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The Effectiveness of Using Mind Mapping Technique On the Students' Writing Skill in Descriptive Text At Sman 1 Poco Ranaka

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Abstract

This study aimed to examine the effectiveness of the mind mapping technique in improving students' writing skills in descriptive text at the eleventh grade of SMAN 1 Poco Ranaka. This research used a quantitative approach with a quasi-experimental design, which included an experimental group and a control group. The study involved 210 eleventh-grade students, and purposive sampling was used to select two classes: XI Bahasa 1 as the experimental class and XI Bahasa 2 as the control class, with 30 students in each class. The data was collected using writing tests, given as a pre-test and post-test. A scoring rubric adapted from Brown (2007) was used to evaluate students' writing. The t-test results showed a significance value of 0.001 (≤ 0.005), meaning the alternative hypothesis (H_a) was accepted, and the null hypothesis (H_0) was rejected. This confirms that the mind mapping technique is effective in improving students' writing skills in descriptive text.

Keywords: mind mapping technique, writing, descriptive text

INTRODUCTION

English is an international language which has an important role in communication to interact with other people in the world. There are four technical skills that must be learned if students want to master English. Those are listening, reading, speaking, and writing. These skills are divided into two categories: receptive and productive. Listening and reading are receptive skills, meaning that learners receive and interpret information, ideas, thoughts, and opinions from others. On the other hand, speaking and writing are productive skills, as they require learners to produce and convey their own ideas, concepts, and meanings (Chicho 2022).

One of the productive skills that should be masterly skilled by students is writing. Purnamasari (2021) argue that writing skill is specific abilities which help students put their thoughts into words in a meaningful form and mentally interact with the message. Writing skill helps the students gain independence, comprehensibility, fluency, and creativity in writing. If students have mastered this skill, they will be able to write so that they can not only read what they have written, but other speakers of that language can read and understand it. Putri et al., (2022) state that writing is the process of expressing creativity and ideas through written language, often in the form of an essay. Through writing, the writer can convey thoughts, ideas, opinions, and desires. Additionally, writing helps to organize and clarify ideas, allowing the message to be communicated clearly and effectively to readers. Writing is an activity where learners express their ideas and knowledge in written form. It allows them to communicate thoughts effectively, create meaningful sentences, and organize ideas into well-structured writing. The process involves generating ideas, deciding how to express them, and arranging them into clear paragraphs. Writing also helps improve critical thinking and develop the ability to

organize thoughts logically (A.D. Jayanti 2019). Meanwhile, Tarin & Yawilong, (2022) emphasized that writing is a process of organizing thoughts and transforming them into words by structuring ideas into a logical and unified system where all elements are interconnected and aligned with the main idea. It is a thinking process that involves translating ideas into written form, allowing thoughts to be clearly expressed and effectively communicated.

Students face many challenges when learning English, especially in writing. These challenges can be divided into two types: external and internal. External challenges include difficulties in writing down and organizing ideas, learning new vocabulary, and making sure the language is accurate. On the other hand, internal challenges are related to a lack of interest, motivation, and confidence, which can cause anxiety while writing (Bulqiyah et al., 2021). Teaching writing is one of the most interesting and at the same time one of the most difficult instructional activities teachers face. We all know that writing is more than composing a draft and fixing it up. Writing is the written productive language skill that is the skill of writer to communicate the information to reader or group of readers. Her/his skill is also realized by her/his ability to apply the rules of the language. Writing is considered the most difficult of the four English skills because it requires mastery of multiple competencies simultaneously, including grammar, vocabulary, sentence structure, coherence, and cohesion. Additionally, writing involves expressing complex ideas in a structured manner while adhering to the conventions of the target language, which many learners find challenging.

The basic competency that should be achieved in writing is the students have ability to develop and produce simply functional written text. There are some genres that are taught to senior high school students. Those are descriptive, recount, narrative, procedure, etc. The researcher focused on descriptive text which is taught to

them in their second year. Descriptive text is describes a person, animal, item, or place with a clear explanation to provide readers with information and comprehension about the object described. Therefore, the writer can obtain information about the new object written by the writer in descriptive text, and the writers will describe the object clearly and provide a clear picture of the object. The object's explanation is primarily intended to help the reader understand and get knowledge from the text (Suminar and Putri, 2018). Putri et al., (2022) stated that descriptive text is a type of writing that explains or describes a person, object, place, or event in detail. It uses sensory details, such as what is seen, heard, felt, or experienced, to create a clear and vivid picture for the reader. The main purpose is to provide information and help readers understand and imagine the described object or situation.

