JOLLT Journal of Languages and Language Teaching
https://e-journal.undikma.ac.id/index.php/jollt
Email: jollt@undikma.ac.id
DOI: https://doi.org/10.33394/jollt.v%vi%i.6692

January 2023. Vol.11, No.1
p-ISSN: 2338-0810
e-ISSN: 2621-1378
pp. 39-49

THE EFFECT OF MIND MAPPING TECHNIQUE ON STUDENTS' WRITING SKILLS

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Article Info
Article History
Received: October 2022
Revised: December 2022
Published: January 2023
Keywords
Writing skills;
Mind mapping technique;

Abstract

Writing is the process to bring concentration to the real situation, how the students focus on the ideas and elaborate in the real context. writing is not only arranging words into good sentences, but also knowing the function, meaning, and components of each word. this technique can help students develop their knowledge, think critically, and create ideas in the sentences. Students need a technique to improve their writing skills. Following this, the mind mapping technique is used to help students to improve their writing skills. The quasi-experimental research method involved two groups, namely the experimental and the control class. Both classes were given a pre-test at the beginning. Then, the experimental group was taught using mind mapping techniques while the control group was taught without mind mapping techniques. Then, this research gave the instrument in the last session of this study, both groups were given a post-test. Then for data collection, researchers used a written test and data analysis using a t-test. It proves that there was a significant score on the t-test and the mean score of the experimental class and control class. In the experimental class score is 3.0 and the mean is 28.25. While in the control class, the t-test score is 3.0 and the mean score is 25.00. It proves that mind mapping techniques are an effective way to help students to overcome problems such as nervousness and not being confident to improve their writing skills, it also helps the students to organize systematic ideas and make them easy meaning to understand.

How to cite: Wahid, J.H.J., & Sudirman., S. (2022) The Effect of Mind Mapping Technique on Students' Writing Skills, *JOLLT Journal of Languages and Language Teaching*, 11(1), pp. 39-49. DOI: https://doi.org/10.33394/jollt.v%vi%i.6692

INTRODUCTION

Teaching writing skills is challenging for English teachers because this skill is one of the language skills considered the most difficult skills. It needs not only linguistic knowledge but also cognitive, cultural, or intercultural skills, and metacognitive competencies (Kazemian et al., 2021; Haerazi & Kazemian, 2021; Xianwie et al., 2016). Nation (2009) states writing is activities that can be usefully prepared by working on the other skills of listening, speaking, and reading. This preparation can make it possible for language use such as English words that they have been used receptively to into productive use (Hidayatullah et al., 2022). For example, in the English for academic purposes program, learners can be involved in keeping issue logs which are a kind of project work. At the beginning of the program, each learner chooses a topic or issue that they follow through the rest of the program.

In writing learning, writing activities involve starting, progressing, and finishing a complicated and challenging combination of writing tasks (Fatiani et al., 2021; Lating, 2022). It requires you to activate lots of different stages and phases in the writing process. It is in line with Haerazi et al. (2020) who argue writing is an extremely difficult task if they are trying to grapple in their language with new ideas and new ways of looking at them. Sitting down to write can be an agonizing experience, which does not necessarily get easier with the passage of time and the accumulation of experiences. Bukhari (2016) added English learners need to

make effective language devices and techniques to excellently depict ideas in writing because it's growing as important skill in different professions and academics (Elola & Oskoz, 2016; Haerazi & Irawan, 2019; Haerazi et al., 2021). Writing requires consistent effort and regular practice to develop a certain proficiency level to give way to one's thoughts and ideas in alogical order.

Writing involves messages and ideas that should be delivered to the written text, which is given the information to the readers. In writing, learners start to elaborate ideas into good sentences so that the meaning of the text in order to be easy to understand. Bukhari (2016) argues writing process needs linguistics to block out ideas. However, the learners need to get the blocks into shape where the learners' cognitive abilities work to support and develop ideas conveniently in a flow (Rostamian et al., 2018; Fernandez-Dobao, 2020; Ismiati & Fitria, 2021). According to the cognitive approach, writing itself is a source that directs learners to assess their own structures and writing is not a linguistic process only; rather it is beyond that scope (Storch, 2011; Bonilla-lopez et al., 2018; Hadi et al., 2021a). The deductive approach of writing is all about the organization of ideas and it is far beyond the inductive approach where writing was seen as a practice in language usage.

