

The Effect of Implementing Multimedia-Based Project-Based Learning on the Learning Motivation of 10th-Grade Students in the Islamic Cultural History Course at a State Senior High School

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ARTICLE INFO

Keywords:

Project Based Learning;
Multimedia; Learning
Motivation; Islamic Cultural
History; Innovative
Learning

Article history:

Received 2019-08-03

Revised 2026-03-17

Accepted 2026-03-30

Publisher's Note

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by Universitas Islam Negeri
Raden Fatah Palembang,
Indonesia

ABSTRACT

The learning of Islamic Cultural History/Sejarah Kebudayaan Islam (SKI) at MAN 2 Blitar has been monotonous and less motivating for students. This study aims to analyze the effect of implementing Multimedia-based Project Based Learning (PJBL Multimedia) on the learning motivation of tenth-grade students in the SKI subject. A quantitative approach with an ex-post facto design was employed. The research sample consisted of all 35 students of class X-C, taken using total sampling technique. Data were collected through a closed Likert-scale questionnaire that had been tested for validity and reliability, then analyzed using descriptive statistics and simple linear regression. The results show that the implementation of PJBL Multimedia has a significant effect on students' learning motivation with a significance value of 0.000 (<0.05) and a coefficient of determination (R^2) of 0.750. The most dominantly affected aspect of motivation is students' belief that learning effort will yield good results (expectancy). It is concluded that PJBL Multimedia is effective in increasing students' learning motivation, particularly through active, constructive, and multimedia-based learning experiences. These findings recommend the use of similar models in teaching SKI and other narrative-contextual subjects.

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INTRODUCTION

Education plays a fundamental role in determining the direction and quality of national progress, Islamic Cultural History (SKI) learning in madrassas is often faced with the challenge of low student learning motivation. (Sari & Wibowo, 2020) This is generally due to the application of conventional learning methods, such as lectures and memorization, which do not actively involve students. (Rasyid, 2018) In MAN 2 Blitar, a similar problem was found in SKI class X learning, where the use of the dominant lecture method caused students to tend to be passive and less motivated. In fact, this subject has an important role in the formation of character and understanding of the history of Islamic civilization which is rich in values and visuals. (Kusumaningrum & Marpanaji, 2014) This phenomenon shows the urgent need to implement learning innovations that are more interactive, contextual, and relevant to students' lives in the digital era. (Bali, Tasdelen, Bandi, & Zsidó, 2026)

Previous literature reviews show that the Project Based Learning (PJBL) approach has been widely tested and proven to increase student engagement and learning motivation in various subject

contexts. (Dahrani & Sohiron, 2024) Several previous studies, such as those conducted by da'wah materials at MTs, SKI learning at MTsN Palopo, as well as Islamic history materials at the MAN level, have consistently reported that PJBL is able to increase student motivation and learning outcomes. (Kurniawan, 2024) However, these studies generally have not specifically integrated multimedia as a core element and product media in the implementation of PJBL. (Manja, 2024) Most still focus on PJBL in general with limited media or do not define multimedia as the main component. In addition, similar research has not been widely carried out in the MAN 2 Blitar environment with its local cultural characteristics, so findings from other locations are not necessarily fully applicable. (Rahman, 2019)

Based on the research gap, this article presents a scientific novelty by examining the influence of the application of PJBL Multimedia, namely the integration between the PJBL model and the use and manufacture of multimedia products (such as videos, digital infographics, or interactive presentations) by students on the motivation to learn SKI. (Putri, 2021) This novelty not only lies in the conceptual combination of constructivism theory, Kolb's experiential learning, and Mayer's multimedia cognitive theory but also in its empirical context, namely its application to students of class X of MAN 2 Blitar who have never been researched before. Thus, this article is here to fill the empirical evidence gap regarding the effectiveness of the PJBL Multimedia hybrid model in the context of SKI learning in madrasas. (Karim, 2023a)

