*Journal of Social Work and Science Education*
*Volume 4 (3)(Special Issue) 23-24 June 2023, 892-901*
*2nd International Conference on Education Universitas PGRI Palembang (INCoEPP 2023)*
*E-ISSN 2723-6919, P-ISSN 2746-0827*

# The Influence of Project Based Learning (PjBL) Model on Creative and Entrepreneurship Learning Outcomes of Students of SMK Negeri 1 Palembang

**Putri Purnama[1], Neta Dian Lestari[1], Nova Pratiwi[1]**
[1]Universitas PGRI Palembang, South Sumatra, Indonesia

Corresponding author e-mail: putripurnama981@gmail.com *vhapratiwi@gmail.com* *neta_obyta@yahoo.com*

**Abstract:** Project Based Learning (PjBL) is a learning model that creates a challenge by involving activeness, collaboration, between students in a project. This study aims to determine the effect of the Project Based Leaning (Pjbl) Learning Model on Learning Outcomes of Creative Projects and Entrepreneurship Students of SMK Negeri 1 Palembang. The data collection technique uses observation of student activity and tests of learning outcomes for creative and entrepreneurial projects using the experimental method of the True Experimental Design type with the Posttest-Only Control Design form. Based on the results of the research and discussion, it can be concluded from testing the research using the Independent Sample T Test assisted by SPSS version 26 software with a significant level of 0.05, namely hypothesis 0.002, less than 0.05 (0.002 <0.05), it can be concluded that Ho rejected and Ha accepted, there is an influence of the Project Based Learning (Pjbl) Learning Model on Learning Outcomes of Creative Projects and Entrepreneurship Students of SMK Negeri 1 Palembang.

**Keywords:** Creative and Entrepreneurial Projects, Learning Outcomes, Project Based Learning (PjBL)

## A. Introduction

Learning or learning is a process, activity and interaction carried out by an individual consciously which can bring about change from not knowing to knowing. According to (Suyati & Rozikin, 2021) learning is part of student behavior and the difficulty of learning actions determines whether or not the learning process takes place. Understanding Everyone engages in learning as a process or attempt to alter behavior in order to gain knowledge, skills, attitudes, and positive values through being exposed to diverse learning resources (Rahmijati, 2023). Learning is the process of acquiring new experiences by someone in the form of behavior modification as a result of the process in the form of learning interactions with learning objects in the learning environment (Rahman, 2022). According to Marjuki, (2020) To help students achieve their full potential, learning takes place in interactions between students, teachers, and learning resources in the classroom. According to Rosyid et al., (2019) Learning is a mental process that results from interactions between individuals or their

surroundings. Learning is the process of acquiring information in which behavior emerges or changes in response to a scenario (Harefa, 2022). In the process, learning can be carried out and received through formal and non-formal education, one of which is obtaining teaching learners in schools. Learning in schools must be in line with the Education Unit, one of which is learning by using an independent curriculum that has been implemented.

An independent curriculum can be interpreted as a free or independent curriculum, which means that students have optimal learning opportunities to explore ideas and develop competencies. Teachers are free to select a variety of learning tools to suit their students' interests and learning requirements. Curriculum Merdeka is also more comprehensive, independent, relevant and participatory compared to the previous curriculum.

The teaching and learning process is greatly aided by the participation of teachers in class activities. Teachers hold the keys to school success in achieving learning goals. When teaching and learning activities are not focused, when educators offer material, when they are drowsy, unenthusiastic, sluggish about completing tasks, and other situations, problems in the classroom are frequently encountered by educators. In order to address these issues, teachers must find a strategy to encourage student engagement and interest in what they are learning in class. This includes choosing the appropriate learning approach.

According to Lase & Ndruru, (2022) the learning model is an activity chosen so that students can obtain resources or assistance to achieve learning goals. The learning model is a method of providing teaching materials that educators use as sources and learning guidelines when providing teaching materials both individually and in groups to students (Hasanah, 2021). According to Mirdad, (2020) learning models are strategies or frameworks that can be applied to curriculum design, long-term learning objectives, instructional resources, and learning environments both inside and outside the classroom. A learning model is a method or framework that provides a plan for developing learning (Harefa, 2020).

As an educator, you must have a plan for teaching in various ways, one of which is by applying a learning model. Teachers can employ a variety of learning models to make learning relevant, which can be incorporated into the autonomous curriculum and involve students actively nurturing an interest in learning. There are various learning model including project-based, inquiry, Window Shopping type cooperative learning models as well as learning outside the classroom etc. According to Marjuki, (2020) Learning models come in a variety of forms, such as Project Based Learning (PjBL), Improve Learning, Discovery Learning (DL), Circuit Learning, Concept Mapping, and Learning Model for Circuit Learning. The project-based learning model is included in the list as a varied learning model in the current era.

