The Implementation of Mind Mapping to Increase Student Writing Skills SMA Negeri 1 Pulau Morotai

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ABSTRACT

The objective of this research is to determine the effect of technique on students' using mind mapping. The method used in this research was quantitative method and the research design was pre experimental. The samples of this study were 40 students of the eight grade of SMA Negeri 1 Pulau Morotai in the Academic year 2024/2025. Based on the findings of the study the researcher concluded that Mind Mapping technique can be use to improve students' Writing Skills. It can be see the data results showed that in the pretest Mean score was 77.50 after being given treatment using the Mind Mapping technique, in the posttest the Mean score increased significantly, namely 41.30. It can be proven from the result of hypothesis testing which shows that sig. (2-tailed) was lower than the level of significance (0.000 < 0.05). it can be concluded that the null hypothesis (H0) was rejected and the alternative hypothesis (Ha) was accepted. So it is proven that using the Mind Mapping technique can improve students' Writing Skills.

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ABSTRACT

Tujuan penelitian ini adalah untuk menentukan pengaruh teknik pada penggunaan mind mapping oleh siswa. Metode yang digunakan dalam penelitian ini adalah metode kuantitatif, dan desain penelitiannya adalah pra-eksperimental. Sampel penelitian ini terdiri dari 40 siswa kelas VIII SMA Negeri 1 Pulau Morotai pada tahun ajaran 2024/2025. Berdasarkan temuan penelitian, peneliti menyimpulkan bahwa teknik mind mapping dapat digunakan untuk meningkatkan keterampilan menulis siswa. Hal ini dapat dilihat dari hasil data yang menunjukkan bahwa pada pretest, skor rata-rata adalah 77,50. Setelah diberikan perlakuan menggunakan teknik mind mapping, pada posttest skor rata-rata meningkat secara signifikan menjadi 41,30. Hal ini dapat dibuktikan dari hasil uji hipotesis yang menunjukkan bahwa sig. (2-tailed) lebih rendah dari tingkat signifikansi (0,000 < 0,05). Hal ini menunjukkan bahwa hipotesis nol (H0) ditolak dan hipotesis alternatif (Ha) diterima. Dengan demikian, terbukti bahwa penggunaan teknik Mind Mapping dapat meningkatkan keterampilan menulis siswa.

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INTRODUCTION

Writing skills are an essential component of English language learning that often pose a challenge for students. Writing is a productive skill that requires students to be able to generate ideas, choose appropriate diction, construct sentences coherently, and pay attention to linguistic rules such as grammar and spelling (Fadilah M.G. & Fitrawati F. 2022:187). Many students experience difficulties in the writing process, such as confusion about how to start writing, difficulty organizing ideas, low motivation, and limited vocabulary. As a result, students need a long time to produce coherent and communicative writing. To overcome this problem, teachers are required to apply innovative and effective learning techniques (Fitriani F, Nur, R.H 2019).

One technique that can be used to help students in the writing process is Mind Mapping. Mind Mapping is a visual technique that utilizes the entire brain to generate, organize, and visualize ideas graphically (Tiyas Salviati 2022:86). According to Buzan, this technique helps students collect ideas and keywords, thereby increasing creativity and facilitating the organization of writing. By placing the central idea in the middle and connecting it with supporting branches of ideas, students can structure their writing more effectively before they start writing (Hidayatullah & Tawali 2022:721).

A number of previous studies have proven the effectiveness of Mind Mapping in improving writing skills. Research by Sudarkam R. Mertosono shows that this technique is effective in improving the writing skills of junior high school students. Similarly, a study by Purba and Nurlaila also reveals that Mind Mapping significantly improves students' writing skills, particularly in writing procedural texts by helping to enrich vocabulary and organize ideas. These studies consistently show the positive impact of Mind Mapping in various language learning contexts.

