



## Project Based Learning Model as an Effective Approach to Improve Biography Writing Skills in Class X at SMK Madyatama Palembang

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### Abstract

*This research aims to determine the effect of the Project Based Learning (PjBL) model on improving the biographical text writing skills of class X students at SMK Madyatama Palembang. The research method used is quantitative with a quasi-experimental type using a one group pretest-posttest design. The research sample consisted of 33 students selected through purposive sampling technique. The data collection technique was carried out through a biographical text writing test, while data analysis used the normality test, paired sample t-test, and N-Gain test with the help of SPSS version 25. The research results showed a significant increase in students' writing skills, marked by an average pretest score of 43.3 which increased to 80 in the posttest. The results of the hypothesis test show a significance value of  $0.000 < 0.05$ , so it can be concluded that the PjBL model has a significant effect on biographical text writing skills. Apart from that, the N-Gain test result of 0.58 is in the medium category, which shows that the PjBL model is quite effective in improving students' writing skills. Thus, the PjBL model can be used as an effective and contextual learning alternative in improving biographical text writing skills.*

**Keywords:** Project Based Learning, writing skills, biographical texts, Indonesian language learning, quasi experiment.

## INTRODUCTION

Education is an effort to build an environment that supports students in developing their abilities and potential. Abilities that were previously not apparent in students can develop during the learning process, so education can help students achieve their life goals, [Rahman et al. \(2022\)](#). The importance of education plays a very significant role as a value guide that will be beneficial for students in realizing Independent Learning, introduced by the Minister of Education, Culture, and Higher Education, providing opportunities for students to think creatively, innovate, and actively engage during the learning process to enhance their participation in education, [Albaburrahim & Rahman \(2022\)](#).

Learning is an important part of human life that must be undertaken so that humans can lead a better life. Students must be guided to develop their potential during the learning process. Language resources must align with the interests and abilities of the students, [Janah et al. \(2020\)](#). Indonesian language lessons not only teach speaking skills but also provide knowledge about the socio-cultural academic context and character education. One of the lessons emphasized in Indonesian language education is writing, [Napitupulu \(2023\)](#). However, currently, the teaching of the Indonesian language must adapt to the latest curriculum called the Merdeka curriculum, which is a transition from the 2013 curriculum.

The transition from the Revised 2013 Curriculum to the Merdeka Curriculum brings changes in approaches, strategies, techniques, and learning patterns in the Indonesian education environment. The Merdeka Curriculum is designed to respond to various challenges that emerged in the previous education system, including high academic pressure, limited space for student creativity, and a learning approach that tends to be uniform and teacher-centered, [Nikmatin Mabsutsah & Yushardi \(2022\)](#).

The advantages of the Merdeka curriculum are the teachers' ability to demonstrate innovation and creativity in the learning process, as well as the presence of class projects that encourage students to face challenges in learning. However, the challenges that arise in the implementation of the Merdeka curriculum are the lack of learning facilities and insufficient learning resources. The Merdeka Curriculum aims to develop students' social skills thru various activities at school and during the learning process, [Musyrifah \(2024\)](#).

The challenge faced by teachers is to create a lesson system that allows students to integrate knowledge and skills so that both can connect with each other. Opportunities for students will be limited if knowledge and skills are separated in the teaching and learning process. The way to assess the extent of the connection between students' knowledge and skills is thru the evaluation of their learning outcomes and writing process skills. Evaluation in the independent curriculum not only aims to measure students' academic achievements but also emphasizes the observation of writing process skills in Indonesian language learning as part of developing students' abilities to solve problems in their surrounding environment, [\(Nikmatin Mabsutsah & Yushardi, 2022\)](#).

Writing skills in Indonesian language learning are an important part that affects students' communication and expression abilities. Writing is not only related to conveying ideas in written form, but also involves the ability to think critically, creatively, and structurally. However, many students face difficulties in constructing clear and engaging sentences, indicating that their writing skills are still relatively low, [Fadly \(2024\)](#). In Indonesian language

learning that focuses on texts, there are two types of materials studied, namely linguistic and literary. In the context of linguistics, the process is carried out in stages, including text comprehension, text structure analysis, analysis of linguistic elements in the text, revising the text, and creating a text thru writing or composing activities.

