

# The Influence of Digital Textbooks on Narrative Writing Skills of Primary School Teacher Education Students

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**Abstract**—In this digital era, technological advancements have transformed many aspects of education, including the way learning materials are delivered. One of the innovations emerging from technological progress is digital textbooks, which offer ease of access and interactivity in learning. In the context of language learning, digital textbooks hold great potential for supporting the development of writing skills, including narrative writing. This research aims to determine whether digital textbooks have an impact on the narrative writing skills of Primary School Teacher Education students. This study employs a quantitative research approach, using an experimental method. The population in this study consists of 57 students from the Faculty of Teacher Training and Education, specifically from the Primary School Teacher Education program, comprising 30 students from semester III A and 27 students from semester III B. The sampling technique used in this study is a type of nonprobability sampling, specifically saturated sampling. Data collection in this research is conducted through testing. The validity test in this study uses content validity. The results of the hypothesis testing, conducted through an Independent Samples t-Test, show a significance value of  $0.001 < 0.05$  and a calculated t-value of  $3.472 > t\text{-table value of } 2.0024$ . This means that  $H_0$  is rejected and  $H_a$  is accepted, thus it can be concluded that there is an influence of digital textbooks on the narrative writing skills of Primary School Teacher Education students.

**Index Terms**—digital textbook, narrative writing skills, PGSD students

## I. INTRODUCTION

The advancement of digital technology in education increasingly encourages the use of more varied and interactive learning media (Zhang, 2021). Digital textbooks have now become a popular alternative to enhance the quality of learning, especially in the fast-paced digital era (Zhao, 2019). Various studies indicate that the use of digital textbooks positively impacts students' learning experiences, as interactive, multimedia, and adaptive digital books are considered to improve students' understanding and skills more effectively than traditional printed books, as shown in research by Fitri (2020) in the context of Primary School Teacher Education (PGSD), narrative writing is an essential skill that prospective teachers must acquire. This skill is not only valuable for academic activities but is also necessary for teaching language skills to primary school students in the future. However, several studies show that writing skills among students in Indonesia, particularly in narrative writing, are still inadequate (Rasinski et al., 2017). This is attributed to several factors, including a lack of reading interest, limited knowledge of text structure, and insufficient structured writing practice (Graham & Perin, 2017).

Digital textbooks offer opportunities to enhance writing skills by providing various features not available in printed books, such as multimedia content (audio, video, and images) and other interactive features (Elena Railean, 2018). These features can help Primary School Teacher Education (PGSD) students better understand the structure and flow of narrative writing in an easier and more engaging way. According to research by Lim et al. (2021), students who use digital textbooks with interactive features tend to be more interested and motivated in completing writing assignments. Additionally, digital technology enables automatic feedback, which can improve students' narrative writing skills more quickly and effectively (Kiefer & Michaels, 2019).

Several international studies have explored how the use of digital textbooks can impact narrative writing skills. For instance, research by Chen et al. (2021) examined the effect of digital textbooks on students' writing skills in junior high

schools in Taiwan. This study found that students using digital textbooks demonstrated better abilities in constructing narratives, particularly in story and character development. The study concluded that interactive, illustration-rich digital textbooks can help students develop more creative and structured story ideas (Chen et al., 2021).

Furthermore, a study by Kim and Park (2019) on the use of digital textbooks in high school writing classes in South Korea showed that it improved students' abilities to write complex narratives. Digital textbooks equipped with narrative examples and step-by-step guides proved helpful in assisting students to understand and apply basic narrative structures in their writing. The study's findings revealed a significant improvement in students' narrative coherence and cohesion (Park, 2016).

Another study conducted by Ahmed et al. (2020) in Egypt showed that digital textbooks could increase students' motivation to write. This study indicated that students using digital textbooks were more motivated to write narratives due to engaging interactive features, such as videos and animations. This heightened motivation helped students create longer and more in-depth narratives and develop more engaging and complex storylines (Ahmed et al., 2020).

At the higher education level, research by Jones and Graham (2019) in the United States revealed that students who used digital textbooks in writing skills courses showed higher creativity in narrative writing. These digital textbooks encouraged students to learn at their own pace, allowing them to explore various narrative ideas more freely. The study found that the multimedia elements in digital textbooks stimulated students' imaginations, positively affecting the originality and quality of their narratives (Jones & Graham, 2019).