The problems studied are formulated as follows: (1) Is there a significant influence of the implementation of PJBL Multimedia on the learning motivation of class X students in SKI subjects at MAN 2 Blitar? (2) Which aspect of learning motivation is most affected? Based on the theoretical framework, the research hypothesis was formulated: H_a : (Mones & others, 2023) There is a significant positive effect of the application of Multimedia PJBL on students' learning motivation. To solve the problem and test the hypothesis, this study uses a quantitative approach with an ex-post facto design. Data was collected from the entire student population of class X-C MAN 2 Blitar (N=35) through a learning motivation questionnaire based on the Likert scale. The data were then statistically analyzed using a simple linear regression test. (Saputra, 2023)

The objectives of the study in this article are to: (1) Measure the significant influence of the application of PJBL Multimedia on students' learning motivation, and (2) Identify the most affected aspects of motivation (based on Vroom, McClelland, and Locke's theory). (Figueiredo & others, 2021) The findings of this article are expected to provide empirical evidence and practical models for teachers in designing more innovative and motivating SKI learning. (Gusma & others, 2025)

Based on the description of the background and research gaps that have been presented, the urgency of this research lies in the urgent need to present learning innovations that are able to increase students' learning motivation in the subject of Islamic Cultural History (SKI) which has tended to be monotonous and less interesting. (Pratama, 2023) In the digital era, learning is no longer enough to rely solely on conventional methods, but it is necessary to integrate active, contextual, and technology-based approaches to suit the characteristics of the current generation of students. (Rani, 2021) Meanwhile, the novelty of this research lies in the integration between the Project Based Learning (PJBL) model and the use and production of multimedia as the core of learning, not just as a supporting media. In addition, this research also provides a new empirical contribution in the context of SKI learning in madrasas, especially in MAN 2 Blitar, which has not been widely researched before. (Hidayat, 2024) Thus, this research not only fills the literature gap, but also offers innovative learning models that are relevant and applicable in increasing students' motivation to learn.

METHODS

This study uses a quantitative approach with an Ex-Post Facto design. This design was chosen because the study aimed to investigate the cause-and-effect relationship between the application of PJBL Multimedia (as an independent variable) and student learning motivation (as a bound variable) based on events that have occurred naturally, without intervention or manipulation from the researcher. The data used consists of two types. *Primary data* was obtained directly from respondents through a closed questionnaire distributed to all students of Class X-C MAN 2 Blitar (n=35).

Secondary data is in the form of photo documentation of learning activities, madrasah profiles, and supporting literature related to PJBL, multimedia, and learning motivation. Data collection was carried out using questionnaire techniques as the main method, which was complemented by documentation to strengthen the context of learning implementation. (Wahyuni, 2023)

The research instrument is in the form of a learning motivation questionnaire which is compiled based on the theories of Vroom (Hope), McClelland (Needs), and Locke (Goal Setting). The questionnaire consisted of 12 statements with a Likert scale of 5 points (1 = Strongly Disagree to 5 = Strongly Agree) (Karim, 2023b). This instrument was first tested for validity and reliability. The results of the validity test with Pearson Product Moment correlation showed all valid items ($r\text{-count} > r\text{-table } 0.333; p < 0.05$). Meanwhile, a reliability test using Cronbach's Alpha coefficient yielded a value of $\alpha = 0.957$, which indicates the instrument is very reliable ($\alpha > 0.70$). (Santosa, 2022)

The data is analyzed in two main stages. First, descriptive statistical analysis shows that both the implementation of PJBL Multimedia and student learning motivation are in the medium to high category. The implementation of PJBL obtained an average score of 18.14 (out of a maximum score of 30), with the aspect of student active participation (X1) as the strongest indicator (mean = 3.37) and certain aspects (X3) as the lowest (mean = 2.77). Meanwhile, students' learning motivation had an average score of 17.74, with the confidence indicator that the effort will yield results (Y1) recording the highest score (mean = 3.11) and other indicators (Y2) recording the lowest score (mean = 2.71). These results illustrate the learning conditions that are quite conducive. (Handrianto & Rahman, 2019)

