

**THE IMPROVEMENT OF PROJECT-BASED LEARNING SUPPORTED BY
STORYBIRD MEDIA IN IMPROVING NARRATIVE WRITING SKILLS AMONG
ANIMATION STUDENTS IN VOCATIONAL HIGH SCHOOLS**

Amanda Noer Rosyida
Universitas Negeri Surabaya, Faculty Of Languages And Arts
English Language Education Study Program
amanda.21089@mhs.unesa.ac.id

ABSTRACT

This study investigated the effectiveness of Project-Based Learning (PjBL) supported by Storybird in improving the narrative writing skills of tenth-grade Animation students at SMKN 1 Dlanggu. A pre-experimental one-group pretest–posttest design was employed involving 33 students. Data were collected through narrative writing tests assessed using an analytic rubric covering content, organization, grammar, vocabulary, and mechanics. The data were analyzed using descriptive statistics, the Shapiro–Wilk normality test, paired-samples t-test, and repeated measures ANOVA. The findings revealed a significant improvement in students' narrative writing performance after the implementation of PjBL supported by Storybird ($t(32) = 15.448, p < .001$). Among the assessed aspects, content showed the greatest improvement, while grammar demonstrated the smallest gain. The integration of project-based activities with digital storytelling encouraged collaboration, creativity, and more meaningful learning aligned with vocational animation competencies. These findings indicate that Storybird-supported PjBL is an effective instructional approach for enhancing narrative writing skills in vocational English classrooms.

Keywords: *Project-Based Learning, Storybird, Narrative Writing, Vocational High School, Animation Students*

ABSTRAK

Penelitian ini bertujuan untuk mengetahui efektivitas Project-Based Learning (PjBL) yang didukung media Storybird dalam meningkatkan keterampilan menulis teks naratif siswa kelas X Animasi di SMKN 1 Dlanggu. Penelitian menggunakan desain pre-experimental one-group pretest-posttest yang melibatkan 33 siswa. Data dikumpulkan melalui tes menulis naratif yang dinilai menggunakan rubrik analitik meliputi aspek isi, organisasi, tata bahasa, kosakata, dan mekanik. Analisis data dilakukan menggunakan statistik deskriptif, uji normalitas Shapiro–Wilk, uji *paired-samples t-test*, dan *repeated measures ANOVA*. Hasil penelitian menunjukkan adanya peningkatan yang signifikan pada kemampuan menulis naratif siswa setelah penerapan PjBL berbantuan Storybird ($t(32) = 15,448; p < 0,001$). Aspek isi mengalami peningkatan tertinggi, sedangkan tata bahasa menunjukkan peningkatan paling rendah. Integrasi pembelajaran berbasis proyek dengan media

digital storytelling mampu meningkatkan kolaborasi, kreativitas, dan pengalaman belajar yang relevan dengan kompetensi keahlian animasi. Temuan ini menunjukkan bahwa PjBL berbantuan Storybird merupakan pendekatan yang efektif untuk meningkatkan keterampilan menulis naratif di SMK.

Kata Kunci: Project-Based Learning, Storybird, Menulis Naratif, Sekolah Menengah Kejuruan, Animasi

A. Introduction

Writing is an essential skill for vocational high school students, particularly in the 21st century, where communication and industry demands continue to increase (Apriliana & Basikin, 2021; Dragomir & Niculescu, 2020). For animation students, narrative writing is closely related to scriptwriting, visual storytelling, and story development, which are fundamental competencies in the animation industry (Badan Nasional Sertifikasi Profesi, 2017; Karmakar, 2021). However, many vocational students still experience difficulties in organizing ideas, applying grammar, and developing coherent narratives because writing instruction is often teacher-centered and disconnected from vocational contexts (Porter Elizabeth, 2024; Pratiwi et al., 2024). Preliminary observations at the target school also revealed that although Storybird had been introduced, it was used only as a final assignment without structured guidance, resulting

in students' narrative writing performance remaining relatively low.

