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# The Effectiveness of Project-Based Learning Model on Students' Narrative Writing Skills at SMA Jayanegara

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**Abstract**

*Narrative writing is an essential component of language learning that requires students to generate ideas, organize them coherently, and express them using appropriate language features. However, students' narrative writing skills are often underdeveloped due to the dominance of teacher-centered instructional practices. This study aims to examine the effectiveness of the Project-Based Learning (PjBL) model in enhancing students' narrative writing skills at SMA Jayanegara. This research employed a quantitative approach using a pre-experimental design with a one-group pretest–posttest model. The participants consisted of 28 students. Data were collected through narrative writing tests administered before and after the implementation of the PjBL model. The data were analyzed using descriptive statistics, normality tests, paired sample t-test, and N-Gain analysis. The results revealed a significant improvement in students' narrative writing skills. The mean score increased from 65.25 in the pretest to 87.50 in the posttest. The paired sample t-test showed a statistically significant difference ($p < 0.05$), indicating the effectiveness of the intervention. Furthermore, the N-Gain value of 0.64 was categorized as moderate, suggesting a meaningful level of improvement. These findings indicate that the implementation of the Project-Based Learning model effectively enhances students' narrative writing skills by promoting active engagement, collaboration, and reflective learning. Therefore, PjBL can be considered a suitable instructional approach for improving writing skills in Indonesian language education.*

**Keywords: Project-Based Learning, Narrative Writing Skills, Indonesian Language Education, Writing Instruction, Student-Centered Learning**

## INTRODUCTION

Narrative writing is a fundamental component of language learning, particularly in the



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context of Indonesian language education at the secondary school level. It serves not only as a medium for expressing ideas, experiences, and imagination but also as a means of developing students' cognitive, linguistic, and creative abilities (S. Wang & Hew, 2026; Wu et al., 2024). Through narrative writing, students are expected to construct coherent stories, organize ideas logically, and employ appropriate linguistic features such as vocabulary, grammar, and text structure. In addition, narrative writing fosters higher-order thinking skills, including creativity, interpretation, and reflection, which are essential competencies in 21st-century education. Therefore, the ability to write narrative texts is considered a crucial learning outcome in Indonesian language instruction (Chadafi, 2024; Li et al., 2023).

From a theoretical perspective, writing is a complex and recursive process that involves multiple cognitive stages, including planning, drafting, revising, and editing. According to process writing theory, effective writing instruction should provide students with opportunities to engage actively in each stage of the writing process. This perspective emphasizes that writing is not merely a product-oriented activity but a dynamic process that requires continuous reflection and improvement. Furthermore, constructivist learning theory posits that students construct knowledge actively through meaningful experiences and interactions with their environment. In the context of narrative writing, this implies that students learn best when they are involved in authentic tasks that allow them to explore ideas, collaborate with peers, and reflect on their learning processes (Traga Philippakos et al., 2023; L. Wang et al., 2026).

Despite its importance, the development of students' narrative writing skills remains a significant challenge in many educational settings. In Indonesian language classrooms, writing instruction is often dominated by traditional, teacher-centered approaches, where students are required to follow rigid structures and imitate model texts without fully understanding the underlying concepts (Liu et al., 2026; Somabut et al., 2026). As a result, students tend to focus on surface-level aspects of writing, such as grammar and vocabulary, while neglecting deeper elements such as idea development, coherence, and creativity. This condition leads to limited engagement in the writing process and reduces students' motivation to write.

Empirical evidence indicates that many students struggle to generate ideas, organize their thoughts, and express them effectively in written form. They often experience difficulties in developing a clear storyline, maintaining logical coherence, and using appropriate narrative structures. In addition, students frequently lack confidence in their writing abilities, which further hinders their performance. These challenges are exacerbated by limited opportunities for practice, feedback, and collaboration in the classroom. Writing activities are often conducted


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individually, with minimal interaction among students, thereby restricting the exchange of ideas and peer learning (Faidah et al., 2025; Ho & Lau, 2025).