The emphasis of the project-based learning paradigm, also known as project-based learning, is on student participation in project completion. According to Handayani, (2020) The project-based learning paradigm motivates students to actively engage in problem-solving activities that are carried out in groups or alone and adhere to the schedule established in a final product. PjBL involves asking questions, creating projects, setting deadlines, overseeing how learning is implemented, conducting evaluations, and assessing results (Amri & Muhajir, 2022An instructional approach known as PjBL employs projects or other activities as media (Basalamah et al., 2022). The learning process involving projects model is suitable for use because it combines several characteristics of Pancasila student profiles, including independence, cooperation, critical thinking and creativity.

According to Mutawally, (2021) the PjBL model has a number of benefits, including encouraging students to use their creativity to improve their critical thinking abilities, encouraging them to hone the abilities and skills they already possess, allowing them to develop project-making skills and gain experience, making learning more flexible, and improving their ability to work in groups to solve problems. PjBL will produce good results if it is done well, but there will tend to be 2 when PjBL is not done well. First, PjBL will be seen as a learning model that provides many assignments in the form of projects that make students feel miserable. Second, PjBL will boomerang for educators who are less prepared and don't realize the advantages of PjBL (Halimah & Marwati, 2022). According to Puspitasari et al., (2022) a learning approach known as project-based learning has benefits, but it also has drawbacks, such as adequate classroom space requirements, equipment, and time for students and the current learning environment. Through this learning model it will produce learning outcomes that prioritize skills or skills and creativity in order to produce more advanced generations in the future.

Learning outcomes serve as a measure of the values that students have acquired via their learning. According to Mutiaramses et al., (2021) learning outcomes are findings that lead to adjustments to the way students behave. The results achieved by these students can be in the form of abilities, which include knowledge, attitudes, and skills possessed by students after participating in learning experiences (Rahman, 2022). According to Anatasya, (2023) learning outcomes are a collection or results obtained from learning planning, to the implementation of learning where in the learning planning itself educators need to prepare what will be tried on students. From the perspective of the instructor, the assessment of learning outcomes marks the culmination of the teaching process, but from the student's perspective, learning outcomes mark the conclusion of experience from the peak of the teaching and learning process (Tabroni et al., 2022). Learning outcomes are a benchmark that is used as a parameter to see how the results of students' learning activities while at school (Imanisa & Ana, 2023). The effectiveness of selecting a learning model will undoubtedly improve students' learning outcomes; if the model is employed and appropriate, it will yield the best results.

Learning in institutions that haven't adopted the project-based learning approach is what inspired this study. Students can test out their own ideas by using project-based learning techniques and channel them via projects, subjects such as creative and entrepreneurship projects demand students to take an active role, think critically, and imaginatively. Based on observations made by researchers of Creative Project and Entrepreneurship subject teachers at SMK Negeri 1 Palembang that the learning process for creative and entrepreneurial projects is carried out based on the independent learning curriculum implemented in schools. The learning process is also carried out centered on theory and practice, but due to insufficient time constraints during learning, Students only accept theory because teachers continue to utilize traditional approaches and don't employ the PjBL paradigm.

Therefore, to address this issue, academics will investigate creative and entrepreneurial initiatives using PjBL strategy. This is in line with several previous studies that are relevant, including what has been done (Fitrianti, 2021) The use of the project-based learning model has enhanced the learning results for students in PKWU Subject Class XII TKJ 1 SMKN 2. The results of the project-based learning model can improve learning outcomes. Then there is also research from (Anggreadi & Sutaya, 2021) Use of Project-Based Learning and Authentic Assessments to Enhance Learning Outcomes in Entrepreneurship and Craftsmanship. According to the study's findings, class X MIA 9 SMA Negeri 1 Singaraja students' learning outcomes for craft and entrepreneurship can be improved by project-based learning and real evaluation.

Based on the results of the research, the researchers hope that PjBL will provide learning outcomes as expected. A study titled "The Influence of the Project Based Learning (PjBL) Model on Learning Outcomes of Creative and Entrepreneurial Projects for Students of SMK Negeri 1 Palembang" will be conducted by the researcher based on the background information provided above.

