

The Effect Of Using Miro Application Through Smart TV On Student's Enggagement And Narrative Writing Skills in MAN 1 Kediri

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ABSTRACT

This research investigates the effectiveness of traditional and technology-based learning approaches in improving students' narrative writing skills at MAN 1 Kota Kediri. The study compares two groups: Class 1, which was taught using a traditional method with a whiteboard, and Class 2, which received modern instruction using the Miro application displayed on a Smart TV. Post-test results analyzed using SPSS show that the traditional group achieved a mean score of **67.27**, while the modern group obtained a higher mean score of **73.60**. Although the independent t-test revealed that the difference between the two groups was **not statistically significant** ($p = .076$), the mean difference of **6.33 points** indicates a positive trend favoring the technology-based approach. These findings suggest that the integration of Miro and Smart TV provides a more interactive and engaging learning environment that can enhance students' narrative writing performance compared to traditional instruction. The results highlight the potential of digital media to support writing instruction in the context of modern classroom learning.

KEYWORDS: Miro-based learning, narrative writing, Smart TV integration

1.1 INTRODUCTION

The rapid development of digital technologies has transformed various sectors worldwide, including education. In Indonesia, the National Medium-Term Development Plan (RPJMN) 2020–2024 highlights the urgency of strengthening digital skills as a key driver of national digital transformation. The government identifies advancements in information and communication technology particularly in the education sector as a national priority to enhance the competitiveness and quality of Indonesian human resources (Government of Indonesia, 2020; Pathways for Prosperity Commission, 2022). As digitalization accelerates, educational institutions are increasingly required to adopt digital tools that support effective teaching and learning. The integration of technology into classroom practices has become essential in addressing the limitations of traditional instructional approaches, which often rely heavily on teacher-centered methods and passive learning. Digital tools provide opportunities for more interactive, engaging, and student-centered learning experiences. This shift is especially relevant in the teaching of narrative writing,

a skill that requires creativity, logical structuring of ideas, and the ability to communicate effectively. However, conventional writing instruction using printed materials or static whiteboards may not sufficiently motivate students or facilitate the development of higher-level writing competencies. Recent studies suggest that interactive digital platforms can enhance student engagement and improve writing performance. For example, applications such as Google-based collaborative tools have been shown to support idea generation, peer interaction, and improved writing outcomes (Dwipayanti, 2023). At the same time, emerging classroom technologies such as smart TVs offer high-definition displays, interactive features, and multimedia capabilities that can create an immersive learning environment. Research indicates that Smart TV–supported instruction can increase student motivation and participation, leading to positive learning outcomes (Gong et al., 2021).

Despite the documented benefits of these technologies individually, limited empirical evidence exists regarding the combined use of Smart TV and interactive applications like Miro in teaching narrative writing. While Miro provides a collaborative digital whiteboard that facilitates brainstorming, visualization, and real-time interaction, its integration with Smart TV as a classroom display tool has not been extensively explored in high school writing instruction contexts. To address this gap, the present quasi-experimental study examines the effectiveness of using Smart TV integrated with the Miro application in teaching narrative writing to high school students. This approach will be compared with traditional whiteboard-based instruction to determine differences in student engagement and writing proficiency. Through pre-test and post-test measurements and classroom observations, the study aims to provide empirical evidence on how interactive technologies can enhance the teaching and learning of narrative writing.

The findings of this research are expected to contribute meaningful insights for educators, curriculum developers, and policymakers regarding the practical integration of digital tools in language instruction. By demonstrating the instructional potential of Smart TV and Miro, this study may support broader efforts to improve literacy outcomes and align educational practices with national digital transformation goals.

