

THE EFFECT OF MIND MAPPING TECHNIQUE IN TEACHING WRITING SKILLS OF TENTH GRADE STUDENTS' IN SMA NEGERI 1 MAUMERE IN THE ACADEMIC YEAR OF 2023/2024.

(A QUASI-EXPERIMENTAL RESEARCH)

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ABSTRACT

The objective of this research is to determine how extend students taught using Mind Mapping Technique in teaching writing achieve better results in comparison to the Contextual Teaching and Learning Technique. The research was conducted using a quasi-experimental design with 44 tenth-grade students from SMA Negeri 1 Maumere. The experimental group was instructed using the Mind Mapping Technique, while the control group received instruction through Contextual Teaching and Learning Technique. The researcher utilized a written test comprising pre-test and post-test assessments as the research instrument. The findings revealed a substantial enhancement in writing skills among students taught with the Mind Mapping Technique compared to those instructed through Contextual Teaching and Learning Technique. This outcome strongly suggests the effectiveness of employing the Mind Mapping Technique to enhance students' writing abilities. The calculation of N-Gain scores further supported this with the experimental group achieving a mean N-Gain score of 61.46, while the control group obtained a score of 36.82. In conclusion, the research demonstrated that the Mind Mapping Technique is significantly effective in achieving superior results in writing skills when compared to the Contextual Teaching and Learning Technique. Students instructed using the Mind Mapping Technique consistently achieved higher scores.

Keywords: Mind Mapping Techniques, Contextual Teaching and Learning. Writing Skills

INTRODUCTION

Language is a vital system of communication that human use to convey thoughts, feelings, and information. It serves both social and cultural functions, as noted by Kridalaksana and Kentjono in Chaer (2014, p.32). According to Chomsky (2002, p.1) Language deeply ingrained in the human mind. The global significance of English as a language cannot be overstated with a quarter of the world population being English speakers. English is integral in various fields like technology, business, and education, where it is taught from elementary to university levels. Proficiency in English is often categorized into four essential skills, with writing being crucial for academic and professional success. Despite its importance, writing remains challenging for many students due to various difficulties, including organizing thoughts, sentence structure, and vocabulary limitations.

Nunan (2003, p. 88) and Abbas (2006, p. 125) emphasize that writing is a complex mental activity that requires creativity and critical thinking to effectively convey ideas and feelings. Despite its importance, writing remains one of the most challenging skills for students to master. It is cognitively demanding, requiring sustained intellectual effort and consistent time investment. Students often face obstacles in writing such as challenges in organizing thoughts, sentence structure, and vocabulary limitations. However, teachers can employ techniques to help students overcome these hurdles.

One promising technique is Mind Mapping, as proposed by Buzan (2008, p.1) Mind Mapping is a technique or method of organizing ideas visually using concept map or diagram. Several studies have shown the positive impact of implementing this technique in teaching writing. For instance, Humaniora and Yahrif (2021) found that Mind Mapping significantly improved students recount text writing. Sudirman (2023) demonstrated that students who employed Mind Mapping outperformed those who did not showcasing improvements in writing skills. Basri and Syamsia (2020) observed favorable impacts on students' descriptive text writing skills through the application of the Mind Mapping Technique. Firman and Imran (2020) also confirmed the effectiveness of Mind Mapping in enhancing students writing abilities. These studies collectively underscore the positive impact of the Mind Mapping Technique on students writing abilities. Further research is needed to compare this technique with other teaching technique, such as Contextual Teaching and Learning, to advance the understanding of effective methods for teaching writing skills in an academic context. In light of the aforementioned issues and their underlying rationales, the author is inclined to pursue a quasi-experimental research endeavor, bearing the title "The Effect of Mind Mapping Techniques in teaching Writing Skills of Tenth Grade Students in SMA Negeri 1 Maumere in the Academic Year of 2023/2024. (A Quasi-Experimental Research)