Project-Based Learning (PjBL) offers a promising solution by engaging students in authentic, collaborative, and meaningful learning activities that reflect real workplace practices (Fitri et al., 2024). Supported by constructivist learning theory and Cognitive Load Theory, PjBL enables students to develop writing skills gradually through brainstorming, collaboration, peer feedback, and project completion while reducing cognitive overload (Giang, 2021; Garzón et al., 2020). Integrating Storybird into PjBL further supports idea generation and digital storytelling, making narrative writing more relevant to animation students' professional needs.

Previous studies have demonstrated that PjBL improves students' writing performance, creativity, autonomy, and organization of ideas (Aldobekhi & Abahussain, 2024; Andargie et al., 2025; Gao et al.,

2024). Indonesian studies also reported positive effects of PjBL on vocational students' writing skills, particularly when combined with digital media such as Canva (Ruswandi et al., 2024; Saliimah et al., 2023). However, limited research has investigated the integration of Project-Based Learning and Storybird to improve English narrative writing specifically for vocational animation students, whose learning characteristics and professional competencies differ from those of general secondary students.

Therefore, this study aims to examine the effectiveness of Storybird-supported Project-Based Learning in improving the narrative writing skills of tenth-grade animation students at a vocational high school. Specifically, the study investigates whether there is a significant difference in students' narrative writing performance before and after the implementation of Project-Based Learning and identifies which writing aspect shows the greatest improvement. The findings are expected to contribute to English language teaching by providing an industry-oriented instructional model that integrates project-based

pedagogy with digital storytelling media in vocational education.

B. Research Method

This study employed a pre-experimental one-group pretest-posttest design to investigate the effectiveness of Project-Based Learning (PjBL) supported by Storybird in improving narrative writing skills. The research was conducted at SMKN 1 Dlanggu, Mojokerto, involving 33 Grade 10 Animation students selected through convenience sampling. Students completed a pretest, participated in four PjBL instructional sessions using Storybird, and then took a posttest.

Data were collected using narrative writing tests assessed with an analytic rubric covering project performance, content, organization, grammar, vocabulary, and mechanics. Content validity was established through expert judgment, while inter-rater reliability between the researcher and an English teacher yielded an ICC of 0.805, indicating good reliability.

Data were analyzed using SPSS 26. The Shapiro-Wilk test examined data normality, followed by a paired-sample t-test to determine differences between pretest and posttest scores.

A Repeated Measures ANOVA was also conducted to identify the writing aspect showing the greatest improvement after the implementation of PjBL supported by Storybird.

C. Result and Discussion

Descriptive Statistics

Table 1 Descriptive Statistics of Pre & Post Tests Results

	N	Descriptive Statistics			
		Mini-mum	Maxi-mum	Mean	Std. Deviation
PRETEST	33	50.38	67.63	60.1023	4.33052
POSTTEST	33	66.75	84.25	76.8788	4.99115
Valid N (list-wise)	33				

The post-test showed a slightly higher standard deviation (SD = 4.99) than the pre-test (SD = 4.33), indicating greater score variation. However, the coefficient of variation decreased from 7.20% to 6.49%, suggesting more consistent writing performance after the PjBL intervention. Overall, students' narrative writing achievement improved following the implementation of Project-Based Learning, although statistical testing was required to confirm the significance of this improvement

Table 2 Test Normality of Pre & Post Tests Results

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pretest	.089	33	.200 ^a	.976	33	.674
posttest	.101	33	.200 ^a	.954	33	.177

^a. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The Shapiro-Wilk test, recommended for samples smaller

than 50 (Mishra et al., 2019), showed that both the pre-test ($p = 0.674$) and post-test ($p = 0.177$) were normally distributed ($p > 0.05$). Therefore, the assumption of normality was met, and the paired-sample t-test was appropriate for subsequent analysis.

