significant increase in their understanding of the material of Faith in the Books of Allah. Based on the results of the pre-test and post-test, the experimental group showed a greater increase in the average score compared to the control group.

This shows that the PjBL model has a positive impact on student learning outcomes. Interpretation: This significant increase is in accordance with the findings of various studies stating that PjBL is able to improve student understanding because of its approach based on direct experience, collaboration, and application of concepts in real situations. In the context of the material of Faith in the Books of Allah, project-based learning allows students to better understand the role of each book in Islam in a more in-depth and contextual way. The hands-on experience gained by students through projects provides them with the opportunity to relate theory to practice. Increased Creativity: One of the main reasons why the PjBL model is effective is that it gives students the freedom to explore and be creative. Students are not only taught to memorize information, but also to apply the knowledge they learn in the form of real projects. This is reflected in the results of the project assessment which shows that students in the experimental group showed higher creativity in organizing and presenting information related to the books of Allah. Based on the t-test analysis conducted, the results showed that there was a significant difference between the experimental group and the control group. The experimental group using the PjBL model showed a greater increase

in learning outcomes compared to the control group using conventional learning methods. The p-value obtained was less than 0.05 indicating that the application of PjBL did have a significant effect on student learning outcomes. Interpretation: This significant difference can be interpreted that the PjBL model is more effective in improving student understanding compared to conventional learning which tends to focus on providing material directly without providing opportunities for students to be actively involved in the learning process. The PjBL model that emphasizes project-based learning allows students to gain knowledge actively and constructively, so that they can

more easily understand and remember the material being studied. During the implementation of the PjBL model, students not only learn the teaching material but also develop social and collaboration skills. Based on the results of observations, students in the experimental group showed better cooperation in groups and were more involved in discussions. They helped each other and shared knowledge about the material of Faith in the Books of Allah during the project activities. Interpretation: This is in line with the basic principles of the PjBL model, which emphasizes collaboration and social skills as an important part of the learning process. Cooperation between students in the experimental group allows them to learn from each other, discuss various perspectives, and build a shared understanding of the material. Social skills such as communication, negotiation, and time management that they develop during the project will be useful not only in the context of learning, but also in their daily lives.

Although the PjBL model has shown high effectiveness in improving learning outcomes, there are some challenges faced by students and teachers during the implementation of this model. Based on the results of interviews with students, some students expressed difficulties in dividing tasks fairly in groups and in completing projects on time. This may occur due to differences in the level of understanding or skills between group members. These challenges indicate that although the PjBL model offers many benefits, managing projects in groups requires good managerial skills, both from students and teachers. In project-based learning, it is important to provide clear guidelines on task division, assessment, and project completion schedules so that students can work more efficiently and fairly. On the other hand, these challenges can also be seen as opportunities for students to develop managerial skills and work in teams, which are important aspects in the real world. The results of interviews with students showed that they felt more interested and motivated to learn after the PjBL model was implemented. Students expressed that learning involving projects provided an opportunity for them to be more active and creative. They felt that this method was more enjoyable compared to conventional learning methods that tend to be monotonous. Interpretation: Students' positive perceptions of the PjBL model indicate that a more interactive and enjoyable learning approach can increase students' learning motivation.

This is important because high motivation will have an impact on student engagement in learning and on better learning outcomes. Based on the results of this study, the application of the PjBL model can be an effective alternative in improving student learning outcomes, especially in materials that require deep understanding and application of concepts. In the context of Faith in the Books of Allah, this model helps students not only memorize information, but also relate religious concepts to their daily lives through relevant and contextual projects. Recommendations for Teaching: To improve the effectiveness of the PjBL model, teachers need to provide sufficient guidance in each stage of the project, as well as ensure a fair and clear division of tasks.

In addition, providing constructive feedback during the project is also important to improve the quality of student work and direct them to better understanding.

Conclusion

Based on the results of the research that has been carried out, it can be concluded that the application of the Project-Based Learning (PjBL) model in learning the material of Faith in the Books of God in Class 6 of SD Negeri 0406 Aek Tinga can significantly improve student learning outcomes. Based on the results of the pre-test and post-test, observations during learning activities, and interviews with students and teachers, here are some of the main conclusions of this study. The application of the PjBL model has proven effective in improving student learning outcomes in the material of Faith in the Books of God. The pre-test results showed that students before the application of the PjBL model had a limited understanding of the material, but after project-based learning, there was a significant increase in the post-test results. Statistical analysis with an independent t-test showed a significant difference between the experimental group using the PjBL model and the control group using conventional methods. This proves that the PjBL model has a positive impact on improving student understanding. The PjBL model not only improves learning outcomes cognitively, but also increases student involvement and motivation in the learning process. During the project process, students showed more active participation, collaborated with their friends, and felt more interested in the material being taught. Project-based learning provides a more enjoyable and engaging learning experience for students, which in turn contributes to increasing their motivation to learn. During project activities, students also develop collaboration skills and other social skills. They are encouraged to work in groups, share ideas, discuss problems, and help each other in completing project tasks. This leads to improved communication skills, teamwork, and problem-solving skills that are very valuable in their daily lives. These skills are important not only in the context of learning, but also in preparing students for future social challenges. This study shows that there is a significant difference between the experimental group and the control group in terms of learning outcomes. The experimental group that applied the PjBL model showed better results compared to the control group that used the conventional method. The p-value obtained from the independent t-test shows that the difference between the two groups is very statistically significant. Thus, it can be concluded that the application of the PjBL model is more effective than the conventional method in improving student learning outcomes on the material of Faith in the Books of God. The PjBL model not only improves students' cognitive aspects but also has a positive impact on students' affective development. Project-based learning provides space for students to explore and develop their interests, as well as build a deeper understanding of the values contained in the learning materials. In addition, students feel more confident in

expressing their opinions, putting forward creative ideas, and contributing to group discussions.

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