RESEARCH METHOD

The type of the research was quasi-experimental research design with nonequivalent control group design. It was aimed to find out the students taught by using Mind Mapping Techniques compared to students taught by using Contextual Teaching and Learning Technique. The study included 44 tenth-grade students selected from classes X D and X E out of all existing classes in class X of SMA Negeri 1 Maumere. Class X E served as the control class, while class X D acted as the experimental class. The experimental class received the experimental treatment, while the control class received the control treatment (Latief, 2011, p. 96). The researcher used purposive sampling. The instrument used in the study was test. The author gave pre-test and post-test in collecting the data. After obtain the data from pre-test and post-test the data is analyzed using various tests with the assistance of the SPSS application.

RESULT AND DISCUSSION

Table 1. The Frequency of Pre-test in Experimental Class and Controlled Class.

Table 4.1.1.5: The Frequency of Pre-test in Experimental Class and Controlled Class.

Classifications	Interval Score	Experimental Group		Control Group	
		F	%	F	%
Excellent	86 – 100	1	5%	0	0%
Good	76 – 85	4	18%	0	0%
Fair	60 – 75	6	27%	0	0%
Poor	55 – 59	0	0%	0	0%
Very Poor	0 – 54	11	50%	22	100%
Total		22	100%	22	100%

Table 4.1 illustrates that one student (5%) achieved an exemplary performance, falling within the score interval of 86-100, in the pre-test experimental class. Conversely, there were no students in the pre-test control class who attained an exemplary category. Furthermore, four students (18%) in the pre-test experimental class exhibited a good performance within the score range of 76-85, while there were no students in the pre-test control group who met the criteria for the good category. In the pre-test experimental class, six students (27%) achieved a fair performance, scoring within the range of 60-75. In contrast, there were no students in the experimental class who reached the fair category (score interval of 60-75). Notably, no students in the pre-test experimental class scored within the range of 55-59, thus not qualifying for the poor category. Similarly, there were no students in the pre-test control group who feel into the poor category. Lastly, the data revealed that 11 students (50%) in the pre-test experimental class and all 22 students (100%) in the pre-test control class received a classification of very poor, scoring within the interval of 0.54.

Table 2. The Frequency of Post-test in Experimental Class and Controlled Class

Classifications	Interval Score	Experimental Group		Control Group	
		F	%	F	%
Excellent	86 – 100	8	36%	0	0%
Good	76 – 85	9	41%	3	14%
Fair	60 – 75	5	23%	12	55%
Poor	55 – 59	0	0%	0	0%
Very Poor	0 – 54	0	0%	7	32%
Total		22	100%	22	100%

Table 4.3 reveals that there were no students in the post-test control class who achieved an excellent category. However, in the post-test experimental class, 8 students (36%) attained an excellent performance, scoring within the range of 86-100. Furthermore, 9 students (41%) in the experimental class and 3 students (14%) in the control class exhibited a good performance, falling within the score interval of 76-85. In the experimental class, 5 students (23%) achieved a fair performance with scores ranging from 60-75. Conversely, in the control class, a larger proportion of students, specifically 12 students (55%), received a fair category within the same score interval. Notably, no students in the experimental class or the control class scored in the poor category, with a score interval of 55-59. Lastly, no students in the experimental class were classified as "Very Poor," but in the control class, 7 students (32%) received a "Very Poor" classification, scoring within the interval of 0-54.

Normality Test

Table 4.3 Normality Test Result

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Class		Statistic	df	Sig.	Statistic	df	Sig.
Students Achievement in Writing Skill	Pre_Exp	.162	22	.137	.910	22	.047
	Post_Exp	.209	22	.013	.862	22	.005
	Pre_Con	.202	22	.020	.891	22	.020
	Post_Con	.183	22	.053	.913	22	.054

a. Lilliefors Significance Correction

Based on the table above, the pretest and posttest experimental and control group data show that the Sig value. Kolmogorov-Smirnov and Shapiro-Wilk

< 0.05 , so the conclusion from this distribution is that the data is not normally distributed. As the research data is not normally distributed, it can use non-parametric statistics to analyze research data.