Paired Sample T-Test

Table 3 Paired Samples Test Results

Paired Samples Test									
Paired Differences									
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)	
				Lower	Upper				
Pair 1 posttest - pretest	16.77652	6.23872	1.08602	14.56436	18.98867	15.448	32	.000	

The paired sample t-test result shows $t(32) = 15.448$, $p < .001$, indicating a statistically significant difference between the pre-test and post-test scores. This means that students' narrative writing ability improved significantly after the implementation of Project-Based Learning.

Writing Indicator Improvement

Table 4 Descriptive Statistics of Writing Aspect Improvement

	Descriptive Statistics		
	Mean	Std. Deviation	N
content imp	1.2121	.62538	33
org imp	.1061	.64660	33
grammar imp	.5455	.79415	33
vocab imp	.7273	.62614	33
mech imp	.5909	.63066	33

Table 4 shows that content experienced the greatest improvement ($M = 1.21$), indicating better idea development, while grammar showed the smallest gain ($M = 0.55$), suggesting continued grammatical difficulties. Vocabulary ($M = 0.73$), mechanics ($M = 0.59$), and

organization ($M = 0.11$) showed moderate improvements.

Table 5 Results of Repeated Measures ANOVA (Multivariate Tests)

Multivariate Tests ^a							
Effect	Value	F	Hypothesis <u>df</u>	Error <u>df</u>	Sig.	Partial Eta Squared	
Aspect	Pillai's Trace	.735	20.156 ^b	4.000	29.000	.000	.735
	Wilks' Lambda	.265	20.156 ^b	4.000	29.000	.000	.735
	Hotelling's Trace	2.780	20.156 ^b	4.000	29.000	.000	.735
	Roy's Largest Root	2.780	20.156 ^b	4.000	29.000	.000	.735

a. Design: Intercept

Within-Subjects Design: Aspect

b. Exact statistic

The multivariate test showed a significant difference among the five writing aspects (Pillai's Trace: $F(4,29) = 20.156$, $p < 0.001$, $\eta^2 = 0.735$). The results indicate that improvements varied across aspects, with some showing greater gains than others, and the large effect size reflects substantial differences.

Discussion

This study found that Project-Based Learning (PjBL) supported by Storybird significantly improved students' narrative writing skills, as indicated by the increase in mean scores from 60.10 ($SD = 4.33$) on the pre-test to 76.87 ($SD = 4.99$) on the post-test ($t(32) = 15.448$, $p < .001$). The improvement suggests that the structured stages of PjBL enabled students to plan, draft, revise, and reflect on their writing more effectively.

These findings are consistent with constructivist theory, which emphasizes learning through collaboration, scaffolding, and authentic tasks, allowing students to gradually develop their writing competence.

Among the writing aspects, content showed the greatest improvement, while grammar improved the least. This finding can be explained by Cognitive Load Theory, as the step-by-step PjBL process reduced students' cognitive burden and allowed them to focus on idea development before language accuracy. The results are consistent with previous studies reporting that PjBL enhances idea generation, creativity, and writing quality, although grammatical accuracy often develops more slowly. For animation students, Storybird also provided meaningful visual support, making narrative writing more relevant to storyboard and script development in their vocational field.

These findings suggest that integrating PjBL and Storybird offers an effective approach to connecting English learning with vocational competencies. However, the results should be interpreted cautiously

because the study employed a one-group pre-experimental design, involved only one class, and was conducted over a short intervention period. Future studies are recommended to use experimental designs with control groups, larger and more diverse samples, longer interventions, and independent raters to strengthen the validity and generalizability of the findings.

D. Conclusion

This study found that Project-Based Learning (PjBL) supported by Storybird significantly improved the narrative writing skills of Grade 10 animation students at SMKN 1 Dlanggu. The paired-samples t-test showed a significant difference between the pre-test and post-test scores ($p < 0.001$), indicating that the intervention positively affected students' writing performance. Students demonstrated improvements in idea development, organization, vocabulary, and grammar through the structured stages of planning, drafting, revising, and presenting. In the animation context, narrative writing also supported storyboard development, making learning more meaningful and relevant to vocational

competencies. However, because this study employed a one-group pre-experimental design with a short intervention and no control group, the findings should be interpreted cautiously.