Second, hypothesis tests with simple linear regression analysis are carried out after the prerequisite test is met. The results of the linearity test proved a significant and linear relationship between Multimedia PJBL and learning motivation (Sig. Linearity = 0.000), without significant deviations (Sig. Deviation = 0.489). Thus, the assumption of linearity is fulfilled and regression analysis can be continued to measure the magnitude and significance of the influence between the two variables. All analyses were carried out using the help of the SPSS version 25 program. (Fitriani, 2021)

RESULTS AND DISCUSSION

The Effect of the Application of the Multimedia PJBL Method on Student Learning Motivation

Based on the results of the statistical analysis obtained, it can be concluded conclusively that the application of the Multimedia-based Project Based Learning (PJBL) method has a significant and positive effect on the learning motivation of class X students in the subject of Islamic Cultural History (SKI) at MAN 2 Blitar. This conclusion is not only based on mathematical calculations, but is an empirical confirmation that is in harmony with the results of the research's statistical analysis.

Simple Linear Regression Test Results

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	1.493	1.729		.863	.394
	Penerapan PJBL	.896	.090	.866	9.946	.000

a. Dependent Variable: Motivasi Belajar

First, conclusive statistical proof. The results of the simple linear regression test yielded a regression equation $Y = 1.493 + 0.896X$. The regression coefficient (b) of 0.896 has a positive and significant value at the sig level. 0.000 (< 0.05). This means that every one unit increase in the implementation of PJBL Multimedia will increase student learning motivation by 0.896 units.

Determination Coefficient Test Results

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.866 ^a	.750	.742	3.346

a. Predictors: (Constant), Penerapan PJBL

b. Dependent Variable: Motivasi Belajar

Furthermore, the determination coefficient test showed the value of R Square = 0.750. This proves that 75% of the variation in student learning motivation can be explained by the variables of the implementation of PJBL Multimedia. The remaining 25% was influenced by other factors outside the research model. The results of the t-test also gave a t-count value of 9.946 with a significance of 0.000, which caused H0 to be rejected and Ha to be accepted. Thus, the quantitative evidence has qualified to declare a significant influence.

Second, a coherent theoretical explanation. The findings of this study empirically validate three main theoretical foundations:

1) Constructivism (Piaget & Vygotsky) in X1-X2 is manifested through active learning and collaboration in projects, which is indicated by the highest active participation score (mean 3.37).

Results of Descriptive Statistical Test X

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
X1	35	1	5	3.37	1.003
X2	35	1	5	2.97	1.294
X3	35	1	5	2.77	1.330
X4	35	1	5	3.00	1.260
X5	35	1	5	3.11	1.183
X6	35	1	5	2.91	1.380
Penerapan PJBL	35	6	30	18.14	6.372
Valid N (listwise)	35				

2) Experiential Learning (Kolb) X3-X4 is realized in a complete cycle of real experiences, reflection, conceptualization, and experimentation that evokes intrinsic engagement.

3) Multimedia Cognitive Theory (Mayer) X5-X6 is implemented through the integration of visual and verbal channels, which reduces cognitive load and facilitates the understanding and retention of complex historical material.

