



THE EFFECT OF USING PROJECT BASED LEARNING MODEL WITH AUTOPLAY MEDIA STUDIO ON LEARNING ACHIEVEMENT

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Abstract: The purpose of this research was to test the use of the Project-Based Learning (PjBL) model with AutoPlay Media Studio 8. Using a quantitative quasi-experimental design with a nonequivalent control group design. The sampling technique used was nonprobability sampling with purposive sampling. Data were collected by administering pre-test, post-test, and questionnaires. The average pre-test scores of both groups were relatively similar, with the experimental group scoring 50,53 and control group scoring 52,00. The average post-test score of the experimental group was 93,47, higher than the control group's score of 84,21. The hypothesis testing resulted in a t_{value} of 4,340 and a t_{table} value of 2,028, with a significance level (α) of 0,05. Since the calculated t_{value} was greater than the t_{table} value was less than 0,05, the full hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted. The findings of this research indicated that the use of the PjBL model with AutoPlay Media Studio 8 was effective in teaching Islamic Education. Furthermore, the N-Gain test showed that the experimental group achieved a high criterion score of 87,4269, while the control group achieved a moderate criterion score of 66,5780. This suggested that students have improved their understanding of the taught material. The use of the PjBL model with the development of AutoPlay Media Studio 8 as a learning tool will create an interactive and impactful learning experience for Islamic Education at SMP IT Al-Hijrah.

INTRODUCTION

Learning achievement is one of the dreams of students, parents, teachers, and even every individual involved in educational institutions. Learning achievement is very important because it can determine a person's success in learning and in a future career (Astriani, 2020). Learning achievement can increase self-confidence and show that a person has mastered the skills and knowledge needed to be successful in a particular field (Yudha, 2020).

In determining learning achievement, an assessment was carried out after learning. This assessment is very important for teachers to do with students so that learning runs comprehensively. Assessment has been regulated in an assessment guide prepared by the Minister of Education and Culture which

states the aspects that are assessed in learning, namely assessment of attitudes, assessment of knowledge, and assessment of skills (Kementerian Pendidikan Dan Kebudayaan, 2017).

Islamic Religious Education is one of the subjects at every level of education. This subject provides an understanding of Islamic religious teachings so as to be able to make them obedient servants of Allah SWT and have good morals. Islamic education focuses on the moral and spiritual development of students (Nursten, 2018). This showed that Islamic education subjects play an important role in the formation of student morale. So that meaningful learning was needed so that it was easy to understand and the implementation of religion is more regular.

Learning that occurred in schools today was still found by many teachers who used conventional learning models, namely the method of delivering learning that was used only in the form of oral and dealing directly with students to transfer teacher knowledge to their students (Wahyu et al., 2018). This caused the teacher to be more active and the students tend to only listen to the explanations conveyed by the teacher which causes students to be lazy and not interested in participating in learning. Even the lecture method like this tended to make students more passive (Alifah, 2021). Learning that only used lectures will cause the subject matter that students can master to be limited because the material only goes according to the teacher's explanation so there are no ideas for deeper discussion. With lectures, it was also very difficult for teachers to see how far students understand the subject matter used. Even though there was a question and answer session in the lecture, it did not guarantee that all students understood the material being taught. Therefore, the teacher should make variations in managing learning (Usman, 2021).

The problems that often arise in learning from the conventional model are students feeling bored and unmotivated in learning because the methods used are less attractive, students have difficulty applying the knowledge gained from one subject to another, learning styles that were not in accordance with students, and students found it difficult to learn because there is no opportunity to think critically in solving problems (Wahyuni & Fitriana, 2021).

Based on an initial study with Islamic education teachers in class VIII SMPS IT Al-Hijrah, the Islamic education learning that was carried out already used a direct learning model with discussion, question and answer, and presentation methods. However, students still had difficulty remembering and understanding the material being taught. As a result, the teacher had to repeat the same material at meetings that should be used for other materials. Not to mention the learning media used are only books and blackboards. This showed that the learning implemented is not effective.

A learning model that could be used to hone and encourage students' creative thinking and analysis, Project Based Learning (PjBL) will be able to improve student learning outcomes. This was because the way of teaching which is based on fun projects and activities made students more motivated and better understands the teaching material (Hapsari & Airlanda, 2019). In addition, PjBL

also encouraged students to learn in an active and fun way, so as to improve students' skills in understanding and applying the islamic education material being taught. The use of the PjBL model that was implemented correctly will help students improve their ability to solve problems. Learning that provided direct experience will have a positive impact on students in applying subject matter and increasing student achievement (Shodiqoh & Mansyur, 2022).