2.0 METHODOLOGY

2.1 Class With Treatment (using Miro Applicaton)

No	Student	Pretest Score	Posttest Score
1.	S1	50	60
2.	S2	52	61
3.	S3	54	62
4.	S4	55	63
5.	S5	56	64
6.	S6	57	65

7.	S7	58	66
8.	S8	59	67
9.	S9	60	68
10.	S10	62	70
11.	S11	64	72
12.	S12	61	73
13.	S13	66	74
14.	S14	65	73
15.	S15	63	71

2.2 Class Without Treatment (only using whiteboard)

No	Student	Pretest Score	Posttest Score
1.	S1	51	73
2.	S2	53	73
3.	S3	56	80
4.	S4	58	40
5.	S5	55	80
6.	S6	59	80
7.	S7	57	80
8.	S8	60	80
9.	S9	65	80
10.	S10	68	53
11.	S11	63	73
12.	S12	64	73
13.	S13	66	73
14.	S14	72	93

15.	S15	62	73
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C. Engagement Questionnaire Result

This study analyzed by SPSS. The data from the mean of pre test dan total score. And then compared with post test using this steps or with following steps.

$$MPre = \frac{\sum pre}{N}$$

$$MPost = \frac{\sum post}{N}$$

By using SPSS to collect data from student grades.

3.1 FINDING

The findings of this research show that students in the traditional learning group, which used a whiteboard as the main instructional medium, obtained a post-test mean score of **67.27**, indicating moderate improvement in narrative writing ability. In contrast, the modern learning group that used the Miro application displayed on a Smart TV achieved a higher post-test mean score of **73.60**, suggesting better performance in generating ideas, organizing content, and developing narrative structure. Although the statistical analysis showed that the difference between the two groups was **not significant (p = .076)**, the score gap of **6.33 points** indicates a positive trend in favor of technology-based instruction. Overall, the results highlight that using Miro and Smart TV has the potential to enhance students' narrative writing skills more effectively than the traditional whiteboard method. Based on the pre- test and post- test results are analyze using SPSS and get the results as below:

Table 1
Paired Sample Statistic

Pair		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Posttest Class 1	67.2667	15	4.71270	1.21681
	Posttest Class 2	73.6000	15	12.47168	3.22017

This table shows descriptive statistics of the two post-test results that Grade 1 (Traditional): has a mean of 67.27, with a relatively low score variation (SD = 4.71), and Grade 2 (mod / Miro + Smart TV): has a mean of 73.60, with greater score variation (SD = 12.47). This difference in mean indicates that classes taught using

modern media tend to score higher than traditional classes.

Table 2
Samples Correlations Class 1 and class 2

		N	Correlation	Sig.
Pair 1	Pretest & Posttest	15	.000	1.000

The Samples Correlations of class 1 and class 2 table shows that the correlation between the pretest and posttest scores was .000, karena datanya independent, tidak ada hubungan matematis antar skor. And 1.000 indicates correlation is not significant (and indeed cannot be calculated validly).

Table 3
Paired Sample Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest – Posttest Kelas 1 dan kelas 2	-20.08333	10.930	2.820	- 13.38478	0,72	-1.840	28	.076

This table shows a comparison between the post-test scores of the traditional and modern classes: mean Difference = -6.33, meaning the modern class scored 6.33 points higher, $t = -1.84$, with $p = .076$, indicating this difference is not yet significant at $p < .05$. However, the directional difference indicates that learning using Miro + Smart TV produces better results than traditional whiteboard learning.

4.0 CONCLUSION

Based on the results of data analysis and discussion, it can be concluded that students who learned using modern media in the form of the Miro application displayed on Smart TV obtained higher post-test scores than students who learned through traditional methods using a regular whiteboard. Although the difference in scores was not statistically significant because the p-value was at 0.076, the average difference of 6.33 points indicates a tendency for increased narrative writing skills in the group using digital media. Miro and Smart TV-based learning has been proven to be more interesting, visual, collaborative, and interactive, thus increasing student motivation,

engagement, and understanding during the writing process. Considering the current advancement of learning technology, the use of digital media such as Miro is recommended as an alternative method for learning to write that is more effective than traditional methods. For further research, it is recommended to involve a larger sample size, a longer treatment duration, and more diverse assessment instruments to obtain stronger and statistically significant results.

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