In writing a descriptive text, students often found some challenges although they have been guided by their teachers to write it. There are some difficulties that students face during writing the descriptive paragraph: first, the problem in developing the ideas. Some students include too many main ideas in one paragraph or write paragraphs too briefly so that the ideas are not clear. Second, there is a problem in organizing ideas when writing a descriptive text. Students had difficulty arranging paragraphs in a logical order so that the writing was easy to understand. . Third, the students found difficulties in grammar. Grammar difficulties will influence certain patterns of how words are put together to form the correct sentences. It will make the ideas do develop well. Fourth, some students are lack of vocabularies and they also have difficulties in developing their ideas related to their topic. Some students are still in doubt with choosing the correct words while composing descriptive text. Lack of vocabularies made student confused in developing their ideas. In this case the students have to choose correct words that they need. Fifth, students

often face difficulties in using correct spelling, punctuation, and capitalization when writing. Based on this phenomenon, it can be concluded that students make some mistakes in mechanic aspect. Spelling, punctuation and capitalization difficulties can also affect the meaning of the sentences in a paragraph; they make the reader confused on the contiguity meaning of the sentences even of the paragraph (Tri Ramadan et al., 2021).

Looking at the challenges above, teachers are required to find the right techniques to support the improvement of students' writing skills. There are many techniques that can be applied in writing of descriptive text such as mind mapping technique, clustering technique, CSW game technique, brainstorming technique and other various techniques. From these techniques, one of the techniques that can be used is mind mapping technique. The reason chose mind mapping technique because it was appropriate to solve the student's problem related to writing. With mind mapping helped them to list their ideas and helped them to organize their ideas logically. Risdayanti (2023) states that mind Mapping is a technique used to generate, organize, and visualize ideas, solve problems, make decisions, and improve writing. It helps students associate ideas, think creatively, and make connections that they might not otherwise make. A mind map shows facts and the overall structure of a subject, highlighting the importance of individual parts. It is a two-dimensional note-taking technique where key words or images are used to summarize key points about a subject. By using drawings, colours, and images, students can engage their full brain power to better understand and remember the material. Sifa'u (2021) added that mind mapping is a technique used to organize and develop ideas by creating a special diagram called a "mind map." It has three main parts: nodes (the ideas), connections (how ideas relate), and visual clues (like colors and images). The process starts with a central idea,

and then branches out into sub-ideas, which can branch further, similar to making an outline with titles and details. Mind mapping helps students plan and organize their ideas for writing. It can be a useful tool in the pre-writing stage, helping students to keep track of their thoughts until their essay is finished. Using colors, pictures, and lines makes the process more fun and creative, helping students remember and describe their ideas more easily.

This research is not a new research, there are have been several previous researchers investigated about similar cases. The first research done by Salviyati et al., (2022) about the effectiveness of using mind mapping technique in improving students' writing skill. The results of the data analysis showed that there was a significant difference between the result of the pre-test and the post-test. It indicates by the mean score of both tests results where the mean score of the experimental class significantly increased from 68.27 to 74.93. Based on the result of pre-test and post-test, the researchers found that the value of t-counted is 6.54. By applying a degree of freedom (df) 24 (25-1) and 0.05 level of significance, the researchers found that the value of t-table is 1.711 which showed that the value of t-counted was higher than t-table. It means that the use of mind mapping technique is effective in improving students' writing skill of grade nine students of SMP Negeri 14 Palu. The implication of this finding is that mind mapping technique can be used in teaching and learning English especially in writing skill. The second study was conducted by Susanti et al., (2023) The research is aimed at improving the writing skills of XI grade students of MIPA 3 High School N 6 in 2023/2024 as a result of learning English in the Narrative Text material by using the Mind Mapping method to improve the students' writing skills. This research is class action research. The research is carried out in two cycles and each cycle consists of planning, implementation, observation, and reflection. Data collection techniques in

this study are written tests and observations. Data analysis is used by calculating test values per cycle, average student learning outcomes per Cycle, and percentage of learning intensity with a standard individual intensity score of 75. From the test results in this study, the results increased in cycles I and II. In cycle I, the average value increased from 79.31 to 88.11 in cycle II, which means an increase of 8.8% points. This means that using mind mapping improves the ability of a class XI MIPA 3 SMA N 6 Semarang. The increase also occurred in the results of each of the sub-indicators of the written test between cycles 1 and 2.