In learning Indonesian using written texts, a learning model is needed to support the development of writing process skills. The PjBL learning model is a method that emphasizes projects, where students participate in activities related to their learning topics. The goal of this method is to deepen students' understanding thru direct experience. Projects can be done individually or in groups, with a predetermined time limit. When carrying out the project, and in the end, they will produce a product that will be analyzed to assess the process and results obtained. The PjBL approach provides opportunities for students to engage directly in learning experiences that encourage them to explore, collaborate, and solve real-world problems. The advantages of the PjBL model make it very suitable for use in teaching the Indonesian language. This research has novelty in its context, approach, and focus of analysis, as it is conducted at the Vocational High School (SMK) level, which has characteristics of more applied and skill-oriented learning, unlike previous studies that generally focused on the Senior High School (SMA) level. Additionally, this research is directly linked to the implementation of the Merdeka Curriculum, which emphasizes project-based learning, strengthening the Pancasila student profile, and the development of 21st-century skills. Thus, the PjBL model is positioned not only as a learning strategy but also as an approach aligned with the latest student-centered, contextual, and real-experience-based curriculum policies. This research not only measures cognitive learning outcomes thru pretests and posttests but also evaluates writing skills thru the practice of biography text writing projects, providing a more comprehensive picture of the improvement in students' abilities in both conceptual understanding and applied skills. This simultaneously contributes significantly to the development of project-based Indonesian language learning in the SMK environment.

Based on the author's initial observation on February 25, 2025, at SMK Madyatama Palembang as the research location, this school essentially has a diverse student body with a slightly low background in writing skills, making it possible for the research to obtain more accurate data regarding the influence of PjBL on biographical text writing skills. Information obtained from the language teacher indicates that many tenth-grade students have difficulty writing biographical texts because such texts require the ability to organize information systematically and chronologically, as well as to choose the appropriate vocabulary to clearly describe events and the lives of figures, especially in expressing ideas and understanding the structure of the text. This indicates a need for better teaching methods to improve students' writing skills, one of which is using the PjBL method.

## **LITERATURE REVIEW**

### **Learning**

Learning is a process in which the brain strives to understand events and knowledge about life, which ultimately encourages personal development. Those who have gone thru the learning experience tend to be more cautious in making decisions and feel a higher level of happiness compared to those who have never experienced it. Thru learning experiences, individuals undergo significant changes in their thinking, attitudes, and feelings. This has a positive impact on their lives, making them wiser in facing difficulties, more sensitive to social issues around them, and better able to manage themselves in facing various challenges, [Muyrifah, \(2024\)](#).

### ***Project Based Learning (PjBL)***

One of the most effective approaches to increasing student engagement is PjBL. PjBL is a learning method that focuses on projects occurring in the real world, allowing students to learn by solving real-world problems and producing tangible results (Mayrita et al., 2024). PjBL organizes classes in the form of projects, providing students with the opportunity to acquire knowledge and demonstrate their understanding through various means of presentation (Solehah & Carolina, 2022). According to Angraini et al. (2025), PjBL has proven effective in various language learning contexts through a project-based approach that enhances student engagement and the quality of their writing. The Steps of the PjBL Model according to (Rahman, et al. 2024) are as follows:

