



## The Effect of Project-Based Learning on Indonesian Language Learning Interest of Grade VII Students

Lince Laura Kalaibin<sup>1</sup>, Abdul Hafid<sup>2</sup>, & Siti Ftihaturrehmah Al Jumroh<sup>3</sup>

<sup>123</sup> Department of Elementary School Teacher Education, Universitas Pendidikan Muhammadiyah Sorong, Southwest Papua Province, Indonesia

\*Correspondence: [kalaibinlince@gmail.com](mailto:kalaibinlince@gmail.com)

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### ABSTRACT

This study aims to determine the effect of the Project-Based Learning (PjBL) approach on students' learning interest in the Indonesian language among Grade VII students at SMP Negeri 1, Sorong Regency. The research employed an ex-post facto quantitative method with a simple linear research design. The population and sample comprised 25 Grade VII students at SMP Negeri 1, Sorong Regency; total (saturated) sampling was applied. Data were collected through interviews, observation, questionnaires, and documentation. The questionnaire was administered in two stages: a pre-intervention condition (initial learning interest questionnaire, administered 17 September 2024) and a post-intervention condition (final learning interest questionnaire, administered 27 September 2024). Instrument validity was confirmed using the Pearson product-moment correlation ( $r_{table} = 0.444$  at  $df = 18$ ,  $\alpha = 5\%$ ); all items met the validity threshold ( $r_{count} > r_{table}$ ). Instrument reliability was assessed using Cronbach's alpha, yielding a coefficient of 0.656, confirming reliability. Normality testing (Lilliefors/Kolmogorov-Smirnov) produced significance values of 0.200 for both initial and final conditions ( $> 0.05$ ), confirming normal data distribution. The mean learning interest score improved from 64.11 (initial condition) to 73.47 (final condition), representing an improvement of 9.36

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points. One-sample t-test hypothesis testing (test value = 57.9) yielded a t-count of 5.242 against a t-table of 1.734 (df = 18;  $\alpha = 0.05$ ), with a significance value of 0.000 ( $< 0.05$ ).  $H_0$  is rejected and  $H_1$  is accepted. It is concluded that the project-based learning approach has a statistically significant positive effect on the Indonesian language learning interest of Grade VII students at SMP Negeri 1, Sorong Regency.

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## INTRODUCTION

Education constitutes a strategic instrument for developing human resource quality and for realizing national aspirations, as affirmed by the Indonesian National Education System Act No. 20 of 2003, which defines education as a conscious and planned effort to create a learning environment in which students actively develop their potential across intellectual, spiritual, personal, and social dimensions. Within the school context, the most fundamental educational activity is the teaching and learning process, which decisively determines the degree to which learning objectives are achieved (Sunita, 2019). The quality of the learning process is substantially shaped by students' learning interest, defined as a positive affective orientation towards learning activities that motivates voluntary engagement, sustained attention, and active participation (Sardiman, 2010; Parwati et al., 2019).

Indonesian language is a compulsory subject across all levels of Indonesian education, encompassing listening, speaking, reading, and writing skills and constituting the foundational language of instruction for all other academic disciplines (Ismayani & Nuryanti, 2019). Despite its centrality, preliminary observations at SMP Negeri 1, Sorong Regency, revealed persistent problems with students' learning interest in Indonesian Language: low levels of active questioning, limited enthusiasm for task completion, reduced attention

during teacher explanations and an overall tendency towards passive participation in the conventional lecture-based instructional environment. These conditions are consistent with prior research documenting the limitations of teacher-centered, lecture-dominant instructional approaches in sustaining student engagement and interest (Cahyadi, 2019; Linggah & Taufiana, 2020).