This was in line with research conducted by Cox & Meaney (2018) states that the following PjBL components would assist students in improving learning achievement, namely helping students answer problems, the teacher could provide challenging and motivating questions, provide active learning opportunities and provide feedback. This would help students understand effective communication and critical thinking in real work situations. By letting students choose learning experiences and providing opportunities to absorb, assess, and revise what they learn, teachers can support student independent thinking and reflection. Feedback from teachers and students is also very important to determine student progress and ensure students understand the subject matter well. In line with opinion's Greenier (2020) which explained that PjBL is an educational approach that aims to synthesize communicative interaction and imaginative thinking, collaboration, develop students' problem solving and critical thinking abilities, and stimulate affective and cognitive skills that contribute to intellectual and creative development.

The effectiveness of learning with the PjBL model has been studied as above. However, it was different from this research which used technological development as a learning medium which has an important role in improving student learning outcomes. One application that became a learning media is using AutoPlay Media Studio 8. AutoPlay Media Studio 8 is an application in the form of multimedia software that can be used to create interactive presentations, animations, quizzes, and facilitate teaching delivery. The use of the AutoPlay Media Studio 8 application in the implementation of the PjBL model could help create fun learning and make it easier to understand the subject matter.

Based on the explanation above, a test would be carried out on the use of the PjBL model with the help of learning media based on the AutoPlay Media Studio 8 application which is held at SMP IT Al-Hijrah 2 Deli Serdang. islamic education material that will be taught was about Women's Fiqh (Fiqh an-Nisa) in class VIII islamic education books.

RESEARCH METHODS

This study used a Quasi Experimental Design quantitative approach with the Nonequivalent Control Group Design research design. The study population consisted of classes VIII-A, VIII-B, VIII-C, and VIII-D at SMP IT Al-Hijrah 2 Deli Serdang with a total of 19 students in each class. For the sampling technique using non-probability method with purposive sampling technique. In determining the experimental class and control class, the islamic education teacher provided input, so that class VIII-C was chosen as the experimental class and VIII-D as the control sample. The direct learning model was used in the

control class, while the experimental class used the Project Based Learning model with the AutoPlay Media Studio 8 application.

The data collection technique used was a questionnaire (questionnaire) including pre-test and post-test using 25 multiple choice questions. To see student responses to learning, a questionnaire was used which consisted of 30 statements according to indicators of critical and creative thinking skills, collaboration and communication skills, student involvement, learning motivation, and increased student understanding for the PjBL model variables. In the AutoPlay Media Studio 8 variable, the indicators included the attractiveness of the media and learning materials using the criteria "Always", "Often", "Sometimes", "Rarely", and "Never".

In conducting data analysis, the IBM SPSS Statistics 25 application was used. Validity and reliability tests were carried out to test the research instrument, normality test to determine whether the data distribution was normal or not, and homogeneity test as a prerequisite for conducting the Independent Sample T-test as a data analysis technique (Isnawan et al., 2020). Hypothesis testing was carried out using t_{count} and t_{table} criteria, that is if $t_{count} < t_{table}$ then H_0 is accepted and H_a is rejected, whereas if $t_{count} > t_{table}$ then H_0 is rejected and H_a is accepted (Timotius, 2017). Determination of significance was done by comparing the significance value with the criteria if the significance value is > 0.05 then H_0 is accepted and H_a is rejected, whereas if the significance value is < 0.05 then H_0 is rejected and H_a is accepted (Sugiyono, 2018). In addition, the N-Gain test was carried out to see an increase in students' understanding of the material being taught.

RESULT AND DISCUSSION

Before knowing and studying the hypothesis testing, the researcher accumulated the PjBL learning step design as follows: (1) The teacher determined the objectives and material to be taught by considering the competencies that must be achieved by students. (2) Then the teacher made a project plan, starting from the tasks that must be done by students, completion dates, and individual student assignments. (3) Furthermore, the teacher must divided students into groups based on their interests and abilities. (4) After that, students worked together on projects and report their progress to the teacher. (5) Then, the teacher must evaluated and reflect on the finished project, taking into account the aspects of student creativity, innovation and cooperation. (6) Students presented the results of the project in front of the class. (7) The last step was the teacher assesses and determines grades, taking into account the results of the project and student participation during the learning process.