Additionally, research by García and Rodríguez (2021) in Spain indicated that digital textbooks had a significant impact on writing skills for students with visual learning styles. The findings revealed that digital textbooks helped students visually understand key narrative elements, such as setting, character, and story atmosphere. The study highlighted that using images and illustrations in digital textbooks facilitated students in constructing cohesive and detailed storylines (García & Rodríguez, 2021).

Another study by Nelson and Park (2019) in Australia also highlights the positive effects of digital textbooks in enhancing critical thinking skills in narrative writing. This research observed that students using digital textbooks were more critical in selecting information and capable of developing more complex narrative plots. Digital textbooks featuring analytical narrative examples helped students understand story construction. However, despite the many benefits of digital textbooks, a study by Johnson (2018) in Canada points out certain challenges, particularly concerning access limitations in some regions. This study revealed that infrastructure issues, such as uneven internet access, hinder the implementation of digital textbooks, making it difficult for students in remote areas to access learning materials (Johnson, 2018).

On the other hand, a study by Liu and Zhang (2020) in China indicates that while digital textbooks have potential in enhancing writing skills, they need to be controlled to avoid distracting students. This research found that students who overuse multimedia features in digital textbooks may lose focus on the main learning objective writing effectively. This finding underscores the importance of designing digital textbooks with a focus on relevant content that supports the goal of achieving narrative writing competence (Liu & Zhang, 2020).

Although there are some challenges, most studies show that digital textbooks have a significant positive impact on enhancing students' narrative writing skills across various education levels. In Indonesia, the use of digital textbooks in teaching writing skills is also becoming increasingly important to explore further, especially in the Indonesian Language Skills course for Primary School Teacher Education (PGSD) students. Considering findings from various international studies, the development of relevant and effective digital textbooks could be a solution to improve narrative writing skills among students. This research aims to determine whether digital textbooks influence the narrative writing skills of PGSD students. Based on the literature review, it appears that the use of digital textbooks can significantly enhance the writing learning process and enrich language skills (Hwang et al., 2018). However, there is still limited research specifically examining their effect on narrative writing skills within the context of teacher education. Therefore, this study is expected to contribute to the development of effective digital-based learning methods for PGSD students, particularly in improving their narrative writing skills.

## II. THEORETICAL FRAMEWORK

Digital textbooks have become a widely used learning medium in education, particularly for helping students understand material in an interactive and comprehensive way. According to research by Hwang et al. (2018), digital textbooks with multimedia features, such as videos and animations, can enhance student engagement and motivation. Multimedia content in digital open textbooks helps provide a richer and more relevant learning experience, allowing for a deeper understanding of the material. Furthermore, digital open textbooks are considered capable of adapting to individual learning needs through adaptive features. Research by Lim et al. (2021) found that digital textbooks offering step-by-step guidance and automatic feedback are effective in supporting language skill development, especially in writing. This suggests that digital media can be an effective tool in developing students' literacy skills, including narrative writing skills.

Narrative writing is an essential skill in language learning. Writing narratives involves not only technical abilities to construct sentences and paragraphs but also the skill to develop a logical and engaging storyline. Graham and Perin (2017) state that narrative writing requires a deep understanding of structure. However, various studies show that many

students face difficulties in narrative writing, particularly in building effective plot lines and expressing ideas clearly (Rasinski et al., 2017). These challenges are significant for PGSD (Primary School Teacher Education) students who will eventually become educators, as they need to possess strong writing skills to teach writing effectively to their students. The use of digital textbooks with features supporting narrative learning, such as interactive story examples and step-by-step writing guides, could provide a solution to improve these skills.

Several international studies show that digital open textbooks significantly impact improving students' writing skills across various education levels. A study by Kim and Yu (2019) revealed that students using digital open textbooks tend to show significant improvements in their writing skills compared to those using traditional print textbooks. This improvement is primarily due to interactive features that help students better understand text structures and systematically organize their writing. Moundy et al. (2021) found that automatic feedback in digital open textbooks plays an essential role in accelerating the learning process. Students can immediately correct their mistakes, making the learning process more effective and efficient. Additionally, according to research by Moundy et al. (2021) using digital open textbooks with visual and audio elements can enhance the appeal of writing lessons, ultimately increasing students' motivation to write.

