



The Effect of Project-Based Learning Method on Economics Learning Outcomes of Grade XI Students at State Senior High School 11 Jambi City

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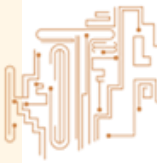
Article History:

Received: 18 March 2026; Revised: 27 March 2026; Accepted: 19 April 2026; Published: 30 July 2026.

Abstract

This study examined the effect of the Project-Based Learning (PjBL) method on students' learning outcomes in Economics. The research was motivated by low student participation and learning outcomes associated with the use of teacher-centered instructional methods. The study aimed to determine whether implementing PjBL significantly affected the learning outcomes of eleventh-grade students at State Senior High School 11 Jambi City. A quantitative approach with a quasi-experimental design using a nonequivalent control group design was employed. The sample consisted of two classes: XI F7 as the experimental group and XI F3 as the control group, with 36 students in each class. Data were collected through pre-test and post-test instruments and analyzed using descriptive statistics and hypothesis testing. The results showed that the mean score of the experimental group increased from 57.50 on the pre-test to 77.92 on the post-test, while the control group improved from 56.81 to 67.78. These findings indicate that the implementation of Project-Based Learning resulted in greater improvement in students' learning outcomes than conventional teaching methods. Therefore, Project-Based Learning can be considered an effective instructional approach for improving students' achievement in Economics.

Keywords: Project-Based Learning, Learning Outcomes, Economics Education.



1. Introduction

The learning process is one of the key factors influencing educational success. Effective instruction is not limited to the delivery of subject matter by teachers but also requires students to participate actively throughout the learning process. Active participation enables students to develop a better understanding of concepts, apply their knowledge to real-life situations, and improve their overall academic performance. In economics education at the senior high school level, students are expected to understand fundamental economic concepts and relate them to issues encountered in everyday life. Achieving this objective requires learning activities that encourage students to think critically, solve problems, and engage actively during classroom instruction. In practice, however, economics learning in many classrooms is still dominated by conventional teaching methods that place teachers at the center of the instructional process. Under this approach, teachers are responsible for explaining the material, while students primarily receive information through listening and note-taking. Although this method may assist in delivering theoretical content, it often provides limited opportunities for students to participate actively, discuss ideas, or develop higher-order thinking skills. As a result, students may become passive during classroom activities, leading to lower conceptual understanding and less satisfactory learning outcomes. Learning outcomes are widely used as indicators of instructional effectiveness because they reflect the extent to which students have mastered the knowledge and competencies expected after participating in a learning process.

Students' achievement is influenced by various internal and external factors, including learning motivation, prior knowledge, learning environment, and the instructional methods employed by teachers. When teaching methods are repetitive and provide limited opportunities for interaction, students may experience reduced motivation and engagement, which can ultimately affect their academic performance. Therefore, selecting an instructional method that encourages active participation and meaningful learning is an important consideration for improving students' achievement. One instructional approach that is expected to address these challenges is Project-Based Learning (PjBL). Project-Based Learning emphasizes learning through projects or authentic tasks that require students to investigate problems, gather information, collaborate with peers, and produce meaningful outcomes. Rather than relying solely on teacher explanations, students are encouraged to construct their own understanding through active participation during the learning process. This approach allows students to apply theoretical knowledge to practical situations while developing critical thinking, creativity, communication, collaboration, and problem-solving skills.

The implementation of Project-Based Learning in economics education is expected to increase student engagement by encouraging learners to participate directly in classroom activities and complete projects related to economic concepts. Through project-based activities, students have greater opportunities to analyze problems, discuss alternative solutions, and connect classroom knowledge with situations found in their surrounding environment. Such learning experiences may help students understand economic concepts more effectively while improving their academic achievement. Based on these conditions, it is necessary to examine whether the implementation of Project-Based Learning contributes to better learning outcomes than conventional teaching methods. This study was conducted to investigate the effect of Project-Based Learning on the economics learning outcomes of Grade XI students at State Senior High School 11 Jambi City. The findings are expected to provide useful information for teachers in selecting instructional methods that encourage greater student participation and improve learning outcomes. In addition, the results may serve as a reference for future studies examining the effectiveness of Project-Based Learning in economics education and related subject areas.



2. Methodology

This study employed a quantitative approach using a quasi-experimental research design. Specifically, the study adopted a nonequivalent control group design, which involved an experimental group and a control group. Both groups completed a pretest before the instructional treatment and a posttest after the learning activities were completed. The experimental group received instruction using the Project-Based Learning (PjBL) method, whereas the control group was taught using the conventional instructional method commonly applied by the classroom teacher. The research was conducted at State Senior High School 11 Jambi City and involved Grade XI students. The sample consisted of two classes: Class XI F7 as the experimental group and Class XI F3 as the control group, with 36 students in each class. The participants were selected using purposive sampling based on predetermined considerations that were consistent with the objectives of the study.