## B. Methods

In conducting a research, appropriate and adequate methods are needed. Researchers employ an Experimental Method with a Quantitative Approach. A quantitative research method known as the "Experimental Method" is employed to ascertain, under controlled circumstances, how the independent variable (treatment) affects the outcome of the dependent variable (Sugiyono, 2021). The researchers utilized a type of experimental research design called True Experimental Design with Posttest-Only Control Design. According to Sugiyono, (2021) true experimental designs allow for complete control of all external factors influencing the outcome of the experiment. This study will use an experimental design to compare the results of the experimental group with the untreated control group.

The Posttest-Only Control Design is two groups selected randomly or *Random (R)*. First group received treatment (X), while the second group did not receive treatment.

The group receiving the treatment was known as the experimental group, and the control group was the group that received no treatment. Class XI AKL, which is made up of 4 classes, is the population in this study Class XI AKL 1 and class XI AKL 2 were the samples collected and used in this investigation. Purposive sample was to be employed as the sample method. 67 students from Classes XI AKL 1 and XI AKL 2 made up the sample for this study.

Data collection techniques used are observation and tests. According to Mujianto, (2019) To meet the demands of researchers, observation requires direct observation in a certain way. According to Umami et al., (2021) a test is a method used to determine or measure something in an environment according to established standards and regulations. The study's teaching and learning activities were conducted utilizing the PjBL strategy. There were 10 questions on the test, which was given in the form of an essay. In this study, the data analysis method was utilized to examine the validity of the items, the normality, the homogeneity, and the hypothesis.

**C. Results and Discussion**

The study was carried out at SMK Negeri 1 Palembang which is located at Lieutenant Jaimas No. 100, Kelurahan 20 Ilir, Ilir Timur 1 District, Palembang City, South Sumatra 30127 from March 13 to May 22 2023. The study was conducted over the course of four meetings in the control group and four in the experimental group. Students are provided marketing and promotional materials.

According to the observation data, class XI AKL 1's average observation using the PjBL learning model is 89% higher than the class's average observation using conventional learning models, which is 82%. The learning outcomes of class XI AKL 1 students using the PjBL learning model are 87 higher than the average grade XI AKL 2 learning outcomes of 80 using conventional learning models.

The test is carried out using a normality test, according to Riyanto & Hatmawan, (2020). To choose the right statistic, it is necessary to test for normality whether the residual variables or confounding variables in the regression model are normally distributed or not. There are two techniques for conducting the normality test: graphical analysis and statistical analysis. The following outcomes are obtained from the analysis of normality test data using the Kolmogorov-Smirnov test using SPSS Version 26 software:

**Table 1. Normality Test Kolmogorov Smirnov One-Sample Kolmogorov-Smirnov Test**

| | | *Posttest* Experiment | *Posttest* Control |
|---|---|---|---|
| *N* | | 33 | 34 |
| *Normal Parameters* [a,b] | *Means* | 86.6212 | 80.2794 |
| | *std. Deviation* | 6.98775 | 8.70666 |
| *Most Extreme Differences* | *absolute* | .140 | .125 |
| | *Positive* | .137 | .125 |
| | *Negative* | -.140 | -.103 |
| *Test Statistics* | | .140 | .125 |
| *asymp. Sig. (2-tailed)* | | .098 [c] | .195 [c] |

*a. Test distribution is normal.*
*b. Calculated from data.*
*c. Lilliefors Significance Correction.*

As can be seen from the output above, the experimental class posttest Asymp. Sig. (2-tailed) value was 0.098 with a significance level of 0.05 (0.098 > 0.05). A significant value higher than the significant level denotes that the data is considered to be normally distributed. The control class posttest then had a significant value of 0.195 (0.195 > 0.05), which suggests that the data are normally distributed because the significant value is higher than the significant level. The significant values of the experimental class and the control class can therefore be said to follow a normal distribution. Then the results of the variance test use *Levene's statistical test of homogeneity of variance* as follows:

**Table 2. Levene's Homogeneity Test Results**

| | | Levene Statistics | *df1* | *df2* | *Sig.* |
|---|---|---|---|---|---|
| Creative Project Learning Outcomes and Entrepreneurship | Based on Means | 3,489 | 1 | 65 | .066 |
| | Based on Median | 2,900 | 1 | 65 | 093 |
| | Based on Median and with adjusted df | 2,900 | 1 | 64,728 | 093 |
| | Based on trimmed mean | 3,385 | 1 | 65 | .070 |

Based on *the output* above, according to the homogeneity test calculations from the data obtained, the average value of learning outcomes factors for creative and entrepreneurial project variables is found to be Sig. 0.066. This indicates that the results are more significant than the threshold of 0.05 (0.066 > 0.05), and the experimental class and the control class are therefore regarded as homogeneous.

