THE USE OF DIGITAL MIND MAPPING TO IMPROVE EFL STUDENT'S ABILITY IN WRITING DESCRIPTIVE PARAGRAPH

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Abstrak

Penelitian ini bertujuan untuk melihat apakah ada peningkatan dalam menulis paragraf deskriptif yang diajarkan sebelum dan sesudah menggunakan pemetaan pikiran digital. Pendekatan kuantitatif digunakan dalam penelitian ini, dengan desain penelitian pra-eksperimental. Subyek penelitian ini adalah siswa kelas VIII-A dan partisipasinya adalah 20 siswa. Pengujian adalah instrument yang digunakan dalam penelitian ini ada dua jenis tes: pretest dan posttest. Hasil penelitian menunjukan bahwa nilai pre-test adalah 49,0625 dan nilai posttest adalah 79,0625. Dengan menggunakan SPSS Statistic 18 nilai rata-rata posttest lebih tinggi dari nilai rata-rata pretest. Hasil penelitian menunjukan bahwa nilai pre-test adalah 49,0625 dan nilai posttest adalah 79,0625. Dengan menggunakan SPSS Statistic 18 nilai rata-rata posttest lebih tinggi dari nilai rata-rata pre-test. Signifikasi dua-ekor yang ditunjukan adalah 0,000 yang berarti bahwa hasil taraf signifikasi tersebut adalah taraf baku cukup (0,005). Menurut analisis data, Tcount lebih besar daripada To. Hypothesis alternatif (Ha) diterima dan hipothesis nol (Ho) ditolak. Menunjukan bahwa penggunaan pemetaan pikiran digital efektif meningkatkan penulisan paragraf deskriptif siswa.

Kata Kunci: Menulis, Pemetaan Pikiran Digital, Paragraf Deskriptif

Abstract

This study aims to see if there is an improvement in writing descriptive paragraphs taught before and after using digital mind mapping. A quantitative approach was used in this study, with a pre-experimental research design. The subjects of this study were students of class VIII-A and the participation was 20 students. Testing is the instrument used in this study, there are two types of tests: pretest and posttest. The results showed that the pre-test value was 49.0625 and the post-test value was 79.0625. By using SPSS Statistic 18, the posttest average value is higher than the pretest average value. The results showed that the pre-test value was 49.0625 and the post-test value was 79.0625. By using SPSS Statistic 18 the posttest mean score is higher than the pre-test mean. The two-tailed significance shown is 0.000 which means that the result of the significance level is a sufficient standard level (0.005). According to data analysis, Tcount is greater than To. The alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. Shows that the use of digital mind mapping is effective in improving students' descriptive paragraph writing.

Keywords: Writing, Digital Mind Mapping, Descriptive Paragraph

INTRODUCTION

Writing is one of the language skills which is taught at secondary school level. During the era of pandemic, the teaching and learning process has shifted from conventional face to face classroom setting at school into virtual classroom. Consequently, the use of technology is unavoidable.

In language teaching, the students learn four skills: listening, speaking, reading, writing, and one of the important skills language teaching is writing. Writing can be defined as an activity to share and express ideas. Other definitions include Larry (2003), who defined writing as the process of switching ideas from the mind on the paper to exchange to readers while quickly acknowledging that writing text to express their ideas.

It also one of the important skills in English teaching. Harmer (1998) stated that writing is an essential language skills just as important as speaking, listening, and reading. Writing is the ability to express the student's opinion or be taught clearly and efficiently in written form. In Indonesia, the teaching of language is based on text and one type of text which is taught at the secondary level is descriptive text.

A descriptive text is an oral representation of a person, area, or object. A descriptive text is one that describes a person, place, or object. When we explain someone else, we should do as vividly and realistically possible.

According to Anderson (2003), stated that Descriptive text describes a particular person place, or thing. At the secondary level students commonly learn about descriptive paragraphs.