Teacher education, particularly for PGSD (Primary School Teacher Education) students, demands strong writing skills to teach these skills effectively to future students. Digital textbooks can provide structural guidance that helps PGSD students understand and teach narrative writing skills. Research by Nelson and Park (2019) indicates that using digital textbooks in teacher education has the potential to enhance fundamental literacy and writing skills for future teachers. With access to rich learning resources and features that support writing skill development, PGSD students can gain more comprehensive learning experiences. Moreover, some studies also show that students who frequently use digital technology in the learning process tend to have better skills in utilizing educational technology in their future teaching practices (Moundy et al., 2022). Thus, the use of digital textbooks in narrative writing instruction is expected not only to improve students' writing skills but also to develop their ability to integrate digital technology into teaching.

### III. METHOD

This study uses a quantitative research approach with an experimental method (Rukminingsih et al., 2020). The research design employed in this study is a pretest-posttest design using a control group without random assignment (Nonequivalent Control Group Design). The population and sample for this research were 57 students from the Faculty of Teacher Training and Education, Primary School Teacher Education Program (PGSD), consisting of 30 IA semester students and 27 IB semester students. The sampling technique employed is a type of nonprobability sampling, specifically saturated sampling, which involves using the entire population as the sample (Sugiyono, 2018).

Data collection in this study is conducted through testing. A writing test is administered during both the pretest and posttest phases. The pretest is given to both the experimental and control groups to determine the students' initial abilities in narrative writing. After instruction, students are given a posttest. The posttest for the experimental group uses a digital textbook, while the control group posttest does not use a digital textbook. This test method aims to assess students' writing skills before and after the instruction.

The validity test in this study employs content validity, which is conducted with the assistance of expert evaluators or validators to assess the narrative writing test instrument based on the taught material. The following are the validity test data results.

TABLE 1  
EXPERT VALIDITY TEST RESULTS

ITEM	APPRAISAL			S1	S2	S3	ΣS	V	INFORMATION
	I	II	III						
P1-P6	23	24	24	17	18	18	53	0,981481	TALL

Based on Aiken's V validity criteria, if the V value is  $> 0.80$  and approaches 1.0, the validity result is considered high. From the data above, it can be concluded that  $V = 0.981481 > 0.80$ , meaning the items are valid and can be tested. Following expert validation, the items were tested on 30 students who had already received writing skills material to assess construct validity using the Product Moment correlation, assisted by SPSS. The construct validity test data are as follows:

TABLE 2  
CONSTRUCT VALIDITY TEST RESULTS

$r_{count}$	$r_{table}$	Information
0.459	0.349	VALID
0.528	0.349	VALID
0.794	0.349	VALID
0.815	0.349	VALID
0.735	0.349	VALID

Based on the construct validity test, since the calculated r-value > r-table, the items meet the construct validity requirements. Since the items have fulfilled both content and construct validity, they are declared valid and can be used as pretests and posttests for the control and experimental groups. The reliability testing of the essay test instrument can be conducted using Cronbach's Alpha with SPSS software. The reliability test data are as follows:

TABEL 3  
RELIABILITY RESULTS

<i>Reliability Statistics</i>	
<i>Cronbach's Alpha</i>	<i>N of Items</i>
0.709	5

Based on Cronbach's reliability criteria, if a variable shows a Cronbach's Alpha value > 0.60, it can be concluded that the variable is reliable or consistent in measurement (Fitria, 2022). From the data above, the reliability score is 0.709 > 0.6, indicating that the items fall within good reliability.

IV. FINDING AND DISCUSSION

The pretest was conducted before students received any treatment. The pretest was administered to students in semesters I A and I B. Semester I A students, serving as the experimental group, took the pretest on September 18, 2024, with 30 students participating. The pretest for semester I B students, the control group, was conducted on September 20, 2024, with 27 students. The results of the data analysis for the pretest in the experimental and control groups are as follows:

TABEL 4  
RESULTS OF PRETEST DATA ANALYSIS

<i>Descriptive Statistics</i>					
	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Pretest Experiment</i>	30	30	75	48.83	11.647
<i>Pretest Control</i>	27	30	70	48.15	10.844

Based on Table 4 above, it can be seen that the pretest scores for the experimental group of 30 students have a mean (average) of 48.83, with a minimum score of 30 and a maximum score of 75. Meanwhile, the pretest scores for the control group of 27 students have a mean (average) of 48.15, with a minimum score of 30 and a maximum score of 70. The results of the posttest data analysis for the experimental and control groups are as follows:

TABEL 5  
POSTTEST DATA ANALYSIS RESULTS

<i>Descriptive Statistics</i>					
	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
<i>Pretest Experiment</i>	30	60	85	70.67	6.789
<i>Post-Test Control</i>	27	50	85	63.33	9.094

Source: posttest data analysis with SPSS 25.