Then, to see the effectiveness and whether there was influence from implementing PjBL learning on students or not, a questionnaire was used with 25 questions that had been tested for validity and reliability. In the validity test, it was declared valid and according to the indicators because the r product moment $N=31$, $\alpha=0.05$ is 0.355. The reliability test was obtained by Cronbach's

Alpha of 0.920 which indicates a reliable question and can be used as a research instrument.

Statistical Descriptive Test Analysis

Statistical descriptive test analysis was a statistical analysis that provides a general description of the characteristics of each research variable as seen from the average (mean), maximum, and minimum values. The results of the statistical descriptive test of this study were shown in the following table.

Table 1. Statistical Descriptive Analysis

	N	Min	Max	Mean	Std.Deviation
<i>Experimental class pre-test</i>	19	36	72	50,53	9,907
<i>Experimental class post-test</i>	19	84	100	93,47	5,368
<i>Control class pre-test</i>	19	32	76	52,00	12,000
<i>Control class post-test</i>	19	72	100	84,21	7,598

The results of the descriptive analysis above showed student learning outcomes are relatively the same before the action is taken, namely 50.53 in the experimental class and 52.00 in the control class. After the action was taken, there was an increase in the average value of the experimental class to 93.47, while in the control class it was 84.21. The average increased in the two groups was very significant where the average value increase was 42.94 in the experimental class and 32.21 in the control class. This showed that the use of the PjBL model with AutoPlay Media Studio 8 in SMP IT Al-Hijrah students is more able to improve student learning outcomes compared to the use of direct learning models in the control class.

Normality Test Analysis

The normality test was a statistical test used to test whether the observed data has a normal distribution or not. So the following were the results of the normality test of this study.

Table 2. Normality Test Results

Student Learning Outcomes	Class	Shapiro-Wilk		
		Statistic	Df	Sig.
	<i>Experimental class pre-test</i>	0,937	19	0,236
	<i>Experimental class post-test</i>	0,901	19	0,052
	<i>Control class pre-test</i>	0,975	19	0,875
	<i>Control class post-test</i>	0,966	19	0,699

The results of the normality test indicated that the data was normally distributed because the significance level was > 0.05. This could be seen from the experimental pre-test data of the Shapiro-Wilk test yielding a statistic of 0.937 and a significance level of 0.236. Experimental post-test data, the Shapiro-Wilk test produced a statistic of 0.901 and a significance level of 0.052.

Likewise the control class data which showed that the data distributed was normally distributed because the significance level was > 0.05. It could be

seen from the Shapiro-Wilk test that it produced a statistic of 0.975 and a significance level of 0.875. Post-test control data, the Shapiro-Wilk test yields a statistic of 0.966 and a significance level of 0.699.

Homogeneity Test Analysis

Homogeneity test was a statistical test procedure that aimed to show that two or more groups of data samples were taken from populations that have the same variance.

Table 3. Homogeneity Test Results

		Levene Statistic	df1	df2	Sig.
Hasil Belajar Siswa	Based on Mean	0,962	1	36	0,333

The homogeneity table showed that the assumption of homogeneity has been met and hypothesis testing can be carried out because the levene statistic = 0.962, df1=1, df2=36, and significant = 0.333. Based on the significance value, it was known that there was no significant difference in the variance of the data between classes because the significant value was $>\alpha(0.05)$.

Hypothesis Testing

This test was a decision-making method based on data analysis, both from controlled trials and from observation (uncontrolled).

Table 4. Hypothesis Test Results

	F	Sig.	T	df	Sig. (2- tailed)
Hasil Belajar Siswa	0,962	0,333	4,340	36	0,000

From the table it could be seen that tcount has a value of 4.340 and the ttable value with a significance level of $\alpha = 0.05$ was 2.028. These results indicated that $tcount > ttable$ and a significance value of $0.000 < 0.05$. Therefore, H_0 was rejected and H_a was accepted. Thus, it could be concluded that the PjBL model with AutoPlay Media Studio 8 had a significant effect on student achievement on Female Fiqh material in the subject of Islamic Religious Education in class VIII SMPS IT Al Hijrah 2 Deli Serdang.