1. Determination of fundamental questions, Learning begins with a main question that assigns tasks to students to perform certain activities. The topic of the task is relevant to the real world and begins with an in-depth investigation.
2. Designing project planning, The planning is carried out collaboratively between teachers and students, so that students feel a sense of "ownership" of the project. The planning includes rules of the game, selection of activities that support answering the main question, integration of various subjects, and selection of tools and materials needed to complete the project.
3. Creating a schedule, Teachers and students work together to create a schedule to complete the project. Activities at this stage include:
  - a. Creating a timeline (time allocation) to complete the project,
  - b. Setting a deadline (final deadline) for project completion,
  - c. Encouraging students to plan new methods,
  - d. Guiding students who create plans that do not align with the project,
  - e. Asking students to explain the reasons for their chosen methods.
4. Monitoring students and project progress, the teacher is responsible for monitoring students' activities during the project. Monitoring is carried out by facilitating students at every stage, with the teacher acting as a mentor. To facilitate monitoring, a rubric is used to record all important activities.
5. Testing results, Assessment is conducted to help teachers measure standard achievements, evaluate students' progress, provide feedback on the understanding that has been achieved, and assist teachers in planning the next learning strategies.
6. Evaluating experiences, at the end of the learning, teachers and students reflect on the activities and results of the projects that have been carried out. The reflection process is carried out both individually and in groups.

## Writing Skills

Writing skills are one of the aspects of language proficiency that every individual must master. This skill plays a very important role in life. In addition, writing also becomes one of the main objectives in language teaching at school. The success of students in following lessons at school is greatly influenced by their writing skills, (Awalludin et al. (2022).

The important skills that students must develop and teachers must teach in integrated language learning are listening, speaking, reading, and writing. Writing is one of the four essential language skills that students must master. This involves the use of language to convey ideas, emotions, or intentions through written expression in the form of text. However, writing skills are not only related to techniques and strategies; the content and ideas conveyed are also very important in writing. Writing down the concepts conveyed in class or in a text helps students understand and remember information (Nusivera, 2025).

## METHODS

### Type of Research

This research uses a quantitative approach. Data in quantitative research is in the form of numbers and is analyzed using statistical techniques in the processing stage. The type of research used is a quasi-experiment with a one group pretest-posttest design, which involves using one group to observe changes in students' abilities before and after treatment.

The population in this study consists of all 350 students in the 10th grade at SMK Madyatama Palembang. The research sample was determined using the purposive sampling technique, specifically class X TKJ1, which consists of 33 students. The data analysis techniques used include normality tests, hypothesis testing using paired sample t-tests, and N-Gain tests. All data analyzes were conducted with the help of SPSS version 25.

The selection of class X TKJ1 as the sample was based on several considerations. First, based on initial observations and information from the Indonesian language teacher, this class has fairly good academic abilities, but their writing skills are still relatively low, which aligns with the research objectives. Second, this class is considered representative because it has characteristics that relatively reflect the general conditions of tenth-grade students at the school. Third, the selection of a single class facilitates the researcher in controlling research variables and aligns with the one group pretest-posttest design, which does not require a control group. Thus, class X TKJ1 is considered appropriate as a sample to observe the effectiveness of the applied learning model.

### Research Procedure (PjBL Stages)

The application of the PjBL model in this research was carried out through the following stages:

#### 1. Determination of Fundamental Questions

Learning begins with the provision of triggering questions related to the material of biographical texts, such as definitions, structure, and how to compose them. This stage aims to explore students' prior knowledge and enhance active engagement in learning.

#### 2. Designing Project Planning

Students, together with their teacher, are designing a biography writing project by selecting topics such as "outstanding friends" or "inspiring teachers." They are also planning data collection methods, such as interviews and observations.

#### 3. Creating a Schedule

The teacher and students create a project activity schedule that includes data collection, draft writing, revision, and final product completion stages. This stage aims to train students' time management skills.

#### 4. Monitoring Project Processes and Progress

The teacher monitors the students' activities during the project work process, provides guidance, and helps students who are having difficulty in composing a biography text.

#### 5. Testing the Results

The project results in the form of a biography text are assessed using a rubric that includes aspects of the title, structure, language rules, and spelling.

#### 6. Evaluating Experience

Learning ends with reflection, where students and teachers evaluate the process and outcomes of the learning to identify the strengths and weaknesses during the activities.