Based on Table 5 above, it can be seen that the posttest scores for the experimental group of 30 students have a mean (average) of 70.67, with a minimum score of 60 and a maximum score of 85. Meanwhile, the posttest scores for the control group of 27 students have a mean (average) of 63.33, with a minimum score of 50 and a maximum score of 85.

A normality test was conducted to determine whether the data is normally distributed. The normality test was applied to the pretest and posttest data for both the experimental and control groups using the Kolmogorov-Smirnov test in SPSS. The decision criteria are as follows: if the significance value is > 0.05, the data is normally distributed; if the significance value is < 0.05, the data is not normally distributed. The results of the normality test in this study are as follows:

TABEL 6  
PRETEST & POSTTEST NORMALITY TEST RESULTS

<i>Tests of Normality</i>					
<i>Class</i>		<i>Kolmogorov-Smirnov<sup>a</sup></i>			
		<i>Statistic</i>	<i>df</i>	<i>Sig.</i>	
Writing Skills	<i>Pretest Experiment</i>	0.107	30	.200*	
	<i>Post-Test Experiment</i>	0.139	30	0.143	
	<i>Pretest Control</i>	0.123	27	.200*	
	<i>Post-Test Control</i>	0.165	27	0.056	

Based on the normality test results above, the significance values are as follows: pretest for the experimental group = 0.200 > 0.05, pretest for the control group = 0.200 > 0.05, posttest for the experimental group = 0.143 > 0.05, and posttest for the control group = 0.056 > 0.05. These results indicate that the data is normally distributed.

A homogeneity test was conducted to determine whether the data originates from the same variance. The homogeneity test was applied to the pretest data of the experimental and control groups using SPSS. The decision

criteria are as follows: if the significance value is  $> 0.05$ , the data is homogeneous; if the significance value is  $< 0.05$ , the data is not homogeneous. The results of the homogeneity test in this study are as follows:

TABLE 7  
PRETEST HOMOGENEITY TEST RESULTS

<i>Test of Homogeneity of Variances</i>					
		<i>Levene Statistic</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
Writing Skills	<i>Based on Mean</i>	0.120	1	55	0.730
	<i>Based on Median</i>	0.124	1	55	0.726
	<i>Based on Median and with adjusted df</i>	0.124	1	54.888	0.726
	<i>Based on trimmed mean</i>	0.129	1	55	0.720

Based on the results of the pretest homogeneity test for the experimental class and control class, it shows a significance value of  $0.730 > 0.05$ , so the data comes from the same variance (homogeneous).

Hypothesis testing is carried out to test hypotheses that have been previously formulated, namely:

Null hypothesis (Ho) : There is no effect of digital textbooks on narrative essay writing skills on PGSD students

Ho :  $\mu \neq 0$

Alternative hypothesis (Ha) : There is an influence of digital textbooks on narrative essay writing skills on PGSD students

Ha :  $\mu = 0$

Hypothesis testing in this research uses the Independent Samples t test with the SPSS application. The results of hypothesis testing are as follows:

TABLE 8  
HYPOTHESIS TEST RESULTS

<i>Independent Samples Test</i>					
<i>t-test for Equality of Means</i>					
	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	<i>Mean Difference</i>	<i>Std. Error Difference</i>
<i>Equal variances assumed</i>	3.472	55	0.001	7.333	2.112
<i>Equal variances not assumed</i>	3.420	47.836	0.001	7.333	2.145

From the hypothesis testing table above, the 2 tailed significance value is 0.001 and tcount is 3.472. Based on the Independent Samples Test t-test decision, the sig value is  $0.001 < 0.05$  and t count is  $3.472 > t$  table 2.0024 (can be seen in the t distribution table), it can be concluded that Ho is rejected and Ha is accepted, meaning that there is an influence of digital textbooks on narrative essay writing skills on PGSD students.