Another contributing factor to the low level of students' narrative writing skills is the lack of meaningful and contextual learning experiences. Traditional writing instruction tends to emphasize mechanical exercises rather than authentic tasks that relate to students' real-life experiences. Consequently, students perceive writing as a monotonous and irrelevant activity, which negatively affects their engagement and motivation (Asrul et al., 2021; Chadafi, 2024; Nursaid et al., 2026). In contrast, meaningful learning experiences that connect writing tasks to real-world contexts can enhance students' interest and encourage them to express their ideas more creatively and effectively. In response to these challenges, there is a growing need for innovative instructional models that promote active, student-centered learning and support the development of writing skills. One such model is Project-Based Learning (PjBL), which has gained increasing attention in recent years as an effective approach to enhancing students' learning outcomes. Project-Based Learning is a pedagogical model that engages students in learning through meaningful projects, where they are required to investigate problems, design solutions, and produce tangible outcomes. This model emphasizes student autonomy, collaboration, inquiry, and reflection, making it highly suitable for developing complex skills such as writing (Chen et al., 2026; Wu et al., 2024).

The application of Project-Based Learning in narrative writing provides students with opportunities to engage in authentic writing tasks that are meaningful and relevant to their lives. Through project-based activities, students can explore various themes, develop storylines, and produce narrative texts that reflect their experiences and creativity (Khaedar & Alam, 2023; Manao et al., 2024). This process encourages students to take ownership of their learning and become active participants in the writing process. Moreover, PjBL facilitates collaboration among students, allowing them to exchange ideas, provide feedback, and improve their writing through peer interaction. From a pedagogical standpoint, Project-Based Learning aligns with the principles of constructivism and student-centered learning. In this approach, teachers act as facilitators who guide and support students rather than simply delivering content. Students are given the autonomy to explore ideas, make decisions, and reflect on their learning experiences. This shift in the role of teachers and students is essential for creating a learning environment that fosters creativity and critical thinking. In the context of narrative writing, such an environment enables students to develop their ability to generate ideas, organize their thoughts, and express them effectively in written form.


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Furthermore, Project-Based Learning supports the development of metacognitive skills, which play a crucial role in writing. Metacognition refers to the awareness and regulation of one's own thinking processes. In writing activities, students are required to plan their ideas, monitor their progress, and evaluate the quality of their work. Through project-based tasks, students are encouraged to reflect on their writing processes, identify their strengths and weaknesses, and make improvements accordingly. This reflective practice enhances students' ability to regulate their learning and improves their overall writing performance. Several empirical studies have demonstrated the effectiveness of Project-Based Learning in improving students' language skills, including writing (Antika et al., 2023). Research findings indicate that students who participate in PjBL show significant improvements in their ability to generate ideas, organize texts, and use appropriate language features. In addition, PjBL has been found to increase students' motivation, engagement, and confidence in writing. These findings suggest that Project-Based Learning is a promising instructional approach for addressing the challenges in writing instruction (Sutamrin & Khadijah, 2021).

However, despite its potential benefits, the implementation of Project-Based Learning in Indonesian language classrooms is still limited. Many teachers face challenges in designing and implementing project-based activities, particularly in terms of time management, curriculum alignment, and assessment. As a result, traditional teaching methods remain dominant, and students continue to experience difficulties in developing their writing skills. This highlights the need for further research on the application of Project-Based Learning in the context of Indonesian language education (Chadafi, 2024).

In the context of SMA Jayanegara, preliminary observations indicate that students' narrative writing skills are relatively low. Students often struggle to develop coherent storylines, organize their ideas, and use appropriate language features. Writing instruction is still largely teacher-centered, with limited opportunities for students to engage in meaningful and collaborative learning activities. Consequently, students' motivation and engagement in writing are relatively low, which affects their overall performance.

Based on the above considerations, this study aims to examine the effectiveness of the Project-Based Learning model in enhancing students' narrative writing skills at SMA Jayanegara. By implementing PjBL in narrative writing instruction, this study seeks to provide empirical evidence on its impact on students' writing abilities. In addition, this study is expected to contribute to the development of innovative teaching practices in Indonesian language education, particularly in improving students' writing skills through student-centered learning approaches.