Project-Based Learning (PjBL) is an instructional model that situates learning within the production of an authentic student-generated project, granting learners the autonomy to think independently, collaborate, make decisions, and apply language skills to solve real-world problems (Dayanto, 2019). PjBL is characterized by student-centered, open-ended inquiry that integrates content knowledge with higher-order thinking, creativity, and collaborative problem-solving (Cahyadi, 2019; Linggah & Taufiana, 2020). In the context of Indonesian language instruction, PjBL creates opportunities for students to develop language competencies through meaningful, contextualized projects, rather than through passive reception of decontextualized content.

The empirical evidence for PjBL's effectiveness in promoting student learning motivation and interest is substantial. A Scopus-indexed meta-analysis by Loyens et al. (2024), published in *Educational Psychology Review* (Springer), synthesised 132 experimental and quasi-experimental studies and found that PjBL, alongside problem-based and case-based learning, produced a small-to-moderate positive effect ( $d = 0.498$ ) on student motivation, encompassing interest, competence beliefs, and task value. Notably, PjBL's capacity to provide students with voice, choice, and product ownership was identified as a distinctive motivating mechanism. A separate Scopus-indexed meta-analysis by Zhang and Ma (2023), published in *Frontiers in Psychology*, synthesised 66 experimental studies and confirmed that PjBL significantly improved student learning outcomes compared to traditional instruction ( $SMD = 0.441$ ,  $p < 0.001$ ), with demonstrated positive effects on intrinsic learning motivation and interest. In the Indonesian context, Nitatalia et al. (2023) confirmed the effectiveness of PjBL in Indonesian Language instruction at the junior secondary level for procedural text writing, and Zhang et al. (2025)

documented significant improvements in EFL learners' learning motivation and academic performance through PjBL in a rural school context, directly comparable to the Sorong Regency setting of the present study.

Despite the growing evidence base, systematic quantitative investigations of PjBL's effect on Indonesian language learning interest specifically at the junior secondary level in eastern Indonesia remain limited. This study addresses that gap. The central research question is: Does the implementation of the project-based learning approach have a statistically significant positive effect on the Indonesian language learning interest of Grade VII students at SMP Negeri 1, Sorong Regency?

## **METHODS**

### **Research Design**

This study employed an ex-post facto quantitative method. In ex-post facto research, the independent variable (PjBL approach implementation) has already occurred prior to the researcher's observation; the researcher does not introduce a separate experimental treatment but examines the naturally existing variation in the independent variable and its relationship to the dependent variable (learning interest) through quantitative analysis of questionnaire data (Sugiyono, 2012). A simple linear research design was adopted, examining the effect of the PjBL approach (Variable X) on students' learning interest (Variable Y). The research was conducted in May–September 2024 at SMP Negeri 1, Sorong Regency, Jalan Klamono Malawili, Aimas.

### **Research Sample and Data Collection**

The population and sample both comprised all 25 Grade VII students at SMP Negeri 1, Sorong Regency. Given the small population size, saturated (total) sampling was applied. Data were collected through interviews with the subject teacher, classroom observation of PjBL implementation sessions, structured questionnaires administered to all 25 students, and documentation of instructional activities. The learning interest questionnaire, comprising 24 items scored on a four-point Likert scale (1–4), was administered at two time points:

the initial condition (17 September 2024) to establish baseline learning interest and the final condition (27 September 2024) to assess post-PjBL learning interest. The theoretical maximum score per student is  $4 \times 24 = 96$ , and the minimum is  $1 \times 24 = 24$ .

### **Validity and Reliability Testing**

Instrument validity was assessed using Pearson product-moment correlation with SPSS V21.0. With 20 respondents,  $df = n - 2 = 18$  and  $r\text{-table} = 0.444$  at  $\alpha = 5\%$ . All questionnaire items were confirmed valid ( $r\text{-count} > r\text{-table} = 0.444$ ). Instrument reliability was assessed using Cronbach's Alpha, yielding a coefficient of 0.656, which meets the reliability threshold ( $> 0.6$ ) (Janna & Herianto, 2021), confirming the instrument's internal consistency.