Non-Parametric Test

Table 4.4 Result of Non-Parametric Wilcoxon Sign Rank Test

		Ranks		
		N	Mean Rank	Sum of Ranks
Post_Test Experiment - Pre-Test Experiment	Negative Ranks	0 ^a	.00	.00
	Positive Ranks	22 ^b	11.50	253.00
	Ties	0 ^c		
	Total	22		
Post-Test Control - Pre- Test Control	Negative Ranks	4 ^d	2.50	10.00
	Positive Ranks	18 ^e	13.50	243.00
	Ties	0 ^f		
	Total	22		

a. Post_Test Experiment $<$ Pre-Test Experiment

b. Post_Test Experiment $>$ Pre-Test Experiment

c. Post_Test Experiment = Pre-Test Experiment

d. Post-Test Control $<$ Pre-Test Control

e. Post-Test Control $>$ Pre-Test Control

f. Post-Test Control = Pre-Test Control

Based on the table above, it can be concluded that the utilization of the Mind Mapping Technique within the experimental class led to an increase in scores from the Pre-Test to the Post-Test. Moreover, there was no observed decrease in scores within the experimental class during this transition. The analysis reveals that the experimental class experienced a complete absence of negative ranks, totaling zero, and a notable presence of positive ranks, amounting to 22. This indicates a discernible enhancement in the entirety of the sample due to the application of the mind mapping method. Contrastingly, within the control class employing Contextual Teaching and Learning, four students displayed a decline in scores from the Pre-Test to the Post-Test. Concurrently, the number of positive ranks within this class reached a total of 18 out of 22 students. Furthermore, it is worth noting that there were no instances of ties or similarities between pre-test and post-test scores observed in either the Experimental or Control classes.

Table 4.5 Test statistics

	Post_Test Experiment - Pre-Test Experiment	Post-Test Control - Pre- Test Control
Z	-4.110 ^b	-3.784 ^b
Asymp. Sig. (2-tailed)	.000	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Upon revisiting the statistical test table, it is evident that the Asymp. Sig. (2-tailed) value is 0.000. Given that this value is less than the conventional threshold of 0.05, a significant difference in the mean scores of writing skill learning outcomes between the Pre-test and Post-test within the experimental class (utilizing the Mind Mapping Technique) can be affirmed. Similarly, for the control class, the Asymp. Sig. (2-tailed) value of 0.000, also less than 0.05, substantiates a notable distinction in the mean learning outcomes of writing skills between the Pre-test and Post-test within the control class (employing the Contextual Teaching and Learning Method).

With this critical information at hand, the study is now poised to advance to the subsequent phase of data examination, specifically, the homogeneity test.

Homogeneity Test

Table 4.6 Result of test Homogeneity

		Levene Statistic	df1	df2	Sig.
Achievement	Based on Mean	1.094	3	84	.356
	Based on Median	1.106	3	84	.351
	Based on Median and with adjusted df	1.106	3	78.409	.352
	Based on trimmed mean	1.153	3	84	.333

Based on the provided table, the obtained significance (sig) value is 0.356, which is greater than the conventional threshold of 0.05. Consequently, it can be concluded that the variance of data between the Posttest Experiment and Posttest Control classes is comparable

or homogeneous. This fulfillment of homogeneity in data variance represents one of the requisite conditions (though not an absolute one) for conducting the independent sample t-test.

Independent t-test

Table 4.7 Result of Independent Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Achievement	Equal variances assumed	1.731	.195	5.823	42	.000	23.864	4.098	15.593	32.135
	Equal variances not assumed			5.823	39.212	.000	23.864	4.098	15.575	32.152

Based on the table above, the sig value is obtained. (2-tailed) of $0.000 < 0.05$, it can be concluded that there is a difference in the average learning outcomes of students' writing skills between the Mind Mapping Technique and the Contextual Teaching and Learning Method.