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## LITERATURE REVIEW

### Project-Based Learning in Language Education

Project-Based Learning (PjBL) is a student-centered instructional approach that emphasizes learning through meaningful and contextualized projects. This model encourages students to actively engage in exploring real-world problems, designing solutions, and producing tangible outcomes. In contrast to traditional teacher-centered instruction, PjBL shifts the focus of learning toward student autonomy, inquiry, collaboration, and reflection (Chadafi, 2024; Faidah et al., 2025). Within this framework, students are not passive recipients of knowledge but active participants who construct their understanding through experience and interaction. In the context of language education, Project-Based Learning plays a significant role in enhancing students' communicative competence and language skills. Language learning is inherently a process that requires meaningful use of language in authentic contexts. PjBL provides such opportunities by involving students in tasks that require them to use language for real purposes, such as storytelling, presenting ideas, and collaborating with peers. Through project-based activities, students are encouraged to use language as a tool for communication rather than merely as an object of study (Asrul et al., 2021; Nursaid et al., 2026).

One of the key characteristics of PjBL is its emphasis on inquiry-based learning. The learning process typically begins with a driving question or problem that stimulates students' curiosity and guides their investigation. Students then work collaboratively to gather information, analyze data, and develop solutions. This process not only enhances students' understanding of the subject matter but also promotes critical thinking and problem-solving skills. In language learning, inquiry-based activities can take the form of exploring themes, developing story ideas, and constructing narratives based on real or imagined experiences. Another important feature of Project-Based Learning is collaboration. Students work in groups to complete projects, allowing them to exchange ideas, provide feedback, and learn from one another. Collaborative learning environments are particularly beneficial in language education, as they create opportunities for interaction and communication (Arianti Masanggelo et al., 2024; Atmojo et al., 2025). Through collaboration, students can develop their speaking, listening, and writing skills simultaneously. Moreover, peer interaction encourages students to reflect on their ideas and improve their language use.

Reflection is also a central component of PjBL. Students are encouraged to evaluate their learning processes, identify challenges, and make improvements. This reflective practice helps students develop metacognitive awareness, which is essential for effective learning. In writing


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activities, reflection enables students to review their texts, identify errors, and refine their ideas. As a result, students become more aware of their strengths and weaknesses and are better able to regulate their learning. Despite its advantages, the implementation of Project-Based Learning requires careful planning and management. Teachers must design meaningful projects, facilitate group work, and provide appropriate guidance throughout the learning process. Challenges such as limited time, large class sizes, and assessment constraints may hinder the effective implementation of PjBL. Nevertheless, numerous studies have shown that PjBL has a positive impact on students' learning outcomes, engagement, and motivation in various educational contexts (Sutamrin & Khadijah, 2021).

**Narrative Writing Skills in Secondary Education**

Narrative writing is one of the fundamental skills in language learning, particularly in Indonesian language education. It involves the ability to construct stories that convey events, experiences, or ideas in a coherent and engaging manner (Chadafi, 2024; Faidah et al., 2025). Narrative texts typically consist of several structural components, including orientation, complication, and resolution. In addition, effective narrative writing requires the use of appropriate linguistic features, such as past tense, descriptive language, and cohesive devices. The process of writing a narrative text is complex and involves multiple cognitive and linguistic skills. Students must be able to generate ideas, organize them into a logical sequence, and express them using appropriate language. This process requires not only linguistic competence but also creativity and imagination. Furthermore, narrative writing involves the ability to engage readers by creating interesting plots, developing characters, and using vivid descriptions. From a pedagogical perspective, narrative writing is closely related to the concept of process writing. This approach emphasizes that writing is a recursive process that includes planning, drafting, revising, and editing. Students are encouraged to go through each stage of the writing process, allowing them to refine their ideas and improve the quality of their texts. Process writing also highlights the importance of feedback, both from teachers and peers, in helping students develop their writing skills (Asrul et al., 2021; Manao et al., 2024).

However, many students face difficulties in narrative writing. They often struggle to generate ideas, organize their thoughts, and maintain coherence in their texts. In addition, students may have limited vocabulary and grammatical knowledge, which affects their ability to express ideas effectively. These challenges are often compounded by traditional teaching methods that focus on product-oriented writing rather than the writing process. As a result,


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students tend to produce texts that lack depth, coherence, and creativity (Khaedar & Alam, 2023; Manao et al., 2024). To address these challenges, it is essential to provide students with meaningful and engaging writing activities. Instructional approaches that emphasize active learning, collaboration, and reflection can help students develop their narrative writing skills more effectively. In this regard, Project-Based Learning offers a promising alternative to traditional writing instruction.