The subsequent study of Rahman and Hasan, (2024) This study aims to determine the effectiveness of using mind mapping techniques to improve students' ability in writing procedure texts. This study uses a quantitative approach with pre-experimental design, one group pre-test and post-test design. The sample consists of 19 tenth grade students in MA Al-Falah Tolutu selected through random sampling. Data were collected through tests and questionnaires, and then analyzed using paired sample t-test. The results showed an increase in the average value of students' procedure text writing skills before being given treatment (pre-test) of 59.94 to 77.76 after being given treatment (post-test). Hypothesis testing obtained sig value. The p-value of 0.000 is less than the significance level of 0.05, indicating that the null hypothesis (H_0) is rejected and there is sufficient evidence to support the alternative hypothesis (H_a). Thus, it can be concluded that the mind mapping technique effectively improves students' ability in writing procedure texts. The questionnaire results also showed very good student responses regarding the application of mind mapping techniques in writing procedure texts.

Mind mapping has been extensively used by researchers, either as a technique or a method, to help improve students' writing skills. Based on previous research, the similarity with this study is that all studies

use the mind mapping technique as a method to enhance students' writing skills in English. The difference lies in the types of texts studied, as previous research has mainly focused on using the mind mapping technique for various types of texts, such as procedural texts and narrative texts. The findings from previous studies indicate that using mind mapping has a positive effect on students' writing skills. This technique has been proven to be effective both as a medium and a strategy for teaching writing. Additionally, mind mapping helps students become more organized in their writing. By utilizing keywords in the maps, students can easily generate ideas for their next paragraphs, making the writing process more structured. Compared to other methods, mind mapping is more advantageous in the pre-writing stage, as it allows students to systematically organize their thoughts before starting to write.

Although several studies have discussed the use of mind mapping techniques to improve students' writing skills in various types of texts, such as narrative and procedural texts, there is still limited research on its effectiveness in writing descriptive texts. Therefore, this study will specifically examine the effectiveness of the mind mapping technique in enhancing students' writing skills in descriptive texts.

METHODOLOGY

This study employed a quantitative research approach with a quasi-experimental design to examine the effectiveness of the mind mapping technique in enhancing students' writing skills in descriptive text. As defined by Creswell (2003), quantitative research involves the use of structured instruments, numerical data, and statistical analysis to investigate the relationships between variables. In this study, two groups were involved: the experimental group, which was taught using the mind mapping technique, and the control group, which received

conventional instruction. The independent variable in this research was the use of the mind mapping technique, while the dependent variable was students' ability to write descriptive texts.

The population of this study consisted of eleventh-grade students at SMAN 1 Poco Ranaka, comprising six classes with a total of 210 students. This population was selected for several reasons. Firstly, the researcher had previously completed an internship at the school, which provided an in-depth understanding of the students' academic characteristics, particularly in writing. Secondly, eleventh-grade students are considered to possess the cognitive maturity necessary to engage with new instructional strategies such as mind mapping. The sample was selected using purposive sampling, which, according to Cohen et al. (2007), is a non-random technique where samples are chosen based on specific characteristics that align with the study's objectives. Two classes, XI Bahasa 1 and XI Bahasa 2, were selected as the experimental and control groups respectively, with 30 students in each class. The selection was based on the researcher's prior teaching experience with these classes, which enabled better understanding of the students' learning needs and classroom dynamics.

The data collection technique used in this research was a writing test, consisting of a pre-test and a post-test. The pre-test was administered to both groups before the treatment to assess their initial writing ability. Students were instructed to write a descriptive text about themselves. Following the pre-test, the experimental group received instruction through the mind mapping technique, which helped them visually organize their ideas prior to writing. The control group, on the other hand, was taught using a conventional method involving collaborative learning. After the treatment period, both groups were given a post-test in which they were asked to write a descriptive text about their

seatmates. The results of the post-test were then compared to assess the effectiveness of the intervention.

The instrument used in this study was a writing test assessed through a rubric adapted from Brown (2007), focusing on five aspects of writing: content, organization, grammar, vocabulary, and mechanics. Each aspect was rated on a scale of 1 to 5, with a maximum total score of 25. The final score for each student was calculated using the formula: (Total Score Obtained / Maximum Score) × 100. This rubric enabled a detailed and objective evaluation of students' writing performance, highlighting both strengths and areas for improvement across the five components.