Writing is one of the most difficult skills faced by students, the students think that to elaborate ideas become good sentences. It should need a certain technique in implementing in writing activity (Haerazi & Kazemian, 2021; Hadi et al., 2021b). One of the learning techniques used in writing activities is mind mapping. Zheng et al. (2020) argue mind mapping is a primary technique used for stimulating thought that shows ideas that are generated around a central theme and how they are interlinked. Mind mapping technique helps students to organize ideas and improve their creativity in organizing information (Batdi, 2015; Chang et al., 2018; Lin, 2019). The mind mapping technique is used in writing activities because it will improve students' critical thinking, students' vocabulary, and students' confidence (Polat & Aydin, 2020; de Rycker, 2014; Baiq-sumarni et al., 2022). It is in accordance with Choudhari et al. (2021) who state mind mapping is a great technique to help students to face day-to-day problems with the organization of their ideas and points of view. In learning activities, mind maps are an excellent way to help learners organize knowledge (Wu & Chen, 2018; Stokhof et al., 2020), to empower themselves to better comprehend key concepts and principles in courses (Davies, 2011), and language skills (Al-zyoud et al., 2017).

Mind mapping is the easiest way to develop information in a human mind and take information out of the brain. It is a creative and effective way that map our ideas. Mind maps can work as a tool to facilitate the learners to plan ideas in the pre-writing process. Learners can be provided with examples to prepare a step vise pattern in a hierarchy that would help them retain ideas till the whole of the essay is written. Mind mapping techniques are good to be applied in the pre-writing stage to explore ideas and generate thoughts on the topic for writing. Mind mapping allows gathering concepts in relation to the main theme. Mind mapping can work as a tool to facilitate the learners to plan ideas in the pre-writing process. Learners can be provided with examples to prepare a step vise pattern in the hierarchy that would help them retain ideas till the whole of the essay is written. Mind-mapping techniques are good to be applied in the pre-writing stage to explore ideas and generate thoughts on the topic for writing

The mind-mapping technique was effective to help students in writing descriptive texts. Mind mapping could help students to improve their writing skills in writing descriptive text in terms of enriching vocabulary, increasing creativity, arranging sentences, and organizing ideas (Nurlaila, 2013; Alzyoud et al., 2017). As a result, the mind mapping technique would seem to be particularly suited to help students in planning their writing as the approach

encourages students to reach for and adapt to a deeper level of understanding of the writing topics.

In writing activity students not only give the information to all readers, but students should focus on lexical meaning, focus on ideas, and focus on the meaning of the text that is given to the readers so the text is easy to understand by the readers. Then another problem faced by the students is that students also feel difficulty in constructing the ideas into text. It because of students is a lack of lexical competence and a lack of constructing ideas into good sentences. Therefore, this study aims to find out the effect of the mind mapping technique on students' writing skills at secondary schools in North Maluku, Indonesia.

RESEARCH METHOD

Research Design

This study uses Quasi-Experimental Research. It adopts the two groups of quasi-experimental design. The study attempts to identify the use of the mind-mapping technique in writing skills. The collected quantitative data is acquired from the pre-test and post-test to measure the differences in performance of samples for both tests according to the total of the writing test. The population in this research was class XI IPA students at SMA Negeri 4 Halmahera Utara North Maluku in the academic year 2021/2022. Where IPA A consists of 24 students and IPA B consists of 27 students. So, the total population was consisting of 51 students. The researcher used random sampling as a sampling technique which was given the same opportunity to be selected as sample members. The researchers received 26 students as a sample of the experimental class and 25 students as a control class.

In any scientific research, the instrument for collecting data was absolutely important. The accuracy of the result of the research mostly depends on how accurate the use of the instrument (Miles et al., 2016). Before research is carried out, the instrument for the data collection should be well prepared. Related to the research problems, the researchers used a writing test as an instrument. The test used must be appropriate in terms of the object. In this case, the researchers gave the students a writing test through the mind mapping technique.