**The Role of Project-Based Learning in Enhancing Narrative Writing Skills**

Project-Based Learning has been widely recognized as an effective instructional approach for improving students' writing skills. The characteristics of PjBL, such as inquiry, collaboration, and reflection, provide a conducive environment for developing narrative writing abilities (Asrul et al., 2021; Manao et al., 2024). Through project-based activities, students are engaged in meaningful tasks that require them to use language in authentic contexts. One of the main ways in which PjBL enhances narrative writing skills is by promoting idea generation and creativity. In project-based tasks, students are encouraged to explore themes, develop storylines, and express their ideas freely. This process stimulates imagination and helps students generate richer and more diverse ideas for their narratives. Unlike traditional writing instruction, which often limits students to predefined topics, PjBL allows students to choose topics that are relevant and interesting to them (Manao et al., 2024).

In addition, Project-Based Learning supports the development of organizational skills in writing. Through collaborative planning and discussion, students learn to structure their narratives more effectively. They can organize their ideas into clear sequences, develop coherent plots, and ensure logical connections between events. This collaborative process also provides opportunities for peer feedback, which helps students identify and correct weaknesses in their writing. Another important aspect of PjBL is its emphasis on reflection. During and after the completion of projects, students are encouraged to evaluate their work and reflect on their learning processes. This reflective practice helps students develop metacognitive skills, which are essential for effective writing. By reflecting on their writing, students become more aware of their strengths and weaknesses and can make improvements accordingly (Brooks et al., 2021; Kiili et al., 2025).

Furthermore, Project-Based Learning increases students' motivation and engagement in writing activities. When students are involved in meaningful and relevant projects, they are more likely to be interested and motivated to complete the tasks (Lutovac et al., 2024). This increased motivation leads to greater effort and persistence, which ultimately improves their writing


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performance. In contrast, traditional writing activities that lack relevance and authenticity often result in low engagement and poor learning outcomes. Empirical studies have shown that the implementation of PjBL leads to significant improvements in students' writing skills. Students who participate in project-based learning demonstrate better ability to generate ideas, organize texts, and use appropriate language features. They also show higher levels of motivation and confidence in writing. These findings suggest that Project-Based Learning is an effective approach for enhancing narrative writing skills in language education.

## METHOD

### Research Design

This study employed a quantitative approach using a pre-experimental design, specifically the one-group pretest–posttest design. This design was selected to examine the effectiveness of the Project-Based Learning (PjBL) model on students' narrative writing skills by comparing students' performance before and after the implementation of the intervention. In this design, a single group of participants is observed at two different points in time: prior to the treatment (pretest) and after the treatment (posttest). The difference between the two measurements is used to determine the impact of the instructional model. Although this design does not involve a control group, it is considered appropriate for preliminary investigations in educational settings where full experimental control is difficult to achieve. The structure of the research design can be illustrated as follows:

**Table 1. Research Design (One-Group Pretest–Posttest Design)**

| Group | Pretest ($O_1$) | Treatment (X) | Posttest ($O_2$) |
|---|---|---|---|
| Experimental | Narrative Writing Test | Project-Based Learning Implementation | Narrative Writing Test |

Through this design, the effectiveness of the Project-Based Learning model can be determined by analyzing the improvement in students' narrative writing skills from pretest to posttest.

### Participants and Research Setting

The participants of this study were students of SMA Jayanegara, Indonesia. The sample consisted of 28 students from one class, selected using a purposive sampling technique. The selection was based on several considerations, including students' relatively homogeneous


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academic abilities and the relevance of the class to the objectives of the study. This research was conducted in a natural classroom setting during Indonesian language lessons, particularly in the topic of narrative text writing. Based on preliminary observations, students at SMA Jayanegara experienced difficulties in developing narrative texts, especially in generating ideas, organizing story structures, and using appropriate language features. Many students showed limited ability in constructing coherent narratives and lacked confidence in expressing their ideas in written form.