The Independent Sample T evaluate, with assistance from SPSS Version 26 software, is used to evaluate the research hypothesis if the data are thought to be normally distributed and homogeneous, the following results are obtained:

**Table 3. Independent Samples T Test T Test Results**

***Independent Samples Test***

| | | *Levene's Test for Equality of Variances* | | *t-test for Equality of Means* | | |
|---|---|---|---|---|---|---|
| | | *F* | *Sig.* | *t* | *df* | *Sig. (2-tailed)* |
| Creative Project Learning Outcomes and Entrepreneurship | *Equal variances assumed* | 3,489 | .066 | 3,282 | 65 | 002 |
| | *Equal variances not assumed* | | | 3,293 | 62,808 | 002 |

According to the table above, the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted because the significant value (2-tailed) is 0.002 and the significance level is 0.05 (0.002 < 0.005). This demonstrates that the PjBL model has an impact on student learning outcomes when compared to students who get instruction through the lecture style. Consequently, the PjBL paradigm has an impact on the learning outcomes of students at SMK Negeri 1 Palembang who are working on creative projects and entrepreneurship.

The learning outcomes of creative and entrepreneurial projects for students at SMK Negeri 1 Palembang are based on the PjBL paradigm. The study employed two classes: class XI AKL 1, which served as the experimental group and had 33 students, and class XI AKL 2, which served as the control group and had 34 students, and which employed the traditional lecture learning model in addition to marketing promotion media materials. The use of the PjBL model has an effect on students' learning outcomes, according to the researcher's analysis's findings.

In order to assess students' involvement in their studies and the importance of their learning outcomes, researchers used the PjBL paradigm on creative projects and entrepreneurship subjects. They did this by observing students' behavior and administering essay tests. The test, which consists of a 12-question essay, is presented at the conclusion of the conference.

Resulting from the investigation by the researcher, the XI experimental class's activity was seen. In contrast to the control class XI, where AKL 1 utilized the conventional lecture learning model, which averaged 82% in the "moderately active" category, PjBL model used in class XI AKL 1 (experimental) for the four elements of the activity produces an average score of 89 in the "very good" category. When employing the PjBL model, the experimental class is more engaged than the control class when using the lecture learning model, according to the average observation.

Both the lecture learning model and the PjBL model were employed in SMK Negeri 1 Palembang's Class XI Advanced Financial Accounting in order to improve learning.

The experimental class's results were better than those of the control class. The experimental class's posttest score is 87, whereas it is 80 for the control class, as shown by data analysis. The analysis' findings demonstrate that the experimental class posttest score is greater than the control class posttest score. As a result, the experimental class that employs the PjBL model in the learning process achieves better learning value results than when using the lecture learning mode.

According to the research's findings, the results of the hypothesis test show that Ho is rejected and Ha is accepted, with a significant value (2-tailed) of 0.002 < 0.005. This is based on differences in learning outcomes between students who apply the PjBL model and students who use the lecture method. It follows that the PjBL model has an impact on the learning outcomes of students at SMK Negeri 1 Palembang who are working on creative projects and entrepreneurship.

Researchers benefit when the project is implemented in an experimental class using the PjBL learning model because students can fully express their creative ideas in projects held by researchers, practice skills, and work in groups. In addition to the advantages, there are also disadvantages in using the PjBL learning model, namely, there are some students who are less active and work together in completing projects, as well as working on projects that take a long time.

## D. Conclusions

The results and analysis of the study showed that the average posttest score for the experimental class was 87 points higher than the average posttest score for the control class, which was 80 points. According to observations of student activity, on average 89% of students in the experimental class were extremely active, compared to an average of 82% of students in the control class who were quite active. It can be concluded that there is an influence of the PjBL Model on the Learning Outcomes of Creative Projects and Entrepreneurship of Students of SMK Negeri 1 Palembang.

## E. Acknowledgement

The authors thank to Universitas PGRI Palembang and SMK Negeri 1 Palembang

## References

Amri, A., & Muhajir, H. (2022). Students' Creative Thinking Skills Through Online Project Based Learning (PjBL) Models. *Biology Didactics: Journal of Biology Education Research*, *6* (1), 21–29.

Anatasya, E. (2023). Meta Analysis of the Effect of the Problem Based Learning Model on Student Learning Outcomes in Elementary Schools. *Journal on Education*, *5* (3), 5833–5840.

Anggreadi, KY, & Sutaya, IW (2021). Application of Project Based Learning with Authentic Assessments to Improve Craftsmanship and Entrepreneurship Learning Outcomes. *Journal of Electronic Engineering Undiksha*, *1* (1), 28–39.