Uji N-Gain

The N-Gain test (normalized gain) was used to measure the increase in science process skills and cognitive learning outcomes between before and after learning. Following were the results of the N-Gain test of this study.

Table 5. N-Gain Test Results for Experimental Class and Control Class

N-Gain Experiment Class (%)	N-Gain Control Class (%)
83,33	66,67
100,00	68,75

N-Gain Experiment Class (%)	N-Gain Control Class (%)
75,00	53,85
71,43	36,36
91,67	87,50
92,31	50,00
100,00	63,64
77,78	60,00
90,91	85,71
87,50	66,67
100,00	69,23
72,73	41,67
100,00	100,00
100,00	40,00
76,92	77,78
84,62	72,73
92,31	68,75
84,62	73,33
82,00	82,35
87,42	66,57
71,43	36,36
100,00	100,00

From the results of the N-Gain test, the N-Gain value for the experimental class reached 87.4269 with high criteria, while the control class reached 66.5780 with sufficient criteria. This means that the application of the PjBL model with AutoPlay Media Studio 8 was very effective in improving student learning outcomes in islamic education learning on Women's Fiqh material.

To find out students' responses to the use of the PjBL model with AutoPlay Media Studio 8, a questionnaire was given to students based on research indicators of two variables namely critical thinking, collaboration and communication skills, student involvement, learning motivation, and increased student understanding for PjBL variables, media attractiveness and learning materials in AutoPlay Media Studio 8. The validity of the questionnaire has been tested with r product moment $N=30$, $\alpha=0.05$ of 0.349. The reliability test with Cronbach's Alpha was 0.958 so that 30 statements were reliable and could be used as research instruments.

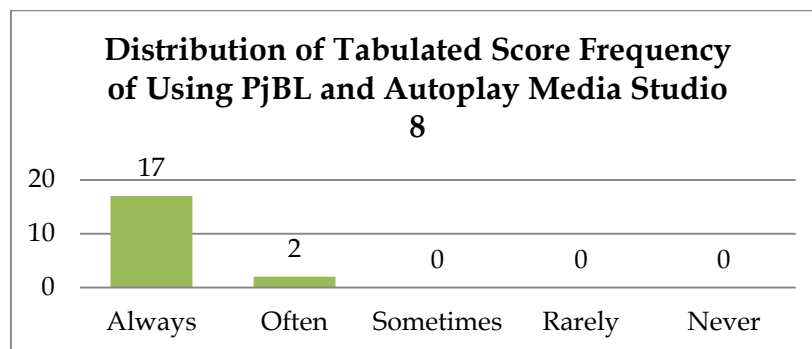


Figure 1. Bar Chart of Distribution of Scores Tabulation of Pjbl Use with Autoplay Media Studio 8

In the bar chart, the frequency of the answer criteria "Always" was 17, "Often" was 2, and "Sometimes", "Rarely", and "Never" have no frequency. This meant that the indicators of the two variables were mostly carried out by students.

Based on the data obtained, the average value of the experimental class in the pre-test was 52.53 and in the post-test was 93.47. While in the control class, the average pre-test score was 52.00 and in the post-test was 84.21. The results of this study indicated that there was an increase of 40.94 in the experimental class and 30.21 in the control class. Therefore, it could be concluded that the average increased in the experimental class was greater than that of the control class. This showed that the use of the PjBL model with AutoPlay Media Studio 8 had a significant effect on student achievement in class VIII SMP IT Al-Hijrah.

The results of the hypothesis test showed that the value of $t_{count} = 4.340$ and the value of t_{table} with a significance level of $\alpha = 0.05$ is $t_{table} = 2.028$. This shows that the value of $t_{count} > t_{table}$ and significance value < 0.05 , so that H_0 was rejected and H_a is accepted. This showed that the PjBL model with the help of AutoPlay Media Studio was effectively used in islamic education learning. Based on the results of the N-Gain test in the experimental class with high criteria, namely 87.4269 and sufficient criteria in the control class, namely 66.5780, it showed that the treatment given increased students' understanding of the material taught by the teacher.

The use of the PjBL model that focused on projects to provide meaningful and memorable learning experiences for students, aimed to help students understand concepts and applied them in real situations (Willis & Tombari, 2018). In PjBL, the teacher had the role of managing the learning process by involving students in making projects consisting of complex assignments, based on challenging questions and problems. This would help students to think critically (Octariani & Rambe, 2020).