Descriptive paragraph one of the texts. This text must be taught to middle school students. Keraf (2002) stated that in Descriptive paragraph section composing, the essayist moves the pictures, the inclination that author experienced. The essayist attempts to convey the picture, felling, and involvement with orders can envision or as thought, they additionally connected on it. In addition, students clarify depictions to cause envision the item that is being portrayed for example students depict their class.

In writing descriptive paragraphs, the students commonly have some problems developing their ideas and lack vocabulary. Richards and Renandya (2002) stated that writing is the most challenging skill for second language and foreign-language learners. In solving these problem, the researcher is to be carried out to find way out by using digital mind mapping.

Digital mind mapping is strategy that further develops efficiency by assisting with building and examining thoughts and works with data organizing and recovery. This strategy can help students build their ideas, helps students to thinking creatively, and help students organize their writing. According to Buzan (2008), mind mapping doesn't just show facts, yet it shows the general construction of a subject and the overall significance of the individual piece of it. Digital mind mapping can help students improve in arranging sentence.

Digital mind mapping is valuable for the computer to create mind maps. Erdogan (2008) stated that by using digital mind maps, students could move items and ideas around by simplifying them interestingly with paper mind maps. Students need to erase and change over and over. Digital mind mapping can be saved as records, the document can be divided between students, and pieces of it very well might be replicated for different guides. Digital mind mapping additionally empowers students to incorporate email into their principles. Students can likewise append and see video cuts, animated, and pictures.

Digital mind mapping has type of application. One of them is EdrawMind which is digital mind mapping with the size is light about 1, 57 Mb. It easy for beginner to create mind maps, brainstorming diagrams, presentation, and concept maps. It can visualize the thoughts, arrange and organized ideas quickly, and show a big picture of what students learn or work at.

Digital Mind Mapping

Mind mapping introduced and developed in 1960 by Tony Buzan, an English psychologist. Mind mapping is a diagram that has a function as a way to organize ideas, represent word, tasks, or another links that that arranged a central keyword by branches and typically it contain words, colors, short phrase, and pictures Buzan (2006). Buzan also say that mind mapping is a primary tool used for stimulating thoughts that show ideas which are generated around a central theme and how they are interlinked. Mind maps are used to form, visualize, conceive classify thoughts in educational fields, organizational, activities, problem solving, and decision-making process (Akinoglu & Yasar, 2007). According to Nong (2009) digital mind mapping is a tool for students to conceptualize the knowledge, brainstorming, categorize the ideas, constructs knowledge, and address the problem more logically. It is a tool to active the students the students, stimulate their creativity, collaboration, and improve their confidence in contributing ideas in class.

Mind mapping can help teacher and students in processing teaching and learning. According to Buzan (2007) mind mapping can help students in term of plan, communicate, become more creative, save time, solving the problem, focus on learning, develop and clarify thoughts, remember better, and learn more quickly and efficiently. In general, create mind mapping need pen an paper. It is valuable to benefit from computer to create mind maps, students can move objects and concepts around simply by drag and drop them in contracts with paper minds, students need to create and rewrite again and again (Erdogan, 2008)

Digital mind mapping can be saved as files, the file can be shared among learners and bits of it may be copied for others maps. Further digital maps enable students to include hyperlinks and email links to their maps. Students can also attach and view video clip, animated pictures and images.

According to Awad and Hegazy (2008), there are some benefits of digital mind mappings. Digital mind mapping had a much more consistent appearance and had the potential to appear much cleaner, the use of keyboard and mouse as input device enabled students to navigate through the digital mind map easily and faster than the papers mind maps, digital mind maps offered dynamic distributed learning environment, which expanded the physical learning space and afforded students a means of developing and organizing their ideas using higher-order thinking skills and enhanced their understanding.
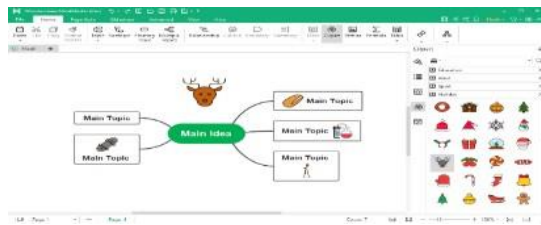
Figure 1. Digital Mind Mapping