Basalamah, A., Ayuningsih, SF, Abas, AJ, Adi, A., & Riyanto, B. (2022). Strengthening the Capacity of Vocational School Teachers Through the Implementation of Project-Based Learning Models (PjBL). *Journal of Community Service Kalam*, *1* (2), 115–125.

Fitrianti, F. (2021). Application of the Project Based Learning Model to Improve Student Learning Outcomes in PKWU Class XII Subject TKJ 1 SMKN 2 Pekanbaru. *Innovative: Journal of Social Science Research*, *1* (2), 719–721.

Halimah, L., & Marwati, I. (2022). *Project Based Learning for 21st Century Learning*. PT Refika Aditama.

Handayani, L. (2020). Increasing Motivation to Learn Science Through the Project Based Learning Model During the Covid-19 Pandemic for Students of SMP Negeri 4 Gunungsari. *Journal of Paedagogy*, *7* (3), 168–174.

Harefa, AR (2022). Analysis of Learning Difficulties in Biology During the Covid-19 Pandemic. *Educativo: Journal of Education*, *1* (1), 181–189.

Harefa, D. (2020). Differences in Increasing Student Physics Learning Outcomes Using the Think Talk Write Learning Model with the Time Token Learning Model. *Journal of Educational and Science Innovation*, *1* (2), 35–40.

Hasanah, A. (2021). Implementation of social interaction learning models to improve the character of students. *Journal of Education*, *9* (1), 22–32.

Imanisa, S., & Ana, R. F. R. (2023). The Influence of Interest in Learning on the Learning Outcomes of Class V Students at SDN 1 Kedungwaru for the 2019/2020 Academic Year. *Elementary School Forum*, *31* (1), 40–47.

Lase, A., & Ndruru, FI (2022). Application of the Discovery Inquiry Learning Model in Improving Student Learning Outcomes. *Educativo: Journal of Education*, *1*(1), 35–44.

Marjuki. (2020). *181 Paikem Learning Model Scientific Approach*. Remaja Rosdakarya.

Mirdad, J. (2020). Learning models (four families of learning models). *Sakinah Journal*, *2*(1), 14–23.

Mujianto, G. (2019). Improved Learning Outcomes Compose Text Observation Reports on Class X Students of SMAN 7 Malang Using Integrative Learning Models. *JINoP (Journal of Learning Innovation), 5* (1), 39–54.

Mutawally, A. F. (2021). *Development of Project Based Learning Models in History Learning*.

Mutiaramses, M., Neviyarni, S., & Murni, I. (2021). The Teacher's Role in Classroom Management on Learning Outcomes of Elementary School Students. *Pendas:*

*Scientific Journal of Basic Education*, *6* (1), 43–48.

Puspitasari, A., Fitria, N., & Leliana, A. (2022). Socialization of the Implementation of the Project Based Learning (Pjbl) Learning Model for Teachers at MTS and Ma Tri Bhakti. Patikala. *PATIKALA: Journal of Community Service*, *2* (2), 567–574.

Rahman, S. (2022). The Importance of Learning Motivation in Improving Learning Outcomes. *Basic Education National Seminar Proceedings*.

Rahmijati, E. (2023). Improving Mathematics Learning Outcomes Material on Equations and Quadratic Functions Through the Use of Multimedia. *ALFIHRIS: Journal of Educational Inspiration*, *1* (1), 161–176.

Riyanto, S., & Hatmawan, A. A. (2020). *Research Methods Quantitative Research Research in the Fields of Management, Engineering, Education, and Experiments*.

Rosyid, M. Z., Mustajab., & Aminol, A. R. (2019). *Learning Achievement*. Archipelago Literacy.

Sugiyono. (2021). *Educational Research Methodology (Quantitative, Qualitative, Combination of R&B and Educational Research)*. Bandung: Alfabeta.

Suyati, E. S., & Rozikin, A. Z. (2021). *Learning and learning*.

Tabroni, T., Gratitude, M., & Indrayani, I. (2022). Application of the Problem Based Learning Learning Model to Improve Student Learning Outcomes in Social Science Subject Material Forms of Social Mobility Class VIII-B SMP Negeri 4 Rokan IV Koto Kab. Rokan Hulu Riau. *Journal of Learning Thought and Development*, *4* (2), 261–266.

Umami, R., Rusdi, M., & Kamid, K. (2021). Development of test instruments to measure Higher Order Thinking Skills (HOTS) oriented Program for International Student Assessment (PISA) for students. *JP3M (Journal of Research in Mathematics Education and Teaching)*, *7* (1), 57–68.