Data were collected using a learning achievement test administered in the form of a pretest and a posttest. The pretest was conducted to determine students' initial level of understanding before the instructional treatment, while the posttest was administered after the learning activities to measure students' learning outcomes. Before being used in the study, the test instrument was examined for validity and reliability to ensure that it was appropriate for data collection. The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive statistics were used to summarize students' learning outcomes by calculating the mean, minimum score, maximum score, and standard deviation. Prior to hypothesis testing, the data were subjected to prerequisite analyses, including tests of normality and homogeneity, to determine whether the data met the assumptions required for parametric statistical analysis. After these assumptions had been satisfied, an independent-samples t-test was performed to determine whether there was a statistically significant difference in learning outcomes between the experimental group and the control group following the implementation of the Project-Based Learning method.

3. Results and Discussion

3.1 Results

This study examined the effect of the Project-Based Learning (PjBL) method on the economics learning outcomes of Grade XI students at State Senior High School 11 Jambi City. Data were collected using pretests administered before the instructional treatment and posttests conducted after the learning activities. The study involved two groups: an experimental group that received instruction through the Project-Based Learning method and a control group that was taught using the conventional instructional approach.

3.1.1 Descriptive Statistics

Table 1 presents the mean pretest and posttest scores of both groups.

Table 1. Mean Pretest and Posttest Scores

Group	N	Pretest	Posttest
Experimental	36	57.50	77.92
Control	36	56.81	67.78

The experimental group achieved a mean pretest score of 57.50, which increased to 77.92 in the posttest, representing an improvement of 20.42 points. In comparison, the control group improved from a mean pretest score of 56.81 to 67.78 in the posttest,



indicating an increase of 10.97 points. These descriptive results show that the improvement in learning outcomes was greater in the experimental group than in the control group.

3.1.2 Assumption Testing

Prior to hypothesis testing, the data were examined using tests of normality and homogeneity. The results indicated that the data were normally distributed and that the variances of the two groups were homogeneous. Therefore, the assumptions required for parametric statistical analysis were satisfied.

3.1.3 Hypothesis Testing

The research hypothesis was tested using an independent-samples t-test to determine whether there was a significant difference in learning outcomes between the experimental and control groups. The analysis showed that the significance value was less than 0.05, leading to the rejection of the null hypothesis and the acceptance of the alternative hypothesis. These findings indicate that the implementation of the Project-Based Learning method had a statistically significant effect on students' economics learning outcomes.

3.2 Discussion

The findings demonstrate that students who learned through the Project-Based Learning method achieved greater improvement in learning outcomes than those who received conventional instruction. The experimental group showed a larger increase in posttest scores, suggesting that the instructional method contributed to better academic performance. The implementation of Project-Based Learning encouraged students to participate more actively during classroom activities. Throughout the learning process, students were involved in searching for information, discussing ideas with their peers, and completing project-based tasks related to the learning material. These activities provided opportunities for students to engage more directly with economic concepts, which may have supported a better understanding of the subject matter.

The findings are consistent with the constructivist perspective, which suggests that meaningful learning occurs when students actively construct their own understanding through experience and participation. Rather than relying solely on teacher explanations, students in the Project-Based Learning classroom were encouraged to explore problems, exchange ideas, and develop solutions through collaborative activities. Such learning experiences are likely to promote deeper conceptual understanding and improved learning outcomes. Overall, the findings indicate that the Project-Based Learning method is more effective than the conventional instructional approach in improving the economics learning outcomes of Grade XI students at State Senior High School 11 Jambi City.

4. Conclusion

This study concludes that the implementation of the Project-Based Learning (PjBL) method has a significant positive effect on the economics learning outcomes of Grade XI students at State Senior High School 11 Jambi City. Compared with the conventional instructional approach, Project-Based Learning provided greater improvement in students' academic achievement, indicating that active participation in project-based activities supported a better understanding of the learning material. The findings suggest that Project-Based Learning can serve as an effective instructional alternative for economics teachers who seek to encourage greater student participation and improve learning outcomes. By engaging students in collaborative and project-oriented learning activities, the method creates opportunities for more meaningful learning experiences. Future studies are encouraged to examine the implementation of Project-Based Learning in different subject



areas, educational levels, or learning contexts to provide broader evidence regarding its effectiveness. Such investigations may contribute to a better understanding of the applicability of this instructional method across diverse educational settings.

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