Some research studies about digital mind mapping showed positive result (Adi, 2014; Roni, 2015; Nurlaila, 2013; Cathy, 2005; Cheng, 2013; Yunus, 2016; Cahyo, 2013; Sari, 2014). Some research studies elaborated on the use of mind mapping (Yunus 2016; Cathy 2005; Cheng 2013; Sari 2014; Cahyo 2013). It is reported that mind mapping writing skills can work on through mind mapping strategy. Those research studies shows that student's skill is increased after the students got writing work on utilizing mind mapping. Unlike previous studies, some researches are more concerned with the use of digital mind mapping (Adi, 2014; Roni, 2015; Nuraila, 2013). It is reported in Roni's research (2015) that after calculating using statistical test indicating that digital mind mapping was effective, Roni stated that the digital mind mapping strategy can be used to enhance student's outcome in writing skills and can play an important role in writing instruction.

Much of the researcher deals with the use digital mind mapping in connection with writing essays such as in Nuralaila research (2013), writing an indicates that the use of the mind mapping technique was effective in improving students writing ability. Other previous research from Adi (2004) reported that the use of mind mapping in writing an essay improves. The data show that using mind mapping in writing essay is improve and the students writing skills improvement is significant after the students got writing practice using mind mapping. From the previous studies, it is found that most of the researcher studies are more concern with the use of mind mapping in writing an essay.

Based on the previous research above it is necessary to conduct research about the use of digital mind mapping in EFL classroom. The researcher used quantitative approach with pre-experimental research design and described the ability of utilizing digital mind mapping toward students writing accomplishment.

The researcher uses two kinds of hypothesis, those are: The null hypothesis (Ho): Students who are taught by using digital mind mapping will not improve their ability in writing descriptive paragraph.
Alternative hypothesis (Ha): Students who are taught by using digital mind mapping will improve their ability in writing descriptive paragraph.
Research question

Is there any significant improvement for the students in writing descriptive paragraph after being taught by using digital mind mapping?

METHOD

The purpose of this study is to investigate the effect of digital mind mapping on students writing ability using a pre-experimental pretest-posttest research design. Because the researcher could not determine homogeneity of students writing achievement at one of Madiun's junior high schools, the researcher used pre-experimental. Experimental research, according to Ary et al (2010), is research that employs one or more independent variables and then test the dependent variable or variable for variance associated with the autonomous variable manipulation. This study used a single group pretest and posttest design. A pretest is a measure of some attribute or characteristic assessed in an experimental before the group receives treatment, and a posttest is a measure of some quality or aspect considered for experiment participants after treatment.

The illustration of research design

Pre-test	Independent	Post-test
Y1	X	Y2

X= Treatment using mind mapping
Y1= Students ability on writing paragraph before being taught by digital mind mapping
Y2= Students achievement on writing paragraph after taught by digital mind mapping

The subject of this study is VIII-A grades consist of 20 students at one of junior high school in Madiun. The researcher conducted the study that school because the school has used technology during teaching and learning process. So, it will support the use of digital mind mapping in English lesson. Besides, the researcher has an easy access to this school too. In this research, the researcher becomes a teacher handling 20 students.

The research instrument is the test. According to Ary (2010), a test is a set of stimuli presented to a person in order to induce a response from which a numerical result can be selected. In this research, there are two type of test. They are pre-test and posttest. A pretest-posttest design is an experiment in which measurement are taken on individuals both before and after they are involved in some treatment. The research used pre-test to measure student's achievement before the treatment giving and posttest to measure students writing achievement after the treatment given. There are some criteria for students to write descriptive paragraph such as: main ideas/topic sentence

of the text should relevant, supporting sentence, vocabulary, and mechanics. The researcher uses a scoring rubric to score the student's writing achievement.