Data Analysis

The data were analyzed using SPSS-21, which included means, percentages, and t-tests to summarize the students' responses on writing skills through the mind mapping technique. The data of quantitative such as students' writing scores are analyzed in descriptive statistics and t-test analysis aims to find out the significant differences in the effect of the mind-mapping technique on students' writing skills. The indicators of writing skills are measured based on the writing raters coming from English teachers and colleagues. The writing aspects assessed covered contents, organization, grammar, vocabulary use, and mechanics. All of the relevant data were then categorized under different themes, such as very good, good, fairly good, fair, and poor.

RESEARCH FINDINGS AND DISCUSSION

Research Findings

Data collected from the pre and post-test were transformed into tables. A total of 36 samples from the control and experimental groups took part in these tests. This study attempted to prove that the research has a positive impact on students' performances in the post-test as compared to their performances in the pre-test. The marks can significantly be proved that the marks were different and the score showed that the marks on the post-test were greater than the pre-test, then there was a piece of significant evidence that the mind mapping technique had increased the students' writing skills.

Table 1
The Grammar Score of Pre-test and Post-test in the Experimental Class

Grammar Scores in Pre-test				
No	Interval	Frequency	%	Category
1.	65	2	9.5	Fair
2.	60	13	61.9	Fair
3.	55	4	19.0	Poor
Total		19		100.
The Grammar Score of Post-Test				
No	Interval	Frequency	%	Category
1.	80	8	38.1	Very good
2.	75	6	28.6	Good
3.	70	4	19.0	Fairly Good
4.	65	1	4.8	Fair
Total		19		100

Table 1 showed that before implementing the mind mapping technique in teaching writing to the students. Of the students who make mistakes in the grammar category 2 students got a fair category with a score of 65 or (9.5%), 13 students got a score of 60 or (61.9%), and 4 students in the poor category or (19.0%). The data showed that the students in the average category and they have lack writing skills. In grammar scores of the posttest, the data showed that after implementing the mind mapping technique in the teaching writing process to the students. The researchers found that students' grammar category 8 students got a very good category with a score of 80 or (38.1%), 6 students got score good category with a score of 75 or (28.6%), 4 students got a fairly good category with a score of 70 or (19.0%), and 1 student got fairly with the score 65 or (4.8%). The data showed and proved that the students are in a good category and they have mastered their grammar writing skills through mind mapping.

Table 2
The Vocabulary Score of Pre-test and Post-test in the Experimental Class

Vocabulary Score of Pre-Test				
No	Interval	Frequency	%	Category
1.	65	52	10.5	Fair
2.	60	12	63.2	Fair
3.	55	5	26.3	Poor
Total		19		100
Vocabulary Score of Post-Test				
No	Interval	Frequency	%	Category
1.	80	7	36.8	Very good
2.	75	4	21.1	Good
3.	70	5	26.3	Fairly Good
4.	65	2	10.5	Fair
5.	60	1	5.3	Fair
Total		19		100

The table above showed that before implementing the mind mapping technique in teaching writing to the students. Of the students who make mistakes in the vocabulary category 5 students got the poor category with a score of 55 to or (26.3%), 12 students got a

score of 60 or (63.2%), and 2 students in the fair category or (10.5%). The data showed that the students in the average category and they have lack writing skills. Dealing with vocabulary scores of post-test, the data showed that after implementing the mind mapping technique in teaching the writing process to the students. The researchers found that 7 students' got a very good category with a score of 80 or (36.8), 4 students got a good category with a score of 75 or (21.1%), and 5 students got a fairly good category with a score 70 or (26.3%), and 2 students got fair category with the score 65 or (10.5%), and 1 student got fair category with the score 60 or (5.3%). The data showed and proved that the students are in the good category and have mastered their vocabulary writing skills through mind mapping.