However, existing research has mostly focused on the general effectiveness of Mind Mapping without considering differences in students' initial skill levels. There is still a lack of research specifically examining how the application of Mind Mapping can help students with varying levels of English writing skills. Therefore, there is a research gap in understanding the responses and development of students from various skill levels when using this technique.

Based on this gap, this study aims to determine how the application of the Mind Mapping technique can improve the procedural writing skills of eighth-grade students at SMA Negeri 1 Pulau Morotai. This study focuses on the use of Mind Mapping to help students generate, organize, and develop their ideas into a structured procedural text.

METHOD

Research Design

This study used a quantitative approach with a pre-experimental design in the form of a one-group pre-test and post-test design (Sugiyono, 2016:19). This design was chosen to measure the effectiveness of a treatment on a single group of subjects. At the beginning of the study, a pre-test was administered to measure students' basic writing skills. Next, the group received treatment, namely learning to write procedural texts using the Mind Mapping

technique. At the end of the treatment period, a post-test was administered to measure the improvement in students' skills after the intervention.

Table 3. Research Design

Pre test	Treatment	Post test
Y1	X	Y2

In formation :

Y1= Pre test

X= Treatment

Y2= Post test

       The variables in this study consist of two types. The independent variable (X) is the application of Mind Mapping techniques in teaching procedural writing. Meanwhile, the dependent variable (Y) is the results or scores of students' procedural writing skills.

Research Participants and Procedures

       The population in this study consisted of all 40 eighth-grade students at SMA Negeri 1 Pulau Morotai. The research sample was taken using purposive sampling, in which one class consisting of 40 students was selected as the research subjects. This selection was based on preliminary observations that the class had studied basic material on procedural texts.

       The data collection procedure was carried out in eight meetings. The first stage was administering a pre-test to all students to determine their initial ability in writing procedural texts. The second stage was the treatment, which was carried out over six meetings. During this period, students were taught the definition, purpose, generic structure, and examples of procedural texts, and were trained to write using the Mind Mapping technique. The final stage was the administration of a post-test to measure learning outcomes and improvements in students' writing skills after participating in the entire treatment series.

Instruments and Data Analysis

       The main instrument used to collect data was a writing test. This test was administered in two stages, namely a pre-test and a post-test, to measure students' skills in writing procedural texts before and after the treatment.

Table 4. Rubric Scoring Guide of Writing Assessment

Element		Score
diction		$X = \dfrac{\text{Total correct sentence}}{\text{Total sentence}} \times 100$
accuracy	vocabulary	$X = \dfrac{\text{Total correct spelling}}{\text{Total words}} \times 100$
	Grammar	$X = \dfrac{\text{Total correct meaning}}{\text{Total words}} \times 100$
Content		$X = \dfrac{\text{Number of words written}}{\text{Number of words requested}} \times 100$

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Paragraph Development	Content	Score
	TS(topic Sentence)+ss(supporting	A(100-89)
	Sentence)+ sequence	
	TS+SS+ not in sequence	B (89-70)
	Without TS+SS+ not in sequence	C (69-50)
	Without TS+ without SS +not in sequence	D (50-<)

The data collected from the pre-test and post-test results were analyzed statistically using the SPSS program. To test the research hypothesis and see significant differences between the results before and after treatment, a T-test was used. Students' writing was assessed using an assessment rubric that covered several aspects, such as diction, accuracy (vocabulary and grammar), and content suitability and paragraph development.

RESULT ANF DISCUSSION

Research Results

The quantitative data in this study were analyzed to measure the effect of Mind Mapping on students' procedural writing skills. Statistical analysis included descriptive statistics and hypothesis testing. Descriptive analysis showed an increase in student scores between before and after the treatment. The average score of students on the pre-test was 41.30 out of a total of 40 students. After applying the Mind Mapping technique for six meetings, the average score of students on the post-test increased significantly to 77.50. The minimum and maximum scores also showed an increase, from a range of 21-56 on the pre-test to 54-96 on the post-test.