To analyze the data, the researcher employed the IBM SPSS Statistics version 25 software. The analysis involved three main procedures: the normality test, the homogeneity test, and the independent sample t-test. The normality test was conducted using the Shapiro-Wilk method to determine whether the data were normally distributed. A p-value greater than 0.05 indicated a normal distribution. The homogeneity test, using Levene's Test, examined whether the variances between the two groups were equal, with a p-value greater than 0.05 indicating homogeneity. Once normality and homogeneity assumptions were met, an independent t-test was used to determine whether a significant difference existed between the post-test scores of the experimental and control groups. A p-value less than 0.05 was considered statistically significant, indicating that the mind mapping technique had a measurable effect on students' writing performance. To further determine the strength of the intervention, Cohen's d was calculated to measure effect size. The pooled standard deviation (σ) was computed using the formula: $\sigma = (SD_1 + SD_2)/2$, and the effect size was calculated using $d = (M_1 - M_2)/\sigma$, where M_1 and M_2 represent the mean scores of the experimental and control groups, respectively. The effect size was interpreted based on Cohen's criteria: 0.00–0.20 indicates a weak effect,

0.21–0.50 a modest effect, 0.51–1.00 a moderate effect, and above 1.00 a strong effect.

RESULT AND DISCUSSION

This study aimed to answer the research question about the effectiveness of using mind mapping technique on the students' writing skill in descriptive text. This study applied of pre-test and post-test design where it took two groups (experimental and control group).To get the data, the researcher gave the test in the form of essay. At the first meeting on Monday, February 03, 2025, the researcher conducted a pre-test in the experimental class and control class. This pre-test was conducted to determine the writing skill of students before treatment.

Then on Wednesday, February 05, 2025, the researcher conducted treatment in both the experimental class and the control class. In the experimental class, the researcher implemented the mind mapping technique, while in the control class; the conventional method that used collaborative learning was implemented. In the experimental class, the learning topic focused on introduction of descriptive text and Mind Mapping technique. The goal is for learners to understand the meaning, purpose, and types of descriptive text and be able to apply them in learning. They will learn the main structures, namely Identification and Description, as well as language features such as adjectives, simple present tense, and specific nouns to improve writing skills. In addition, learners will analyze text examples based on their structure and use Mind Mapping as a tool in composing descriptive text systematically, so that ideas can be conveyed more clearly and structurally. Meanwhile, in the control class, the learning topic focused on introducing descriptive text without using the Mind Mapping technique. The goal was for students to understand and explain the definition and purpose of descriptive text, identify its types, and apply

them in learning. They were also expected to understand and apply the Identification and Description structures in writing. Additionally, students could recognize and use the linguistic features of descriptive text accurately.

Furthermore, on Monday, February 10, 2025, researchers carried out learning in experimental and control classes with different materials according to the methods applied. In the experimental class, the material topic focused on using the Mind Mapping technique in writing descriptive text. The goal of this learning was for students to understand the concept of Mind Mapping and its benefits in writing descriptive text. They were expected to use this technique to systematically plan their texts, compose descriptive text with proper structure and language features, and describe their favourite figures with clear and informative sentences. Additionally, students could develop creative ideas in writing with the help of Mind Mapping. Meanwhile in the control class, the material topic focused on students' ability to write descriptive text in a structured and grammatically correct manner. The goal of this learning was for students to be able to compose well-structured Descriptive Text, apply language features accurately, and write descriptive tex**t** properly and correctly.

After that, on Wednesday, February 12, 2025, the researcher conducted the final stage of the learning process in both the experimental class and the control class, focusing on refining and presenting descriptive texts. In the experimental class, Students are expected to identify the structure and linguistic elements in the descriptive text they create and revise or improve them based on feedback from the teacher. They can also refine their texts to make them more informative and engaging using the Mind Mapping technique. Additionally, students should be able to present their descriptive text with confidence and clear pronunciation, while also enhancing their English-speaking skills through presentations. Meanwhile, in the control

class, students are expected to identify and understand the structure and linguistic elements in the descriptive text they create. They should be able to revise and correct errors in their texts based on teacher feedback to ensure they follow proper language rules. Additionally, students are expected to present their descriptive text with confidence and clear pronunciation.