### Research Ethics

This research is conducted with attention to the principles of research ethics. Before conducting the research, the researcher first submitted an official request for permission to the SMK Madyatama Palembang school authorities. In addition, the researcher also obtained approval from the school and subject teachers as a form of institutional consent.

Considering that the subjects of the research are students, parental consent is also indirectly involved through the school. The researcher explains the purpose, procedures, and benefits of the study to the respondents. All data obtained is kept confidential and used solely for academic purposes. The identities of the students are not included in the research report to maintain the privacy and confidentiality of the respondents.

## RESULTS AND DISCUSSION

### RESULTS

This research was conducted at SMK Madyatama Palembang from April to May 2025, involving students from class X TKJ1 as the sample. The research method used is Quasi Experiment with a one group pretest and posttest design. The sample selection was conducted using purposive sampling technique, resulting in 33 students as respondents. The students were first given a pretest to determine their initial writing skills, then treated with learning using the PjBL model. After the learning process took place on April 30, the students were given a posttest to determine the results after the application of the PjBL learning model.

The research results show that students' biographical writing skills were influenced by the application of the PjBL model.

#### a. Descriptive Statistics Pretest and Posttest

Before further analysis is conducted, descriptive statistics of the research data are first presented to provide an overview of the students' pretest and posttest results. These descriptive statistics aim to show data trends, such as the minimum, maximum, and mean scores obtained by students before and after being treated with the PjBL learning model. Through this data presentation, initial changes or improvements in students' learning outcomes can be identified.

**Table 4.1 Descriptive Statistics Results**

<i>Variable</i>	<i>N</i>	<i>Maximum Value</i>	<i>Minimum Value</i>	<i>Mean</i>
Pretest	33	20	70	43,3
Posttest	33	50	100	80

Based on the table above, it can be seen that the average (mean) pretest score of 43.3 increased to 80 in the posttest. The minimum score also increased from 20 to 50, while the maximum score increased from 70 to 100. This indicates an improvement in students' abilities after being treated with PjBL.

#### b. Normality Test

Before conducting a hypothesis test, it is very important to ensure that the data is normally distributed. The Shapiro-Wilk test was used in this study, and it was processed using SPSS version 25. The results of the Shapiro-Wilk normality test are presented below:

**Table 4.2 Results of the Normality Test**

Group		Test of Normality		
		Shapiro-Wilk		
		Statistic	df	sig
Response	Pretest	0.937	33	0.055
	Posttest	0.943	33	0.080

From the table, it can be concluded that the distribution of students' biographical writing skills data is normally distributed, with a significance value  $> 0.05$ . Indicating that the data meets the criteria for further analysis.

### c. Hypothesis Testing

The paired sample t-test was used in the research. The results of the hypothesis test on students' biographical text writing skills are shown below:

**Table 4.3 Hypothesis Test**

Data	Explanation
<b>Sig. (2-tailed) 0,000</b>	Sig. (2-tailed) Ho is rejected and Ha is accepted

It is known in statistics that there are 2 hypotheses, namely the Null hypothesis (Ho) which states that there is no influence between variables, while the alternative hypothesis (Ha) is a statement that there is an influence or relationship between variables, (Yam, 2024). From the table above, the significance value (sig.2-tailed) obtained is 0.000. A smaller significance value indicates that Ho is not accepted and Ha is accepted. As a result, the PjBL learning model has an impact on students' writing skills.

### d. N-Gain Test

Here are the results of the N-Gain test analysis using the SPSS 25 program.

**Table 4.4 N-Gain Test**

Type	N-Gain	Value		
		N	Min	Max
N-Gain Score	0,58	33	0,17	1,00
N-Gain Percentage	58,72	33	16,67	100,00

The table above shows the results of score and percentage improvement based on the N-Gain test on 33 respondents. The average score falls into the moderate category, with a score range from 0.17 to 1.00 and an average percentage of effectiveness from 16.67 to 100, indicating a variation in the level of improvement in students' understanding.