There were two sorts of variables; dependent variable and independent variable. According to Creswell (2012), the dependent variable is a property subject to impacted by the independent, while the independent variable is an attribute or characteristic that affects or influences a result on the dependent variable. In this research, the treatment using digital mind mapping was the independent variable, also called factor X. The dependent variable was descriptive writing achievement to the eight grade students, also called variable Y.

The researcher used a test as the research instrument in this study. Both a pre-test and posttest are planned to access students writing abilities. The test ought to satisfy a few elements to get the information too. The element tried is validity by utilizing a valid instrument to gather information. Validity is the main thought in creating and assessing instruments. Mujis (2004) stated that validity is presumably the absolute most significant part of the plan of any instrument in the educational research. In this research, to guarantee test validity the researcher utilize content validity.

In this research, the researcher needed to measure the students writing ability in writing descriptive paragraph, before they wrote the paragraph, they needed to make a digital mind mapping first. The instruction was to ask the students to complete the digital mind mapping then write short paragraph based on the digital mind mapping had already made. According to Hughes (1989), a test is said to have content validity if its content is a representative group of the linguistic skills, frameworks, and so on which it is supposed to be related. It can be concluded that the instruction given to the students by the researcher had already had content validity.

The data collecting method and the instrument need to obtain the data in the research. The researcher collects data from the pre-test and posttest scores in writing descriptive text. The researcher give the pre-test to know students writing achievement in the descriptive text without using digital mind mapping. After the researcher gets a score from the pre-test, the study applies digital mind mapping. Next, the researcher give a posttest to the students. The pre-test and posttest were compared using SPSS 18 to know the effectively

The research used quantitative data analysis in managing and dissecting the information gathered. The study examines the data by utilizing measurable methods. This investigation aims to track down the stark contrast of the student's accomplishment writing descriptive text before and after teaching when utilizing digital mind mapping. The researcher has used application SPSS

Statistic 18 to analyze data. First, the data was entered into SPSS Statistic to determine the frequency of pre-test and posttest scores. The research then uses this application to determine the mean, median, mode, and standard deviation. The analysis then determines the pair sample statistic and the pair correlation from two types of test based on the data comparison. The study can examine the significance of the two tails from SPSS Statistic, the research can conclude whether or not the treatment digital mind mapping is functional. This technique is used to find sufficient difference in writing academic descriptive text using digital mind mapping.

The alternative hypothesis is accepted if the significant two tails are less than the significance level (0.05). This clearly indicates there are difference in student's achievement before and after they are educated using digital mind mapping. The effect of the use mind mapping can help students find better and more creative solutions to problems, improve information retention, and delivery boost to students productivity.

The research was held on 14 December 2021. The researcher took one class to the eight grade in four meeting. Because of the pandemic Covid-19 teacher was allowed to take 20 students. Within that finding, the researcher studied and discussed data collected through two types of test; pre-test and posttest. It had to have been given to class VIII-A, which have 20 participants.

The pretest and posttest topic were slightly different, but the type of text was the same. Animal are the subject of the experiment. In the pre-test, the researcher chose an elephant, and in the posttest the researcher chose a giraffe. Student will write a descriptive text about the animal's characteristic in both tests.

At the first meeting, I opened the class by praying first. Before I show my students the pre-test I introduce my identity and my purpose coming to the school and continue by checking attendance list of students. After all the students were present I shared the pre-test by sending the file via WhatsApp which I had previously created a Whatsapp group. I instruct students to write a descriptive paragraph about elephants. I gave additional instruction to the students so that sentence should not be more than ten sentence and the duration of writing time was 30 minutes. After finishing writing, students are allowed to go home. At the second meeting, I am as the researcher prepared materials for teaching in the form of power points and digital mind mapping. Before starting the lesson I checked the attendance list of students first. After all the students were completed I explained the material on how to compose descriptive paragraph using digital mind mapping. However, before strating the lesson I have challenge with many students who were lazy to pay attention to material because they were used to virtual

learning. As a researcher. I provide motivation and encouragement so that students can get excited again to learn.