Table 3
The Punctuation Scores of Pre-test in the Experimental Class

Punctuation Scores of Pre-test				
No	Interval	Frequency	%	Category
1.	60	11	57.9	Fair
2.	55	8	42.1	Poor
Total		19		100
Punctuation score of Post-test				
No	Interval	Frequency	%	Category
1.	80	4	21.1	Very good
2.	75	3	15.8	Good
3.	70	4	21.1	Fairly Good
4.	65	3	15.8	Fair
5.	60	5	26.3	Fair
Total		19		100

The table above showed that before implementing the mind mapping technique in teaching writing to the students. Of the students who make mistakes in the punctuation, category 11 students got the fair category with a score of 60 to or (57.9%) and 8 students got a score of 55 or (42.1%). The data showed that the students are in the poor category and they lacked punctuation writing skills. Dealing with students' punctuation scores of post-test, the data showed that after implementing the mind mapping technique in the teaching writing process to the students. The researchers found that 4 students' got a very good category with a score of 80 or (21.1%), 3 students got a good category with a score of 75 or (15.8%), 4 students got a fairly good category with a score of 70 or (15.8%), 3 students got fair category with the score 65 or (15.8%), and 5 students got fair category with the score 60 or (26.3%). The data showed and proved that the students in the average category have mastered their punctuation writing skills through mind mapping.

Table 4
The Grammar Score of Pre-test and Post-test in the Controll Class

Grammar scores of pre-test				
No	Interval	Frequency	%	Category
1.	65	4	23.5	Fair
2.	60	10	58.8	Fair
3.	55	3	17.6	Poor
Total		17		100
Grammar score of post-test				
No	Interval	Frequency	%	Category

1.	80	5	29.4	Very good
2.	75	3	17.6	Good
3.	70	4	23.5	Fairly Good
4.	65	4	23.5	Fair
5.	60	1	5.9	Fair
Total		17		100

The table above showed that the score in the grammar category that there are 4 students got the fair category with a score of 65 or (23.5%), 10 students in got fair category with a score of 60 or (58.8%), and 3 students got the poor category with a score 55 or (17.6%). The data showed that the students are in the poor category and they lack grammar writing skills. Meanwhile, the data of grammar scores of post-test showed that 5 students' got the very good category with a score of 80 or (29.4%), 3 students got the good category with a score of 75 or (17.6%), 4 students got the fairly good category with a score 70 or (23.5%), 4 students got fair category with the score 65 or (23.5%), and 1 student got fair category with the score 60 or (5.9%). The data showed and proved that the students were in the average category.

Table 5
The Vocabulary Score of pre-test and post-test in the Control Class

Vocabulary score of pre-test				
No	Interval	Frequency	%	Category
1.	65	2	11.8	Fair
2.	60	11	64.7	Fair
3.	55	4	23.5	Poor
Total		17		100
Vocabulary score of post-test				
No	Interval	Frequency	%	Category
1.	75	2	11.8	Good
2.	70	3	17.6	Fairly Good
3.	65	8	47.1	Fairly Good
4.	60	4	23.5	Fair
Total		17		100

The table above shows that the score in the vocabulary category that there are 2 students got fair category with a score of 65 or (11.8%), 11 students in got fair category with a score of 60 or (64.7%), and 2 students get a poor category with a score of 55 or (23.5%). The data showed that the students are in the poor category and they lack grammar writing skills. Dealing with students' vocabulary scores of post-test, the data showed that 2 students' got a good category with a score of 75 or (11.8%), 3 students got a fairly good category with a score of 70 or (17.6%), 8 students got a fairly good category with a score 65 or (47.1%), 4 students got fair category with the score 60 or (23.5%). The data showed and proved that the students were in the average category.

Table 6
The Punctuation Scores of Pre-test and Post-test in the Control Class

Punctuation Scores of Pre-test				
No	Interval	Frequency	%	Category
1.	65	1	5.9	Fair
2.	60	11	64.7	Fair

3.	55	5	29.4	Poor
Total		17		100
Punctuation Scores of Post-test				
No	Interval	Frequency	%	Category
1.	75	2	11.8	Good
2.	70	3	17.6	Fairly Good
3.	65	6	35.3	Fairly Good
4.	60	6	23.3	Fair
Total		17		100

The table above showed that the score in the punctuation category there is 1 student who got fair category with a score of 65 or (5.9%), 11 students got a fair category with a score of 60 or (64.7%), and 5 students got a poor category with a score of 55 or (29.4%). The data showed that the students are in the poor category and they lacked punctuation writing skills. Dealing with students' punctuation of post-test, the data showed that 2 students' got a good category with a score of 75 or (11.8%), 3 students got a fairly good category with a score of 70 or (17.6%), 6 students got a fairly good category with a score 65 or (35.3%), 6 students got fair category with the score 60 or (23.3%). The data showed and proved that the students were in the poor category.