### **Data Analysis**

Normality testing was conducted using the Lilliefors (Kolmogorov-Smirnov) test. Hypothesis testing was conducted using a one-sample t-test (comparing the final learning interest mean against a test value of 57.9, representing the initial baseline mean) at a significance level of  $\alpha = 0.05$  with  $df = n - 1 = 18$ . The decision rule was: if  $t\text{-count} > t\text{-table}$  and  $\text{Sig.} < 0.05$ ,  $H_0$  is rejected.

## **RESULTS AND DISCUSSION**

### **Descriptive Statistics**

Based on the observation conducted on 13 February 2025 and the subsequent interview data, the Grade V classroom teacher at SD Negeri 3, Sorong Regency, confirmed that out of 20 students in the class, 5 students demonstrate low reading ability and persistent reading comprehension difficulties. The overall reading ability of the class is categorized as adequate. The five students with reading difficulties were identified and their reading profiles documented through observation and interview. Their reading difficulty profiles are presented in Table 1.

The descriptive statistics for the learning interest questionnaire under both the initial (pre-intervention) and final (post-intervention) conditions are presented in Table 1.

**Table 1.** Descriptive Statistics of Indonesian Language Learning Interest: Initial and Final Conditions

Condition	N	Mean	Median	Mode	Score Range (Min-Max)
Initial Condition (Pre-intervention)	20	64.11	57.50	50	55-75
Final Condition (Post-intervention)	20	73.47	72.50	90	63-80

Source: Primary data processed with SPSS V21.0.

As shown in Table 1, the mean learning interest score improved from 64.11 under the initial condition (pre-intervention) to 73.47 under the final condition (post-PjBL implementation), representing an improvement of 9.36 points (14.6% relative improvement). The shift in the mode from 50 (initial) to 90 (final) is particularly striking, indicating a substantial upward movement in the distribution of scores. The minimum score in the final condition (63) substantially exceeded the minimum in the initial condition (55), confirming that PjBL implementation generated positive learning interest outcomes across all students, including those with the lowest initial interest levels.

### Normality Test

The Lilliefors (Kolmogorov-Smirnov) normality test was applied to both the initial and final learning interest data distributions. Both the initial condition (Lilliefors statistic = 0.194, Sig. = 0.200 > 0.05) and the final condition (Lilliefors statistic = 0.193, Sig. = 0.200 > 0.05) yielded asymptotic significance values exceeding 0.05, confirming that both data distributions are normal. The normality assumption required for parametric hypothesis testing is satisfied.

### Hypothesis Testing: One-Sample t-Test

The research hypotheses were:  $H_0$ : the Project-Based Learning approach does not have a significant positive effect on the Indonesian Language learning interest of Grade VII students at SMP Negeri 1, Sorong Regency;  $H_1$ : the Project-Based Learning approach has a significant positive effect on the Indonesian Language learning interest of Grade VII students at SMP Negeri 1, Sorong Regency. The one-sample t-test results are presented in Table 2.

**Table 2.** One-Sample t-Test Results for Final Learning Interest (Test Value = 57.9)

Variable	One-Sample Test (Test Value = 57.9)					
	t	df	Sig. (2-tailed)	Mean Diff.	95% CI Lower	95% CI Upper
Final Learning Interest	5.242	18	.000	20.433	12.05	28.82

Source: Primary data processed with SPSS V21.0.

The one-sample t-test produced a t-count of 5.242 against a t-table of 1.734 at  $\alpha = 0.05$  with  $df = 18$ . The significance value was 0.000 ( $< 0.05$ ), and the t-count substantially exceeded the t-table ( $5.242 > 1.734$ ).  $H_0$  is rejected and  $H_1$  is accepted. It is concluded that the project-based learning approach has a statistically significant positive effect on the Indonesian language learning interest of Grade VII students at SMP Negeri 1, Sorong Regency. The mean difference of 20.433 from the test value, with a 95% confidence interval of [12.05, 28.82], confirms that the post-PjBL learning interest scores are significantly and meaningfully elevated above the baseline.