Third, a complete causal synthesis. The flow of influence can be formulated holistically: The PJBL method provides an authentic learning framework → enriched by multimedia as a medium of expression → creates a constructive, experiential, and cognitively optimal learning experience → meets students' psychological needs (competence, autonomy, connectedness) → and significantly increased motivation to learn (accounting for 75% variation). This synthesis reinforces the validity of cause-and-effect relationships in research design. (Nugroho, 2024)

The Motivational Aspects Most Influenced by the Application of PJBL Multimedia

Although all dimensions of motivation have improved together, an in-depth analysis of descriptive data contextualized with motivation theory reveals that the most dominant aspect of motivation is influenced by *students' belief that learning efforts will produce good results* (expectations), which is at the core of Vroom's Theory of Expectations. This claim is supported by statistical evidence and theoretical logic. (Jamiludin & Darnawati, 2022)

Descriptive Statistical Test Results Y

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Y1	35	1	5	3.11	1.183

Y2	35	1	5	2.71	1.447
Y3	35	1	5	3.00	1.188
Y4	35	1	5	2.86	1.375
Y5	35	1	5	3.09	1.197
Y6	35	1	5	2.97	1.317
Motivasi Belajar	35	6	30	17.74	6.590
Valid N (listwise)	35				

Evidence from the Research Results: The descriptive statistical data in the Table above shows that the Y1 indicator (which represents a positive statement of confidence that the business will yield results) has the highest mean value (3.11) compared to the other five motivation indicators (Y2=2.71, Y3=3.00, Y4=2.86, Y5=3.09, Y6=2.97). In the questionnaire grid (Table 3.2), this statement (e.g., "I believe my hard work in a multimedia project will yield good learning outcomes") directly measures the *expectation component* of Vroom's Expectation Theory. The high mean in this indicator is a quantitative indication that this aspect is the strongest response to the implementation of PJBL Multimedia. (Smith, 2010)

The predominance of increased expectations can be explained theoretically through three unique characteristics of this method: (1) transparent effort-outcome relationships at each stage of the project; (2) direct and concrete feedback that provides a success experience; and (3) high values (valence) of multimedia products that are relevant to digital generation students. While other motivational aspects (need to excel, goal setting) also increased, the increase was not as sharp as expected because PJBL Multimedia specifically and directly built *student self-efficacy* through real experience. (Brown, 2015) Thus, the main advantage of this intervention lies in its ability to build students' confidence that their efforts are meaningful and will produce something of value.

CONCLUSION

This study has succeeded in proving that the application of the Multimedia Project-Based Learning (PJBL) model significantly increases the learning motivation of class X students in the subject of Islamic Cultural History (SKI) at MAN 2 Blitar. Key findings show that 75% of students' increased learning motivation can be explained by the use of this model, with the most affected motivational aspect being students' belief that learning efforts will produce good results (expectations). This provides an empirical answer to the research objectives while confirming the hypothesis proposed, that the integration of an experiential project approach with digital multimedia is able to create a more interesting and motivating learning environment. This finding also confirms the novelty of the article in integrating PJBL with special multimedia for SKI learning in the madrasah environment.

In conclusion, this study shows that the implementation of PJBL Multimedia significantly increases student learning motivation, with a contribution of 75%, and dominantly affects the aspect of students' expectations for learning outcomes. These findings confirm that the integration of project-based learning with multimedia is able to create a more active, engaging, and meaningful learning experience. However, this study still has limitations in the number of samples, the research design, and the specific context, so the results cannot be generalized widely. Therefore, further research is recommended to involve a larger and more diverse sample, use a more robust experimental design, as well as test the application of PJBL Multimedia in other subjects and over a longer period of time to gain a more comprehensive understanding.

LIMITATIONS

This study has several limitations. The small sample size from only one class limits the generalizability of the findings. The ex-post facto design also means the results cannot fully confirm cause-and-effect relationships, as other factors may influence students' motivation. Data collected through self-reported questionnaires may contain bias. In addition, the study is limited to the SKI subject and a specific context, so results may differ in other settings. Technological differences and

the short research duration also restrict the findings, especially for long-term effects. Future studies should use larger samples, stronger research designs, and explore different contexts and longer time periods.

AUTHOR CONTRIBUTION

FA conceptualized the study, conducted data collection, performed data analysis, and wrote the original manuscript draft. FN supervised the research process, contributed to the research design and methodology, reviewed the manuscript, and provided critical revisions to improve the final version.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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