At third meeting, the researchers reviewed the previous material such as how to make good mind mapping and how to correct sentence according to the descriptive paragraph criteria such as writing the correct topic sentences, writing the correct organization, writing correct coherent and cohesive sentence.

The last meeting the researcher will distribute the posttest file to make a descriptive paragraph about giraffe which is different from the first meeting is about elephant. The instruction given to students are to make a mind map first via the EdrawMind application. After completing the mind mapping students are asked to write a paragraph of text and it should not exceed 10 sentence. Students are only given 40 minutes to complete it. After finishing writing, students may leave the class.

RESULT AND DISCUSSION

RESULT

Table 1. Descriptive of Pre-test

Statistics

Pre-test

N	Valid	20
	Missing	0
Mean		49.0625
Median		50.0000
Mode		50.00
Std. Deviation		10.39416

The class has 20 students, according to the table above. It has been determined that the mean score is 49.0625, implying that the mean of 20 students is 49. According to criteria, students score 49 is considered poor. Meanwhile, both the median and mode score are 50. The most common score is 50, indicating that several students received low grades, and the standard deviation is 10.39416.

Table 2. Frequency of Pre-test

Pre-test

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	31.25	1	5.0	5.0	5.0
	37.50	3	15.0	15.0	20.0
	43.75	5	25.0	25.0	45.0
	50.00	6	30.0	30.0	75.0
	56.25	1	5.0	5.0	80.0

62.50	2	10.0	10.0	90.0
68.75	2	10.0	10.0	100.0
Total	20	100.0	100.0	

According to the table, the 11 students received scores of 43.75 and 50, which indicates that students outcome in writing a descriptive paragraphs is low. The students scored 56.25-68.75 are 5 students, which suggests that students result in writing descriptive paragraph is average. Finally, the student scored 75-81.25 is categorized well.

The posttest in this group was given by asking the students to describe animals about the giraffe. This test is used to determine students writing abilities after receiving treatment. The data of students' scores after being taught using digital mind mapping can be seen in the appendix.

Table 3. Descriptive of Posttest

Statistics

Posttest

N	Valid	20
	Missing	0
Mean		79.0625
Median		81.2500
Mode		81.25
Std. Deviation		7.66137

Based on the table above, we can see that the students are 20. The means scores is 79.0625, which means the students got good criteria, and their writing score is better. The median score is 81.2500, so many students got good scores in writing descriptive paragraph and the last the standard deviation is 7.66137.

Table 4. Frequency of Posttest
Posttest

		Rate	Percent	Percentage Valid	Total Percentage
Valid	68.75	4	20.0	20.0	20.0
	75.00	5	25.0	25.0	45.0
	81.25	7	35.0	35.0	80.0
	87.50	2	10.0	10.0	90.0
	93.75	2	10.0	10.0	100.0
	Total	20	100.0	100.0	

From the table above it was found there are 12 students got score 75-81.25, it means that the students categorized well. Next, in categorized excellent with score 87.50-93.75 are 4 students. There are some differences of data presentation between before and after treatment process done. The data present that the score after taught by a digital mind mapping as strategy in teaching writing.

Data analysis was done to know different achievement before doing the test and after doing the test by searching after test and score before test. The researcher employs a statistical test, the paired sample T-test SPSS 18, to assure that student's ability to write descriptive paragraphs improves through the use of digital mind mapping.

Table 5. Paired Sample Correlations

		N	Correlation	Sig.
Pair 1	PRE TEST & POST TEST	20	.747	.000

According to the table above, the output of paired sample correlation shows a significant correlation between samples. Both correlation are 0.747, with a 0.00 level of significance. In others word, the enormous numerical significance is 0.000 less than 0.05, so that the hypotheses are clarified. Digital mind mapping is a tool to increase students writing in descriptive paragraph.