For more details about the average experimental class and control class can be seen in the following statistical table:

Table 4.8 Group statistics

Class		N	Mean	Std. Deviation	Std. Error Mean
Achievement	Post_Exp	22	84.55	11.640	2.482
	Post_Con	22	60.68	15.298	3.262

Based on the data presented in the table, each class consists of 22 students. The mean score for the post-test in the experimental class is 84.55, with a standard deviation of 11.60. Conversely, the mean score for the post-test in the control class is 60.68, accompanied by a standard deviation of 15.298. Comparing the mean post-test scores between the experimental class, utilizing the Mind Mapping Technique, and the control class, employing Contextual Teaching and Learning, it is evident that the mean for the experimental class is substantially higher at 84.55 compared to the mean of 60.68 for the control class. From this discrepancy, it can be deduced that there exists a significant difference in the impact of the Mind Mapping Technique on student writing skills learning outcomes.

N-Gain Test**Table 4.9 Result of N-Gain Score**

Descriptives				Statistic	Std. Error
Class					
N_GainPersen	Experiment	Mean		61.46	6.115
		95% Confidence Interval for Mean	Lower Bound	48.74	
			Upper Bound	74.17	
		5% Trimmed Mean		62.07	
		Median		57.89	
		Variance		822.680	
		Std. Deviation		28.682	
		Minimum		12	
		Maximum		100	
		Range		88	
		Interquartile Range		37	
		Skewness		-.200	.491
		Kurtosis		-.844	.953
		Control	Mean		36.82
	95% Confidence Interval for Mean		Lower Bound	24.52	
			Upper Bound	49.12	
	5% Trimmed Mean		37.83		
	Median		38.90		
	Variance		769.531		
	Std. Deviation		27.740		
Minimum			-20		
Maximum			75		
Range			95		
Interquartile Range		30			
Skewness		-.656	.491		
Kurtosis		-.255	.953		

According to the data provided in the table, the mean (average) for the experimental class utilizing the Mind Mapping Technique is 61.46, with a minimum score of 12 and a maximum score of 100. Conversely, for the control class implementing Contextual Teaching and Learning Technique, the mean (average) is 36.82, with a maximum value of 75 and a minimum value of -20. The N-Gain Score test calculation demonstrates an average value (Mean) N-Gain Score of 61.46% for the Experimental class. Based on the established N-Gain Effectiveness Interpretation categories, the value of 61.46% falls within the moderately effective category. Considering the minimum N-Gain Score value of 12 and the maximum of

100, it can be definitively concluded that the utilization of the Mind Mapping Technique yields superior achievement compared to the application of Contextual Teaching and Learning. In other words, the research hypothesis (H1) is accepted, and the null hypothesis (H0) is rejected.

CONCLUSION AND SUGGESTION

The Research was aimed to determine how extend the effect of Mind Mapping Technique compare to the students taught by Contextual Teaching and Learning Technique. The subject of this research was class X D and X E of SMA Negeri 1 Maumere. Based on the research conducted at SMA Negeri 1 Maumere, the integration of the Mind Mapping Technique for teaching writing skills demonstrated a statistically significant positive impact. The pretest mean for the experimental group was 58.82, whereas the posttest mean was 84.55. The Mean N-Gain score for the experimental group was 64.46%, signifying its effectiveness, whereas the control group achieved a Mean N-Gain of 36.82, characterized as less efficacious. These findings strongly affirm that the utilization of Mind Mapping in teaching writing skills is highly successful. After conducting the research and scrutinizing the data, it can be concluded that implementing Mind Mapping for teaching writing skills was notably efficacious. Students instructed with Mind Mapping achieved superior outcomes compared to those taught using the Contextual Teaching and Learning Technique.

There are also suggestions. First, educators should integrate Mind Mapping Technique into their pedagogical approaches for teaching writing. Second, students are encouraged to integrate Mind Mapping Technique into their study routines for optimal academic progress. Third, prospective authors need to extend this research to diverse subject areas exploring the Mind Mapping Techniques potential for consistent positive effects within varied academic contexts to amplify its influence.

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