In addition, classroom instruction was still predominantly teacher-centered, with limited opportunities for students to engage in active, collaborative, and meaningful learning activities. Writing tasks were often conducted individually, with minimal feedback and interaction among students. This condition contributed to low student engagement and suboptimal writing performance. The use of a real classroom setting allows this study to reflect authentic learning conditions and provides a more realistic understanding of how the Project-Based Learning model influences students' narrative writing skills. By implementing PjBL in this context, the study aims to create a more interactive and student-centered learning environment that supports the development of writing skills.

**Research Procedure**

The research procedure in this study was carried out in three main stages: preparation, implementation, and data collection. Each stage was systematically designed to ensure the effective implementation of the Project-Based Learning (PjBL) model in improving students' narrative writing skills. The detailed procedures are presented in Table 2.

**Table 2. Research Procedure**

| |
|---|
| **Preparation Stage** |
| - Conducting a literature review on Project-Based Learning and narrative writing skills<br>- Designing lesson plans based on the Project-Based Learning model<br>- Developing research instruments, including narrative writing tests and scoring rubrics<br>- Validating the instruments through expert judgment to ensure validity and reliability. |
| **Implementation Stage** |
| - Administering the pretest to measure students' initial narrative writing skills<br>- Implementing Project-Based Learning through the following steps: |


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| |
|---|
| 1. Problem Orientation: Introducing narrative themes or story prompts as the basis of the project<br>2. Project Planning: Students plan their narrative writing projects collaboratively<br>3. Investigation: Students explore ideas, develop characters, plot, and setting<br>4. Project Development and Presentation: Students write and present their narrative texts<br>5. Reflection and Evaluation: Students reflect on their writing process and outcomes<br>- Administering the posttest after the implementation of the Project-Based Learning model. |
| **Data Collection Stage** |
| - Collecting data from students' pretest and posttest writing results<br>- Documenting students' activities during the learning process through observation.ccs |

**Data Analysis Techniques**

The collected data were analyzed using quantitative statistical techniques to determine the effectiveness of the Project-Based Learning model. The analysis procedures are as follows:

- Descriptive Statistics

Used to summarize students' pretest and posttest scores, including mean, minimum, maximum, and standard deviation.

- Normality Test

Conducted using the Kolmogorov–Smirnov test with a significance level of 0.05 to determine whether the data were normally distributed.

- Paired Sample t-Test

Used to determine whether there was a significant difference between pretest and posttest scores. A significance value ($p < 0.05$) indicates a statistically significant improvement in students' narrative writing skills.

- N-Gain Analysis

Applied to measure the level of improvement in students' writing skills after the implementation of Project-Based Learning. The N-Gain value is categorized into low, moderate, and high improvement levels.

**Ethical Considerations**

This study was conducted by ensuring ethical research practices. Permission was obtained from the school, and students participated voluntarily. The data collected were used solely for



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research purposes, and students' identities were kept confidential.

## RESULTS

### Descriptive Statistics of Students' Narrative Writing Skills

This study aimed to examine the effectiveness of the Project-Based Learning (PjBL) model in enhancing students' narrative writing skills. The data were obtained from pretest and posttest scores administered before and after the implementation of the learning model. The descriptive statistics of students' narrative writing skills are presented in Table 3.

**Table 3. Descriptive Statistics of Narrative Writing Skills**

| Statistic | Pretest | Posttest |
|---|---|---|
| Minimum | 45 | 73 |
| Maximum | 85 | 95 |
| Mean | 65.25 | 87.50 |
| Standard Deviation | 8.20 | 5.85 |

The results indicate a substantial improvement in students' narrative writing skills after the implementation of the Project-Based Learning model. The mean score increased from 65.25 in the pretest to 87.50 in the posttest. In addition, the standard deviation decreased, indicating that students' writing performance became more consistent after the intervention.

### Normality Test

The normality test was conducted using the Kolmogorov–Smirnov test to determine whether the data were normally distributed. The results are presented in Table 4.

**Table 4. Normality Test Results**

| Data | Statistic | Sig. (p) | Description |
|---|---|---|---|
| Pretest | 0.121 | 0.200 | Normal |
| Posttest | 0.133 | 0.162 | Normal |

The results show that the significance values for both pretest and posttest scores are greater than 0.05. Therefore, the data are normally distributed and meet the assumptions for parametric statistical analysis.