The findings suggest that PjBL can serve as an effective approach for integrating English writing instruction with vocational learning, particularly in creative fields such as animation. English teachers are encouraged to design authentic, project-based writing activities aligned with students' professional needs, while students should actively participate in collaborative writing and revision to strengthen their writing skills. Future studies are recommended to involve larger samples, control groups, longer intervention periods, different vocational majors or writing genres, and independent raters to improve the validity and generalizability of the findings.

References

- Abbott, H. P. (2020). The Cambridge introduction to narrative. Cambridge University Press.
- Abdullah, F., Tandiana, S. T., & Amelia, R. (2020). Storybird-based narrative writing activities among Indonesian EFL learners: Focusing on

- contributions. *Premise: Journal of English Education*, 9(2), 164–180.
<https://doi.org/10.24127/pj.v9i.2805>
- Abuhassna, H., Alnawajha, S., Awae, F., Mohamed Adnan, M. A. B., & Edwards, B. I. (2024). Synthesizing technology integration within the ADDIE model for instructional design: A comprehensive systematic literature review. *Journal of Autonomous Intelligence*, 7(5), 1546.
<https://doi.org/10.32629/jai.v7i5.1546>
- Ahmad, S. T., Watrianthos, R., Samala, A. D., Muskhir, M., & Dogara, G. (2023). Project-based learning in vocational education: A bibliometric approach. *International Journal of Modern Education and Computer Science*, 15(4), 43–56.
<https://doi.org/10.5815/ijmecs.2023.04.04>
- Ajjawi, R., Tai, J., Le, T. H. N., Boud, D., Johnson, L., & Patrick, C. J. (2020). Aligning assessment with the needs of work-integrated learning: The challenges of authentic assessment in a complex context. *Assessment & Evaluation in Higher Education*, 45(2), 304–316.
<https://doi.org/10.1080/02602938.2019.1639613>
- Aldobekhi, S. A., & Abahussain, M. O. (2024). Enhancing English language students' productive skills through project-based learning: A mixed method research. *International Journal of Learning, Teaching and Educational Research*, 23(1), 231–257.
<https://doi.org/10.26803/ijlter.23.1.12>
- Alemneh, S., & Gebrie, G. (2024). The role of project-based learning in improving the writing ability and sub-writing abilities of 10th grade Amharic-speaking students. *Social Sciences & Humanities Open*, 9.
<https://doi.org/10.1016/j.ssaho.2024.100843>
- Almulla, M. A. (2020). The effectiveness of the project-based learning (PBL) approach as a way to engage students in learning. *SAGE Open*, 10(3).
<https://doi.org/10.1177/2158244020938702>
- Andargie, A., Amogne, D., & Tefera, E. (2025). Effects of project-based learning on EFL learners' writing performance. *PLOS ONE*, 20(1).
<https://doi.org/10.1371/journal.pone.0317518>
- Anderson, M., & Anderson, K. (1997). *Text types in English* (Vol. 1). Macmillan Education
- Asrul, N., Rajagukguk, S. F., Sitepu, V. O., Siregar, P. M., & Novri, A. (2021). The effect of project-based learning on students' achievement in writing narrative text. *Journal of English Language and Education*, 6(2), 103–110.
<https://doi.org/10.31004/jele.v6i2.170>
- Boss, S., & Krauss, J. (2022). *Reinventing project-based learning: Your field guide to real-world projects in the digital age*. International Society for Technology in Education.
- Brown, H. D. (2007). *Teaching by principles: An interactive approach to language pedagogy* (2nd ed.). Longman.

- Creswell, J. W., & Creswell, J. D.
(2018). Research design:
Qualitative, quantitative, and
mixed methods approaches
(5th ed.). SAGE Publications.
- Crossley, S. (2020). Linguistic
features in writing quality and
development: An overview.
Journal of Writing Research,
11(3), 415–443.
<https://doi.org/10.17239/JOWR-2020.11.03.01>