Then, at the last meeting on Wednesday, February 19, 2025, the researcher conducted a post-test in both the experimental class and the control class. This post-test was carried out to determine the effectiveness of using the mind mapping technique in improving students' ability to write descriptive texts. In the experimental class, the post-test aimed to evaluate whether the mind mapping technique had helped students organize their ideas better and improve their descriptive writing skills. Meanwhile, in the control class, the post-test assessed students' writing abilities after learning through the conventional method that used collaborative learning.

The Data of Experimental Group

The data were collected from the eleventh grade of XI Bahasa 1 at SMAN 1 Poco Ranaka for pre-test and post-test consists of 30 students. In the following table is the scores of pre-test and post-test in the experimental class.

Table 1
The students' scores of pre-test and post-test in experimental class

No	Students	Pre-test	Post-test	Gained score
1	AYH	20	80	60
2	AIA	56	72	16
3	DDL	52	72	20

No	Students	Pre-test	Post-test	Gained score
4	DJ	44	60	16
5	EM	64	68	4
6	FDC	72	88	16
7	FA	52	68	16
8	GJ	52	68	16
9	LJ	44	52	8
10	MB	56	72	16
11	MRKB	44	84	40
12	ML	40	76	36
13	MYI	44	76	32
14	MJ	36	80	44
15	NN	60	68	8
16	NR	52	60	8
17	RF	52	88	36
18	SF	54	76	22
19	SDPI	72	72	0
20	SP	60	88	28
21	SG	52	68	16
22	SS	60	80	20
23	TKA	64	80	16
24	VO	44	80	36
25	WVT	56	76	20
26	YJ	64	76	12
27	YRB	60	80	20
28	YRE	24	56	32
29	YWH	72	76	4
30	RMI	48	80	31
	Σ	1.570	2.220	649

No	Students	Pre-test	Post-test	Gained score
	Mean	52.33	74.00	21.63

The table 4.1 above displays the experimental class scores along with the pre-test and post-test scores of each student. Based on the table above, it shows that students in the experimental class which consisting of 30 students, the average pre-test score was 52.33. The range of pre-test scores ranged from 20 to 72. As for the average post-test score, it reached 74.00 with the lowest score is 52 and the highest score of 88. Based on the data, it can be concluded that there was an increase in the students' average score from pre-test to post-test by 21.63 This shows that mind mapping technique has an impact on students' writing skill in descriptive text.

The Data of Control Group

The data were collected from the eleventh grade students of XI Bahasa 1 at SMAN 1 Poco Ranaka for pre-test and post-test consists of 30 students. The following table is the scores of pre-test and post-test in the control class.

Table 2
The students' scores of pre-test and post-test in controlled class

No	Students	Pre-test	Post-test	Gained score
1	ASF	36	68	32
2	AAM	72	76	4
3	AYM	64	72	8
4	AJR	28	56	28
5	ASP	44	52	8

No	Students	Pre-test	Post-test	Gained score
6	ASW	52	60	8
7	BFL	64	72	8
8	BDR	56	64	8
9	BM	20	60	40
10	DKP	68	72	12
11	ES	60	68	8
12	FAD	56	60	4
13	FOP	36	64	28
14	HMA	68	76	8
15	JKW	52	64	12
16	LD	56	72	16
17	LKJ	64	68	4
18	MA	40	56	16
19	MRJ	40	72	32
20	MLA	60	72	12
21	NAO	60	64	4
22	NP	56	60	4
23	OB	68	68	0
24	OSAD	52	60	8
25	RG	76	76	0
26	SEA	44	80	36
27	YSL	68	72	4
28	YKS	56	64	8
29	YBSB	40	56	36
30	YLSL	24	76	52
	Σ	1.580	2.000	448
	Mean	52.67	66.67	14.93

The table 4.2 above shows the pre-test and post-test scores of the control class. From the table above, it could be seen that the average student score on the pre-test in the control class was 52.67 the minimum score obtained by students was 24 and the maximum score was 76. Then the researcher conducted a post-test after the treatment was completed. Students' scores on the post-test showed that the minimum score of students was 52 and the maximum score was 80 with an average score of 66.67 Thus the data revealed that the students' post-test scores had a slight increase of 14.93 from the pre-test, which means there was a slight increase in students writing skill in descriptive text.

In conclusion, from tables 4.1 and 4.2, it can be seen that students in the experimental class achieved higher scores than students in the control class with a mean post-test score of 74.00, while the control class was 66.67 (74.00>66.67). Therefore, the results indicated that there was a real difference between the two groups on the post-test. Then, it can be said that the experimental class that was taught using mind mapping technique had an influence in improving students' writing skill.