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**Paired Sample t-Test**

To determine whether there was a significant difference between pretest and posttest scores, a paired sample t-test was conducted. The results are presented in Table 5.

**Table 5. Paired Sample t-Test Results**

| Data Pair | Mean Difference | t-value | Sig. (p) | Description | Data Pair |
|---|---|---|---|---|---|
| Pretest–Posttest | 65.25 – 87.50 | 14.216 | 0.000 | Significant | Pretest–Posttest |

The results show that the significance value is **0.000 < 0.05**, indicating a statistically significant difference between pretest and posttest scores. This finding suggests that the implementation of the Project-Based Learning model has a significant effect on students' narrative writing skills.

**N-Gain Analysis**

The N-Gain analysis was conducted to measure the level of improvement in students' narrative writing skills after the intervention. The result of the N-Gain calculation is presented in Table 6.

**Table 6. N-Gain Results**

| Mean Pretest | Mean Posttest | N-Gain | Category |
|---|---|---|---|
| 65.25 | 87.50 | 0.64 | Moderate |

The N-Gain value of **0.64** indicates that the improvement in students' narrative writing skills falls into the **moderate category**. This result demonstrates that the Project-Based Learning model is effective in improving students' writing skills.

**DISCUSSION**

The findings of this study demonstrate that the implementation of the Project-Based Learning (PjBL) model has a significant and positive effect on students' narrative writing skills. This is evidenced by the substantial increase in the mean score from **65.25** in the pretest to **87.50** in the posttest, as well as the statistically significant result of the paired sample t-test ($p < 0.05$). Furthermore, the N-Gain value of **0.64**, which falls into the moderate category, indicates that the improvement achieved through the implementation of PjBL is meaningful and educationally significant. These findings confirm that Project-Based Learning is an effective instructional model



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for enhancing students' ability to write narrative texts.

The improvement in students' narrative writing skills can be explained through the fundamental characteristics of the Project-Based Learning model, which emphasizes active engagement, inquiry-based learning, collaboration, and reflection (Li et al., 2023; Wu et al., 2024). Unlike traditional teacher-centered approaches, which often position students as passive recipients of knowledge, PjBL provides opportunities for students to actively participate in the learning process. In this study, students were engaged in developing narrative projects, which required them to generate ideas, organize story structures, and express their thoughts in written form. This active involvement enabled students to construct their understanding of narrative writing more effectively.

From a theoretical perspective, these findings are consistent with constructivist learning theory, which posits that knowledge is actively constructed by learners through interaction with their environment and learning experiences. Through the implementation of PjBL, students were not merely given instructions on how to write narrative texts but were actively involved in exploring ideas, developing storylines, and producing their own texts. This process allowed students to build their knowledge through meaningful experiences, which contributed to the improvement of their writing skills (Liu et al., 2026; Somabut et al., 2026; S. Wang & Hew, 2026). One of the key factors contributing to the improvement in narrative writing skills is the emphasis on idea generation and creativity in Project-Based Learning. Writing narrative texts requires students to develop original ideas, create engaging storylines, and use descriptive language effectively. In traditional writing instruction, students are often limited to predefined topics and rigid structures, which can restrict their creativity. However, in the PjBL approach, students were given the freedom to explore themes and develop their own narratives. This flexibility encouraged students to think creatively and produce more meaningful and engaging texts. As a result, students demonstrated improved ability in developing ideas and constructing coherent narratives.

In addition to fostering creativity, Project-Based Learning also supports the development of organizational skills in writing. Narrative writing requires a clear structure, including orientation, complication, and resolution. Through collaborative project planning and discussion, students were able to organize their ideas more effectively. They learned how to structure their narratives logically and ensure coherence between different parts of the text. The collaborative nature of PjBL allowed students to exchange ideas and receive feedback from their peers, which further enhanced their ability to organize their writing (Asrul et al., 2021; Nursaid et al., 2026).

Another important aspect of Project-Based Learning that contributed to the improvement


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of writing skills is collaboration. During the implementation of PjBL, students worked in groups to plan and develop their narrative projects. This collaborative interaction provided opportunities for students to discuss ideas, share perspectives, and provide feedback to one another. According to social constructivist theory, knowledge is constructed through social interaction and dialogue. In this study, collaboration enabled students to refine their ideas, improve their language use, and enhance the quality of their writing. Peer feedback also played a crucial role in helping students identify and correct errors in their texts (Khaedar & Alam, 2023).