## CONCLUSION

The research results show a significant improvement in students' biographical text writing skills after the PjBL model was implemented. This can be seen from the descriptive statistical results, where the average pretest score of 43.3 increased to 80 in the posttest. This increase shows a

difference of 36.7 points, indicating that before the treatment, the students' abilities were still relatively low, but after the implementation of PjBL, there was a significant improvement. Statistically inferentially, the results of the paired sample t-test show a significance value of  $0.000 < 0.05$ , which means there is a significant difference between the pretest and posttest results. Thus, it can be concluded that the application of the PjBL model has a significant impact on the improvement of students' writing skills. Additionally, based on the N-Gain test, a value of 0.58 (58.72%) was obtained, which falls into the category of quite effective, meaning that the improvement is not only statistically significant but also has a sufficient level of effectiveness in the learning practice.

If examined further, this improvement indicates that the PjBL model is capable of helping students develop critical thinking skills, organise ideas, and express thoughts systematically in writing. This aligns with the characteristics of PjBL, which emphasises real project-based learning, allowing students not only to understand theory but also to directly practice writing skills through contextual learning experiences.

The results of this study are in line with the research conducted by Janah et al. (2018), which showed that the use of the PjBL model can improve the ability to write biographical texts with a significant average difference between the experimental and control classes. In addition, the research by Gusty & Suryadi (2021) also found that the average posttest scores of students using PjBL were higher compared to the conventional method, and this was reinforced by a t-value greater than the t-table value, indicating a significant effect. However, there is a difference from previous research, where this study uses a one group pretest-posttest design without a control group. This causes the improvement in learning outcomes to not be directly comparable with other groups that did not receive the treatment. Nevertheless, the significant improvement in pretest and posttest results as well as the N-Gain score still indicates that PjBL contributes positively to students' writing skills. In addition, looking at the practical test results with an average of 78.2, it shows that students not only experienced cognitive improvement but also skill (psychomotor) enhancement. This reinforces that PjBL is effective in skill-based learning because students are directly involved in the process of producing biographical texts.

## CONCLUSION AND SUGGESTIONS

### Conclusion

Based on the research results and data analysis, it can be concluded that the implementation of the PjBL learning model has a significant impact on improving students' skills in writing biographical texts. This improvement is not only evident from the differences in results before and after the treatment, but also reflects changes in the way students understand, organise, and express ideas into more systematic and meaningful written forms. The PjBL model has proven capable of creating a more contextual and active learning experience, so that students not only play the role of information recipients but also as participants directly involved in the learning process. This involvement encourages students to think critically, work independently as well as collaboratively, and produce written works that are more structured according to the conventions of biographical texts.

## Research Implications

### a. Theoretical Implications

The results of this study reinforce the constructivist learning theory which states that knowledge is actively constructed by students through learning experiences. The application of PjBL in writing instruction shows that language skills, particularly writing, will develop more when students are directly involved in meaningful and contextual activities. In addition, this research also supports the view that project-based learning is effective in enhancing 21st-century skills, such as critical thinking, creativity, and communication skills.

### b. Practical Implications

Practically, this research provides an overview that the PjBL model can be used as an alternative effective learning strategy in teaching biographical text writing skills. Teachers can utilise a project-based approach to enhance student engagement and motivation in learning. In addition, learning with PjBL can also help students develop their writing skills more effectively because they learn through direct experience, not just theory.

## Suggestions

Based on the research results that have been conducted, there are several suggestions that can be given, namely:

a. For Teachers Teachers are advised to more frequently implement the Project Based Learning model in Indonesian language learning, especially on materials that require practical skills such as writing. Teachers also need to design interesting and relevant projects to enhance student motivation and participation.

b. For Schools Schools are expected to support the implementation of project-based learning by providing conducive facilities and learning environments, so that the learning process can run optimally.

c. For Future Researchers Future researchers are advised to develop the study using a stronger experimental design, such as involving a control group, expanding the sample size, and combining quantitative and qualitative approaches to make the research results more comprehensive. Additionally, research can also be conducted on other types of texts or different educational levels to test the consistency of the PjBL model's effectiveness.

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