Analysis and Hypothesis Testing

In this part, the researcher analyses the post-test data collected from both classes (the experimental and control class). The post-test data were used to address the research hypothesis, which aimed to determine whether students taught through using the Mind Mapping technique have better writing skills in descriptive text or not. The post-test results from the experimental and control classes were compared to assess the students' writing performance after giving the treatment. However, before conducting the hypothesis testing, the researcher performed tests to check the normality and homogeneity of data. Normality test used to know wheter the data from both sample had been normally distributed. Then, after getting the normality,

homogeneity test is used to know the similarity of the two samples, ensuring they were normally distributed and came from homogeneous groups. Afterward, the hypothesis testing was conducted using the T-test formula, and the data analysis was performed using IBM SPSS 25.00.

1. Normality Test

A normality test is conducted to determine whether the distribution of data in a group or variable follows a normal distribution. In this study, the researcher performed a normality test using the Shapiro-Wilk test in IBM SPSS version 25. The decision criteria for this test are as follows: if the significance value ("Sig.") is less than 0.05 (**Sig. < 0.05**), the null hypothesis is rejected, indicating that the data do not follow a normal distribution. Conversely, if the significance value ("Sig.") is greater than 0.05 (**Sig. > 0.05**), the null hypothesis is accepted, meaning that the data follow a normal distribution. In other words, when the significance value is below 0.05, the data are considered not normally distributed, whereas if the significance value exceeds 0.05, the data are considered normally distributed.

Table 4.3
Normality test result of pre-test and post-test in experimental class and Control class
Tests of Normality

Result	Pre-Test Experiment	.156	30	.061	.944	30	.114
	Post-Test Experiment	.154	30	.066	.941	30	.098
	Pre-Test Control	.157	30	.057	.948	30	.152
	Post-Test Control	.167	30	.031	.953	30	.199

a. Lilliefors Significance Correction

The normality test conducted on the experimental and control classes yielded results indicating that the data followed a normal distribution. As known, if the significant value is higher than 0.05, the data can be considered normally distributed; if it is lower than 0.05, the data is not normally distributed. From Table 4.3, the normality test results for the pre-test data from the experimental class was 0.114, while for the control class, it was 0.152 which means that the pre-test data from both classes followed a normal distribution. Similarly, the normality test results for the post-test data in the experimental class was 0.98, and for the control class, it was 0.199, which means that the post-test data from both classes were normally distributed as well. This indicates that the data are valid and can be used for parametric statistical tests intended to determine the differences between groups.

2. Homogeneity Test

After conducting the normality test, the researcher then conducted a homogeneity test. This test is carried out with the aim to determine whether two or more samples from different populations have the same distribution of variance or not. A data is said to be homogeneous if the significance value is ≥0.05, and it is said to be not homogeneous if the significance value is ≤0.05. To do this test, the researcher used Levene statistic in SPSS 25. The following are the results of the homogeneity test:

Table 4.4
The homogeneity test on the pre-test results both of the experimental and Control groups

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Result	Based on Mean	1.514	1	58	.223

	Based on Median	.914	1	58	.343
	Based on Median and with adjusted df	.914	1	56.885	.343
	Based on trimmed mean	1.373	1	58	.246

The researcher used Levene Statistics to analyze the homogeneity of pre-test of both the experimental and control class with significance level 0.05. The results show that the significance level based on the mean is 0.223 is greater than 0.05. The significance level based on the median is 0.343, which can be written as 0.343 greater than 0.05. Then, the significance level based on the median and with adjusted df is 0.343, which can be written as 0.343 greater than 0.05. And the last one the significance level based on the trimmed mean is 0.246, which can be written as 0.246 is greater than 0.05.

Based on the result above, it can be concluded that the data of pre-test obtained from the both of groups, experimental and control groups are homogeneous.

Table 4.5
The homogeneity test on the post-test results both of the experimental and Control groups

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Result	Based on Mean	.497	1	58	.483
	Based on Median	.247	1	58	.621

	Based on Median and with adjusted df	.247	1	50.096	.621
	Based on trimmed mean	.437	1	58	.511

According to the data presented in the table 4.5 above, the results show that the significance level based on the mean is 0.483,which can be written as 0.483 is greater than 0.05. The significance level based on the median is 0.621, which can be written as 0.621 is greater than 0.05. Then, the significance level based on the median and with adjusted df is 0.621, which can be written as 0.621 greater than 0.05. And the last one the significance level based on the trimmed mean is 0.511, which can be written as 0.511 is greater than 0.05.