Table 5. Descriptive Statatics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pre Test Experimental	40	21	56	41.30	8.659
Post-Test Experimental	40	54	96	77.50	10.122
Valid N (listwise)	40				

Before conducting the hypothesis test, a normality test was performed using the Shapiro-Wilk method. The test results showed that the pre-test and post-test data were normally distributed, with significance values greater than 0.05, respectively. This fulfilled the requirements for further parametric statistical analysis.

Table 6. Tests of Normality

Tests of Normality			
	Class	Kolmogorov-Smirnov[a]	Shapiro-Wilk

		Statistic	Df	Sig.	Statistic	Df	Sig.
Students'	Pre-Test	.082	40	.200*	.977	40	.449
Results	Post-Test	.095	40	.200	.977	40	.291

To test the research hypothesis, a Paired Samples T-test was used. The analysis results showed a significance value (2-tailed) of 0.000, which is smaller than the significance level of alpha 0.05. Based on these results, it can be concluded that there is a very significant difference between students' writing abilities before (pre-test) and after (post-test) being given treatment using the Mind Mapping technique.

Table 7. Paired Sample Statistics

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Students' Results	41.30	40	8.659	1.369
	Class	1.50	40	10.122	1.600

Table 8. Paired Sample Test

Paired Samples Test								
		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	S td. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Students' Results – Class	36.200	7.633	1.207	-38.641	-33.759	29.994	39	.000

Discussion

The results of this study indicate that the application of Mind Mapping techniques has a significant positive effect on students' ability to write procedural texts. The sharp increase in average scores from the pre-test to the post-test indicates that the intervention was effective. These findings answer the research question, namely that Mind Mapping can be an effective strategy for improving writing skills.

The success of this technique can be explained by several factors. Mind Mapping as a visual medium helps students overcome the main difficulties in writing, namely generating and organizing ideas. By mapping ideas visually, students can stimulate their imagination, structure their writing more effectively, and express their thoughts in essay form more easily and confidently. The learning process becomes more interesting and less monotonous compared to conventional methods, thereby increasing students' motivation and enthusiasm for learning.

These findings are in line with previous studies that also confirm the effectiveness of using visual media in teaching writing. Other studies show that techniques involving images

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or visual mapping can significantly improve student learning outcomes in writing. This is because visual media help teachers transfer material more effectively and encourage students to become active participants in the learning process. Most of the students in this study achieved a passing grade after the treatment, proving that they were able to understand and master the material well through the application of this technique.

Thus, it can be concluded that Mind Mapping is not only a visual aid, but also a learning strategy that empowers students to express their ideas more clearly and structurally in English.

CONCLUSION

Based on the data analysis and discussion described in the previous chapter, this study successfully demonstrated a significant improvement in students' procedural writing skills after the application of the Mind Mapping technique. This is evidenced by quantitative data, where the average post-test score of students (77.50) was much higher than the average pre-test score (41.30). This improvement is statistically significant, so the alternative hypothesis (Hi) of this study is accepted. Thus, it can be concluded that the use of the Mind Mapping technique is effective in improving students' procedural writing skills at SMA Negeri 1 Pulau Morotai.

Suggestion

Based on the positive findings of this study, several suggestions can be made for further utilization and development:
1. For English Teachers: It is recommended that teachers, especially those at Morotai Island State High School 1, apply the Mind Mapping technique as one of the strategies in teaching writing skills. This technique has been proven effective in helping students understand the material and organize their ideas more easily.
2. For Students: Students are expected to utilize Mind Mapping as a useful learning tool to improve their writing skills, especially in designing and structuring the framework of procedural texts.
3. For Future Researchers: This research is expected to serve as a reference for other researchers interested in similar topics. Further research can develop this topic by examining the use of Mind Mapping in other language skills, different types of texts, or research subjects with diverse characteristics to enrich the body of research in this field.
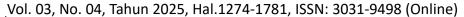

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