Table 7
The Result of t-test calculation in Experimental and Control classes

No	t	md	Sig	Category
1.	2.9	28.25	.05	Grammar
2.	3.0	26.25	.05	Vocabulary
3.	3.0	21.00	.05	Punctuation
4.	3.0	25.00	.05	Grammar
5.	3.0	18.33	.04	Vocabulary
6.	3.0	17.22	.04	Punctuation

It can be seen in the table above that the student's scores in experimental and control classes were accepted. It proves on a significant score that the mind mapping technique implemented in the class makes students attractive and effective in improving students' writing skills.

Discussion

When writing, students frequently have more time to think than they do in oral activities. They can go through what they know in their minds, and even dictionaries, grammar books, or other reference material to help them. Writing is frequently useful as preparation for some other activity, in particular when students write sentences as a preamble to discuss activities. Writing can also be used as an integral part of a larger activity where the focus is on something else such as language practice, acting out, or speaking. Cook (2005), writing system has two distinct meanings, one attached to general ideas of writing, one to specific languages.

The experimental data above stated that the mean score of grammar is 28.25, vocabulary score is 26.25, and punctuation score is 21.00. Its significances are different in the control class where the score is under 25.00. It means that the mind mapping technique is effective in implementing in teaching writing in the class and can improve students' writing skills. Tee (2014) argues mind maps help students remember information, as they hold it in a format that

the mind finds easy to recall and quick to review. It also helps the students to improve their innovative and creative thinking (Shi et al., 2022; Scoppio & Luyt, 2017). Furthermore, mind maps can be effective to create learning environments in which students feel desirous to learn and used in different stages of the learning process. Then, Fiktorius (2013), the mind-mapping technique seems to be particularly suited to help students in planning their writing as the approach; encourages students to reach ideas and adopt a deeper level of understanding of the writing topics. In this study, students are involved in arranging simple descriptive texts with utilizing some stages of mind maps. Therefore, the technique of mind mapping impact on students' abilities to plan and organize their ideas for writing tasks under exam conditions. This finding is in line with Stokhof et al. (2020) mind mapping is also most valuable to develop a comprehensive understanding of all the key concepts involved in a subject area and improving creativity, organization, productivity, and memory.

In applying the mind mapping technique, the treatment phase was followed by a posttest where the learners attempted a post-test of writing. The results were analyzed and gave a clear picture of the learners' performance before and after the treatment phase. It is in accordance with Al-zyoud et al. (2017) who argue mind mapping can facilitate students in composing ideas into complete paragraphs. In this study, the findings showed that there was a significant difference in the grades of the learners who were taught through the mind mapping techniques from those learners (controlled section) who were taught writing through the application of some usual techniques. It became apparent that the mind-mapping techniques enhanced the writing abilities of the learners of the experimental group more than the learners who were taught through the usual teaching techniques. Mind mapping techniques can improve the student's writing skills in the teaching writing process and could improve students' attraction and focus on the teaching-learning process because they can achieve their learning goal. So, it could be concluded that students' writing skills in the experimental class was improved than in the control class.

CONCLUSION

The differences between the two classes proved that the significance of the experimental class is 3.0 and the mean score is 28.25. It means that mind mapping is effective in implementing it in the classroom to improve students' writing skills. While in the control class, the t-test score is 3.0 and the mean score is 25. 00. It proved that the score of the two classes give significantly different. Then, the Mind mapping technique is also effective in implementing in teaching writing in the classroom, it emphasizes students' critical thinking and creativity to organize ideas into real sentences. Mind mapping techniques is an effective way to help students to overcome problems such as nervousness and not being confident to improve their writing skills, it also helps the students to organize systematic ideas and make it easy meaning to understand.

ACKNOWLEDGEMENT

This writing would not be finished without any help from the others. Therefore, the researchers wish to give their appreciation and thanks to all colleagues who have supported and given comments on any part of this writing. Criticisms or suggestions from the readers are very much expected to perfect this writing. Furthermore, researchers hope this research can help readers to add scientific specialties.

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