## Discussion

The findings of this study confirm that the project-based learning approach significantly improves Indonesian language learning interest among Grade VII students at SMP Negeri 1, Sorong Regency. The mean improvement from 64.11 to 73.47, combined with a t-count of 5.242 that substantially exceeds the critical t-table value, provides robust statistical evidence that PjBL constitutes an effective alternative to the conventional, lecture-based instructional approach previously used at the school. These results are consistent with the core advantages of PjBL as articulated by Cahyadi (2019) and Linggah and Taufiana (2020): PjBL makes students more active and creative, builds confidence in expressing opinions, and develops collaborative problem-solving capacity, all of which are directly associated with heightened learning motivation and interest.

The theoretical basis for these findings is well-grounded in the established literature on PjBL and student motivation. The Scopus-indexed meta-analysis

by Loyens et al. (2024), published in Springer's Educational Psychology Review, identified PjBL's distinctive motivational mechanism as its capacity to provide students with voice, choice, and a sense of project ownership, creating feelings of autonomy (consistent with self-determination theory) and interest through task authenticity. When students at SMP Negeri 1 engaged with PjBL-based Indonesian language tasks, they were able to choose their project approaches, collaborate with peers, and connect language learning to real-world contexts, all of which are established drivers of interest enhancement. Zhang and Ma's (2023) Scopus-indexed meta-analysis further confirmed PjBL's positive effect on intrinsic motivation, with students in PjBL conditions demonstrating significant improvements in interest, autonomy, and competence compared to traditional instruction conditions, an effect that is directly reflected in the current study's findings.

In the specific context of Indonesian language learning at the junior secondary level, these findings extend the national evidence base. Nitatalia et al. (2023) confirmed PjBL's effectiveness for Indonesian language text writing at the junior secondary level; the present study contributes complementary evidence that PjBL also enhances students' affective engagement, specifically learning interest, in Indonesian language more broadly. The shift from a classroom dynamic dominated by passive listening and note-taking to one characterized by active project engagement, peer collaboration, and product-oriented inquiry addresses the fundamental source of the low learning interest identified in the preliminary observations: the monotonous, teacher-centered instructional environment that had previously characterized Indonesian language lessons at SMP Negeri 1, Sorong Regency.

## CONCLUSION

This study concludes that the Project-Based Learning approach has a statistically significant positive effect on the Indonesian Language learning interest of Grade VII students at SMP Negeri 1, Sorong Regency. The one-sample t-test produced a t-count of 5.242 against a t-table of 1.734 at  $\alpha =$

0.05 with  $df = 18$ , with a significance value of 0.000 ( $< 0.05$ ), leading to the rejection of  $H_0$  and the acceptance of  $H_1$ . Mean learning interest improved from 64.11 (initial condition) to 73.47 (final condition), a statistically significant gain of 9.36 points. The 95% confidence interval for the mean difference [12.05, 28.82] further confirms the magnitude and stability of this effect.

PjBL transforms the Indonesian language learning environment from a passive, lecture-based experience into an active, creative, and collaborative one, thereby stimulating student interest and engagement. It is recommended that Indonesian language teachers at SMP Negeri 1 and comparable junior secondary schools in Sorong Regency adopt PjBL systematically as a core instructional approach for Indonesian language learning. Future research should employ true experimental designs with control groups to isolate the causal effect of PjBL on Indonesian language learning interest, examine specific PjBL project types that are most effective in the local cultural and linguistic context, and investigate PjBL's effects on both affective and cognitive learning outcomes simultaneously.

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### Declarations

- Author Contribution : L. L. Kalaibin: Conceptualization, Data Collection, Formal Analysis, Writing - Original Draft; A. Hafid: Writing - Review & Editing and Methodology; S. F. Al Jumroh: Validation and Supervision.
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