From the findings presented above, it can be concluded that the data of post-test obtained from the both of groups, experimental and control groups are homogeneous.

3. Hypothesis T-test

After conducting a normality test and a homogeneities test, the researcher then conducted a test of hypothesis. The T-test or test of hypothesis was carried out with the aim to determine whether there was a significant difference between the average scores of the two groups, namely the control class and the experimental class.

The test hypothesis decision making is: if the significance value ≤0.005, then Ha is accepted and Ho is rejected. Meanwhile, if the significance value is ≥0.005, then Ho is accepted and Ha is rejected. The calculation results can be seen in the table below:

Table 4.6
The Result of Independent T-test
Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Result	Equal variances assumed	.497	.483	3.461	58	.001	7.333	2.119	3.092	11.575
	Equal variances not assumed			3.461	55.591	.001	7.333	2.119	3.088	11.579

In the table 4.6 above, it can be seen that the significance value is 0.001. It means that Ha is accepted and Ho is rejected, because the significance value is ≤0.005 (0.001≤0.005). Therefore it can be concluded that mind mapping is effective in improving the **mind mapping technique is effective** in improving students' writing skills in descriptive text.

4. The Size Effects

Next step was to find out the effect size. It was use to know about how big or strength variable effect another variable. The theory of Cohen can be used to identify the effect size, with formula as follows:

$$\sigma: \frac{SD_1 + SD_2}{2}$$

Which:
σ : pooled standard deviation
SD_1: Standard deviation of experimental group
SD_2: Standard deviation of control group

$$d = \frac{M_1 - M_2}{\sigma}$$

d: the effect size
M_1: Mean of experimental group
M_2: Mean of control group
σ: pooled standard deviation

$$\sigma: \frac{9.021 + 7.303}{2}$$

$$\sigma: \frac{16.324}{2}$$

$$\sigma: 8.162$$

$$d = \frac{74.00 - 66.67}{8.162}$$

$$d = \frac{(7.33)}{8.162}$$

$$d = 0.89$$

After find out the results, it can be interpreted based on the criteria according of Cohen: 0-0.20 = weak effect; 021-0.50 = modest effect; 051-100 = moderate effect; >100

= strong effect. After obtaining the results, it can be interpreted that mind mapping technique has a moderate effect on students' writing skill because the result was 0.89 which is between intervals 0.51-1.00.

The findings of this study indicated that the mind mapping technique significantly had an effect on the students' writing skills in descriptive texts. This was evidenced by the scores presented in Table 4.1, which show that the experimental class's mean pre-test score was 52.33 and increased to 74.00 in the post-test. This signifies an average improvement of 21.63 points. On the other hand, as shown in Table 4.2, the control class had a mean pre-test score of 52.67, which increased to 66.67 in the post-test, reflecting an improvement of 14.93 points. The significant difference between the two groups' post-test results was further supported by the independent T-test in Table 4.6. The significance value of 0.001 (≤ 0.005) indicated that the null hypothesis (Ho) was rejected, and the alternative hypothesis (Ha) was accepted. This confirmed that there was a statistically significant difference in the writing performance between students who used the mind mapping technique and those who did not.

Additionally, the results of the normality and homogeneity tests confirmed that the data collected from both groups were normally distributed and homogenous. This strengthens the validity and reliability of the study, ensuring that the observed differences in writing performance were primarily due to the instructional method rather than external factors. Mind mapping helped students improve their writing skills by organizing ideas, facilitating brainstorming, and stimulating creativity. This technique also reduced confusion when starting writing and helped build a clearer structure, making their writing more coherent. In addition, the use of visual elements in mind mapping strengthens memory and comprehension.