From the results of the questionnaire the majority of student responses gave answers "Always" (17 students), "Often" (2 students), and "Sometimes", "Rarely", "Never" did not have a frequency on each of the criteria measured, namely the ability critical and creative thinking, collaboration and communication skills, and student involvement in the PjBL model, as well as the attractiveness of media and learning materials in AutoPlay Media Studio 8. This showed that the use of the PjBL model with AutoPlay Media Studio 8 was effective in increasing student achievement.

The use of innovative and interesting learning models could increase student participation and their motivation to learn. This contributed to the development of educational policies or programs in the future, especially in selecting effective learning models and media to improve student learning outcomes. Using the PjBL model encouraged students to think creatively and critically, collaborate and communicate, students were actively involved in learning, increasing learning motivation which ended in conceptual understanding of the subject matter being taught.

In addition, learning media had an important role in conveying learning material in an interesting and interactive way so as to increase the effectiveness of learning. The use of technology would present multimedia learning media in the form of images, video, audio, and animation (Gunawan & Aidah, 2019). The following was one of the technology-based learning media that can be developed as multimedia in Figure 2 and Figure 3.



Figure 2. Appearance of the AutoPlay Media Studio 8 application

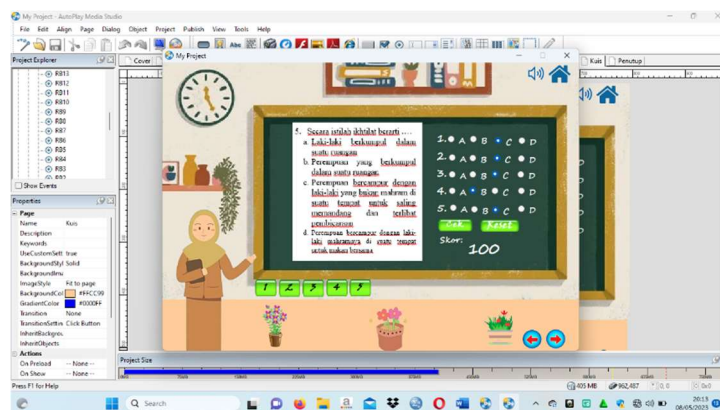


Figure 3. Display of Interactive Media Development with AutoPlay Media Studio 8

The use of autoplay learning media which had easy-to-use facilities and did not require understanding of complex programming scripts. AutoPlay Media Studio 8 was a better and faster version, which allows to combine multimedia elements such as videos, images, sounds, music and flash animations. This software could also be used for database manipulation, text parsing, website interaction, display documents, data collection, and graphical visualization. Due to the many features available, this software can be used as a supporting medium in the learning process in the classroom thereby increasing learning achievement (Bahri et al., 2018).

Some things that must be considered in developing this application as a learning media were determining the learning objectives to be achieved through the use of the application, making designs that are attractive and easy for students to understand, choosing the type of media (multimedia), creating content that is appropriate to the subject matter, making interactive interactions. easy for students to use and direct students to appropriate material, conduct trials to ensure features work well and subject matter is easy to understand,

publish learning media so that it can be accessed easily by students (Anantyarta & Mardiana, 2020).

AutoPlay Media Studio 8 was software that helped student users to create interactive multimedia without having deep programming experience. So that the use of a good PjBL model and the use of an effective application would increase student involvement in islamic education learning. Interactive multimedia features in the software could help illustrate religious concepts in an interesting way and make it easier for students to participate actively in the learning process thereby increasing student achievement.

Learning achievement when seen was a change after the learning process (Rosyid, 2019). Changes after learning activities were expected to be better and with a higher value than before. The change in question was in the form of changes in behavior in the form of cognitive, psychomotor, and affective as seen from learning achievement in schools which are measured based on assessment guidelines, namely attitude assessment, knowledge assessment, and skills assessment. Learning achievement was the ability to solve difficult things, understand, excel, be able to compete, and be able to solve every problem and achieve high scores (Susanti, 2019). This was in accordance with the PjBL model and the use of the multimedia learning model, where students focus on given projects based on problems displayed in interesting learning media so that students will find out a lot from various learning sources which causes students to be active and easily understand the material presented. taught.

In Islam, academic achievement was one of the most important things because it indicated a person has knowledge which was used as a guide in carrying out daily life and the worship he performs begins with knowledge. The Word of God in surah al-MujJadi/58:11 was relevant to the virtues of seeking knowledge.

يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا قِيلَ لَكُمْ تَفَسَّحُوا فِي الْمَجْلِسِ فَافْسَحُوا يَفْسَحِ اللَّهُ لَكُمْ وَإِذَا قِيلَ انشُرُوا فَانشُرُوا يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ .

It means : *O you who have believed, when you are told, "Space yourselves" in assemblies, then make space; Allah will make space for you. And when you are told, "Arise," then arise; Allah will raise those who have believed among you and those who were given knowledge, by degrees. And Allah is Acquainted with what you do* (Akarcay Ulutas et al., 2022).

Quraish Shihab explained the verse that Allah will "raise" the degree of those who have knowledge. However, this is not only related to the level of one's faith, but also related to the higher degree that is obtained by people who have deep knowledge. Although the expression "raised" did not explicitly indicate that knowledge was the main factor that influences one's degree. This was in line with the teachings of the Prophet Muhammad who encouraged his people to seek in-depth knowledge in order to achieve happiness in the world and the hereafter. In fact, worship performed without knowledge will also be rejected by Allah (Mahmud, 2019).

The meaning of "*allazina uutu al-ilm*" or those who were given knowledge refers to people who had faith and perfected themselves with knowledge. The verse divided the believers into two groups, the first have only faith, while the second have faith, did good deeds, and had knowledge. This second group had a higher degree not only because of the value of the knowledge it had, but also because of the charity and teaching given to others through words or actions that are an example to others. The knowledge referred to in the verse was also not limited to religious knowledge, but included all kinds of useful knowledge (Rokhim & Rusydiyah, 2021).

The obligation to seek knowledge was also explained in many hadiths, one of which was about the encouragement to study which was explained in the hadith as follows:

حَدَّثَنَا هِشَامُ بْنُ عَمَّارٍ حَدَّثَنَا خَفْصُ بْنُ سُلَيْمَانَ حَدَّثَنَا كَثِيرُ بْنُ شَنْظِيرٍ عَنْ مُحَمَّدِ بْنِ سِيرِينَ عَنْ أَنَسِ بْنِ مَالِكٍ قَالَ قَالَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ طَلَبُ الْعِلْمِ فَرِيضَةٌ عَلَى كُلِّ مُسْلِمٍ وَوَضِيعُ الْعِلْمِ عِنْدَ غَيْرِ أَهْلِهِ كَمُقَلَّدِ الْخَنَازِيرِ الْجَوْهَرَ وَاللُّؤْلُؤَ وَالذَّهَبَ

It Meaned: *Hafsh bin Sulaiman told a story, he said: Katsir bin Syinzhir told us from Muhammad bin Sirin from Anas bin Malik, he said: Rasulullah shallallahu'alaihi wa sallam said: "Every Muslim has an obligation to seek knowledge. And giving knowledge to someone who does not deserve it is like putting pearls, diamonds and gold in the neck of a pig."* (HR.Ibnu Majah No. 220) (Baharun et al., 2021).

This hadith stated that every Muslim has an obligation to seek knowledge. Knowledge was a valuable gift and must be strived for by every individual Muslim. This showed the importance of learning and personal development in Islam and everyday life. In conveying knowledge, it must also be to those who are entitled to receive it and be able to utilize knowledge and treat it well.

CONCLUSION

The use of the PjBL model using learning media based on the AutoPlay Media Studio 8 application had a positive impact on islamic education learning achievement at SMPS IT Al-Hijrah Deli Serdang. In this study, it was found that the average value of the experimental group in this study was 93.47, far higher than the value of the control group (84.21). The hypothesis test showed that learning using the PjBL model and AutoPlay Media Studio 8 was successful because the t_{count} was 4.340 greater than the t_{table} value of 2.028 at a significance level = 0.05. The results of the N-Gain test also showed that students' understanding increased in the experimental class using the PjBL model with high criteria and sufficient criteria in the control class using the direct learning model. Thus, the use of a good PjBL model and the effective use of AutoPlay Media Studio 8 increased student involvement in islamic education learning. Interactive multimedia features in learning media could help illustrate religious concepts in an interesting way and made it easier for students to actively participate in the learning process. The use of innovative learning models and

media can made a significant contribution to the development of education policies and programs in the future.

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