The discussion on the impact of digital textbooks on the narrative writing skills of PGSD students shows significant results, both theoretically and practically. This study demonstrates that digital textbooks can be an effective tool for enhancing PGSD students' narrative writing skills. These findings reinforce previous research and provide a foundation for further studies in the context of teacher education and technology, paving the way for deeper exploration of factors influencing writing instruction in the digital age (Higgins et al., 2019). Furthermore, research by Graham and Perin (2017) enriches digital learning theories by providing empirical evidence on how digital textbooks can be used to improve writing skills, supporting the idea that technology can facilitate a more effective learning process. Additionally, research by Wang et al. (2022) proposes an interactive learning model that integrates digital textbooks into writing instruction. This model can serve as a reference for future research and curriculum development in the field of education.

The practical contributions of this study serve as recommendations for teaching, such as the study by Liu (2021), which suggests that PGSD faculty incorporate digital textbooks into writing instruction to create a more engaging and effective learning experience for students. In terms of curriculum development, research by Chai et al. (2020) provides a basis for designing a curriculum responsive to technological advancements, where digital textbooks become a key component of teaching strategies. Furthermore, as part of teacher training, research by O'Reilly et al. (2019) highlights the importance of training educators in the use of digital textbooks so they can fully leverage technology in teaching, ultimately enhancing student skills.

This study is not without limitations. One of the primary limitations is the time and duration constraint, as it was conducted over a relatively short period, which may not be sufficient to observe deeper changes in writing skills. Writing skills often require a longer time to develop significantly. Another limitation of this study is the limited

population; it only involved PGSD students from one or a few specific educational institutions, limiting the generalizability of the findings to a broader population. Variations in students' educational backgrounds and experiences may affect the results.

Furthermore, measurement of writing skills was conducted using a specific rubric to assess narrative writing skills. However, subjective assessment may vary between evaluators, and certain aspects of writing skills may not be measured accurately. Another limitation identified is technology constraints: access to and use of digital textbooks may vary among students. Students with greater digital experience and skills may benefit more than those with less experience. These limitations should be considered to understand the context of the study's findings and to inform further research that can address these issues. Future studies with a more comprehensive design and a broader population are expected to provide deeper insights into the impact of digital textbooks on narrative writing skills. The novelty and contribution of this study are expected to provide guidance for higher education in utilizing digital textbooks to improve students' writing skills, as well as establish a foundation for further research in this area. Additionally, its contributions are anticipated to encourage further innovation in educational practices and provide a solid basis for curriculum development in PGSD programs, integrating digital textbooks as teaching tools. The findings, which show that the use of digital textbooks enhances learning motivation and autonomy, support this direction.

## V. CONCLUSIONS

The implications of this study provide valuable insights for improving the quality of education at the university level, particularly within Primary School Teacher Education (PGSD) programs. The results indicate that using digital textbooks can significantly help students improve their narrative writing skills, suggesting that digital textbooks could become an integral part of the learning media in PGSD environments. In addition to enhancing students' ability to create coherent narratives, the interactive features in digital open textbooks offer a more immersive learning experience. Consequently, developing a PGSD curriculum that adopts digital textbook technology may better prepare future teachers with strong language competencies, equipping them to teach these skills effectively to their future students. For educators and education practitioners, this study recommends that instructors increasingly integrate digital textbooks into the teaching of writing skills, particularly narrative writing. Digital textbooks equipped with narrative examples, multimedia features, and automatic feedback will aid students in self-directed learning and in honing their skills continuously. This also enables instructors to serve as facilitators, providing targeted guidance and addressing specific areas needing improvement rather than offering only general instructions. By utilizing digital textbooks, the teaching and learning process becomes more effective, and students can actively engage in their learning. Further research is recommended to explore the impact of digital textbooks on various other writing skills, such as descriptive or expository writing, to investigate broader applications within the PGSD curriculum. Additionally, digital textbook developers are encouraged to enhance features and content to better meet the needs of PGSD students, such as providing narrative guides, interactive exercises, and continuous evaluation. In the long term, utilizing digital textbooks aligned with the educational needs of future teachers is expected to not only improve students' writing skills but also foster essential digital literacy skills for teaching in the digital era.

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