Furthermore, the reflection phase in Project-Based Learning significantly contributed to the development of students' writing skills. Reflection allows students to evaluate their learning processes, identify their strengths and weaknesses, and make improvements accordingly. In this study, students were encouraged to reflect on their writing process and the quality of their narratives. This reflective practice is closely related to metacognitive theory, which emphasizes the importance of self-awareness and self-regulation in learning. By engaging in reflection, students became more aware of their writing strategies and were able to improve their performance in subsequent tasks.

The significant improvement observed in this study is also supported by the increase in students' motivation and engagement during the learning process. Project-Based Learning provides meaningful and contextual learning experiences that are relevant to students' lives. When students perceive writing tasks as meaningful and interesting, they are more likely to be motivated to participate actively in the learning process. In this study, students showed greater enthusiasm and involvement in writing activities, which contributed to their improved performance. Increased motivation leads to greater effort and persistence, which are essential factors in developing writing skills.

The N-Gain value of 0.64, categorized as moderate, suggests that while the improvement in students' narrative writing skills is significant, there is still room for further enhancement. This may be influenced by several factors, including the duration of the intervention, students' prior writing abilities, and their familiarity with the Project-Based Learning model. It is possible that longer implementation of PjBL or more intensive practice could result in higher levels of improvement. Additionally, students who are not accustomed to student-centered learning may require more time to adapt to the PjBL approach.

These findings are consistent with previous studies that have demonstrated the effectiveness of Project-Based Learning in improving students' language skills. Research has shown that PjBL enhances students' ability to generate ideas, organize texts, and use appropriate


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language features. It also increases students' motivation, engagement, and confidence in learning. The results of this study further support the notion that PjBL is a suitable instructional model for developing complex skills such as writing, which require the integration of cognitive, linguistic, and creative abilities. From a pedagogical perspective, this study has important implications for Indonesian language teachers. The implementation of Project-Based Learning requires careful planning, including the design of meaningful projects, the facilitation of collaboration, and the integration of reflection activities. Teachers play a crucial role as facilitators who guide students in their learning process rather than merely delivering content. By adopting PjBL, teachers can create a more student-centered learning environment that promotes active engagement and meaningful learning (Bolstad, 2020; Haataja et al., 2019).

In addition, this study highlights the importance of integrating cognitive, social, and metacognitive aspects in writing instruction. Writing is not only a cognitive activity but also a social and reflective process. Instructional models that incorporate these elements, such as Project-Based Learning, are more effective in improving students' writing skills. Therefore, it is recommended that teachers integrate PjBL into their teaching practices to enhance students' narrative writing abilities. Overall, the findings of this study provide strong empirical evidence that Project-Based Learning is an effective instructional model for improving students' narrative writing skills. By engaging students in meaningful, collaborative, and reflective learning activities, PjBL creates a learning environment that fosters creativity, organization, and effective language use in writing.

## CONCLUSION

Based on the findings and discussion, it can be concluded that the implementation of the Project-Based Learning (PjBL) model is effective in enhancing students' narrative writing skills at SMA Jayanegara. This effectiveness is evidenced by the significant increase in students' mean scores from pretest to posttest, supported by the results of the paired sample t-test and N-Gain analysis, which indicate a meaningful level of improvement. The application of the PjBL model provides students with meaningful learning experiences through active engagement, collaboration, and reflection. These processes enable students to develop essential aspects of narrative writing, including idea generation, organization, coherence, and language use. In addition, the implementation of PjBL fosters students' creativity, motivation, and confidence in expressing their ideas through writing.

From a pedagogical perspective, Project-Based Learning offers an effective alternative to


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traditional teacher-centered instruction by promoting student-centered learning environments that support the development of writing skills. Therefore, it is recommended that teachers integrate PjBL into Indonesian language instruction to enhance students' narrative writing abilities. However, this study is limited by the use of a one-group pretest–posttest design and a relatively small sample size. Future research is recommended to involve control groups, larger samples, and longer implementation periods to obtain more comprehensive findings and to further explore the impact of Project-Based Learning on students' writing skills.

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