The result of this study in line with several previous studies, such as the research done by Salviyati et al., (2022) which found that the mind mapping technique is effective in improving students' writing skills. This technique helps students organize their ideas more clearly and systematically, making it easier for them to develop their writing. As a result, their writing becomes more structured and effective. The implication of this finding is that mind mapping can be applied in teaching and learning English. Specifically, this technique is useful for enhancing students' writing skills and can be a valuable tool in the learning process. Another research conducted by Harefa et al., (2023) which found that the mind mapping method really helps students write more easily by allowing them to organize their ideas in a structured way. Moreover, this technique keeps students engaged in the learning process, making writing more enjoyable. It also helps prevent students from feeling lazy or bored while learning English. By using mind mapping, students can develop their writing skills more effectively. Overall, this method is an effective tool for enhancing both writing ability and motivation in learning English. The subsequent research conducted by Rahman and Hasan, (2024) which found that the mind mapping technique effectively improved students' ability in writing. This technique helped them organize their thoughts more clearly, making it easier to develop ideas. The questionnaire results also showed very good student responses regarding the use of mind mapping in writing. Students found this technique useful and engaging in the learning process. Overall, mind mapping had a positive impact on students' writing skills. Their findings support the results of the findings in this study.

The use of mind mapping in students' writing skills on descriptive texts was proven to improve their writing skills based on the results above. This improvement was measured using the effect size based on Cohen's criteria,

namely: 0-0.20 = weak effect, 0.21-0.50 = modest effect, 0.51-1.00 = moderate effect, and >1.00 = strong effect. Based on the results obtained, the mind mapping technique had a moderate effect on students' writing skills, with a score of 0.89, which was in the range of 0.51-1.00. Therefore, this study concluded that the mind mapping technique positively impacted students' writing skills in descriptive texts. The effect score of 0.89 showed that this technique had a moderate influence, proving it to be a reasonably effective method for improving students' writing skills.

Based on the discussion above, it was concluded that the use of the mind mapping technique had a significant effect on the students' writing ability in descriptive text. In addition, the mind mapping technique allowed students to maximize their participation during learning activities. The role of students in this technique gave them the responsibility to organize and develop ideas before writing, thus helping those complete writing tasks in a more structured manner. The mind mapping technique also encourages students to share knowledge and exchange ideas, which ultimately makes it easier for them to write descriptive texts in English.

This study is expected to provide insights into the effectiveness of the mind mapping technique in improving students' writing skills in descriptive texts. Mind mapping can serve as an alternative strategy to help students systematically organize their ideas, enhancing the quality of their writing. Additionally, incorporating mind mapping into writing lessons creates a more varied and engaging learning process, making it easier for students to understand the material and stay motivated. Ultimately, this technique contributes to improving the overall quality of education, particularly in writing skills.

CONCLUSION

The researcher used quantitative methods, focusing specifically on quasi-experimental research, to examine the effectiveness of using the mind mapping technique on students' writing skills in descriptive text. Two groups participated in the study: an experimental group and a control group. Experimental group consists of 30 students, while control group consists of 30 students. from tables 4.1 and 4.2, it can be seen that students in the experimental class achieved higher scores than students in the control class with a mean post-test score of 74.00, while the control class was 66.67 (74.00>66.67). Therefore, the results indicated that there was a real difference between the two groups on the post-test. Then, it can be said that the experimental class that was taught using mind mapping technique had a statistically significant effect on the students' writing skill.

It was also proved by the result t-test to test the hyphotesis of this research. The result showed that the sig (2-tailed) smaller than 0.005, or in other words, 0.001<0.05. It means that, the alternative hypothesis (Ha) is accepted, while the null hypothesis (H0) is rejected. So, there was a significant difference in writing skill between students who were taught by using mind mapping technique and the students who were not taught by mind mapping technique. The size effects testing showed that mind mapping technique had a moderate effect on students' writing skill in descriptive text because the results was 0.89 which is between interval 0.51-1.00. It means that mind mapping as a technique provided good effect towards students' writing skill in descriptive text.

Despite these promising results, it is important to acknowledge the limitation of this study. The research was conducted on a relatively small scale, involving only two classes from a single school (SMAN 1 Poco Ranaka).

Therefore, the findings may not be generalizable to broader educational contexts without further research.

Based on the results of this study, the researcher provides several suggestions. For English teachers, mind mapping is recommended as an effective technique for teaching writing, particularly descriptive text. It helps students organize their ideas, enhances engagement, and makes the learning process more interactive. Teachers are encouraged to implement this strategy to improve students' writing structure and coherence. For students, it is suggested that they apply the mind mapping technique independently to better develop and organize their ideas before writing. This approach can also enhance their creativity and critical thinking skills in composing descriptive texts. Lastly, for future researchers, this study can serve as a reference for similar research on the use of mind mapping in writing instruction. Future studies may also explore its application in other writing genres or aspects of English language learning.

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