Table 6. Paired Sample Test

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	PRE TEST - POST TEST	-30.00000	6.90633	1.54430	-33.23226	-26.76774	-19.426	19	.000

From the table above show that the T count is 19.426 with the df is 19. The score of writing before being taught by digital mind mapping is poor with 49.0625 and after the students got a treatment the mean of writing score is 79.0625 the result of T count is 19.426. Therefore, digital mind mapping is an appropriate strategy to improve students writing in descriptive paragraph.

The researcher then assign an interpretation to t0. The researcher first regarded the df, df=N-1. The researcher evaluates the t-table score. By comparing the t that the researcher obtained estimate t count 19.426 and the value of t on t-table is 2.093. According to the calculation above, t count is greater than t table (19.426>2.093).

The t number is more significant than t0 number. The alternative hypothesis (Ha) that there is a significant difference in student's improvement before and after using digital mind mapping is not rejected, whereas the null hypothesis (Ho) that there is no significant difference in student's improvement before and after using digital mind mapping is rejected. It means that students descriptive paragraph writing improve when they are taught using digital mind mapping. It is possible to conclude that technology brainstorming is a useful teaching tool students how to write descriptive paragraphs. The effect of the use of mind mapping can help students find better and more creative solutions to problems, improve information retention, and delivery boost to students productivity.

DISCUSSION

According to data analysis, the average score of posttest is higher than the mean of the pretest, as measured using Statistical software 18. The relevant of two tails result is 0.000 indicating that the development of the significant standard level (0.005). Digital mind mapping is useful for improving student's ability to write descriptive paragraph.

Digital mind mapping is a strategy to help the students in get an idea easier. Caroline Edward (2009) stated that mind mapping is a very effective and efficient method for storing and retrieving data or information from the brain. This system works according to the natural workings of the human brain, so that the potential and capacity of the human brain can be optimal. It can help the students before write or describe something. Before writing, students can write the part of thing that they want describe. It means that students know what thing that they should describe in next. When describing the use of digital mind mapping as a strategy, the students are expected to be more innovative. The combination of picture, color, and others make the students get idea easier. According to Buzan (2007), mind mapping assists students in term of planning, interacting, becoming more innovative, time saving, problem solving, focusing on learning, developing and clarifying thoughts, remembering better, and learning more rapidly and easily. The result, the score of the students after taught using digital mind mapping is better than before taught using digital mind mapping.

In fact digital mind mapping is useful to the students. Zampetaksi and Tsironis (2007) stated that mind mapping is a way that can make a boring task fun and interesting, so that it can optimize concentration and memory. With mind mapping, the student's ability to be active and remember will increase. This strategy can support students in the aspect of thinking and doing tasks.it could be seen in treatment process, the students are more interested when

applies this strategy together. The implication of using digital mind mapping is can make students easier to write or describe something, students also more interest and motivated when doing the tasks. Digital mind mapping also help students in memorize something. So, students are creative and quickly when thinking and doing the tasks. Then, the student's achievement in writing descriptive paragraph is better than before using digital mind mapping. Moreover, mind mapping strategy also has successfully been implemented by Roni (2015) in a thesis entitle The Effectiveness of Using Mind Mapping Technique towards students accomplishments recorded as a graphic text and Nuralail (2013) in thesis entitled The Use of Mind Mapping technique in Writing Descriptive Text. Those research show that digital mind mapping strategy is very useful to applying in writing the process of teaching and learning. It does not only helpful for students but also for teacher.

CONCLUSION

After all data were analyzed on the research result, the writer can draw conclusion as follow: There is a big difference in students improvement in writing descriptive paragraphs before and after being taught by suing digital mind mapping the data analysis result demonstrate statistical test with the T-test revealed that T-test is 19.426 and the T-table is 2.093. With a degree freedom (df) of 19 and a level value of 0.000, this mean that the T-test was more powerful than T-table. The null hypothesis (Ho) is rejected, whereas the alternative hypothesis (Ha) is accepted.

Suggestion

Digital mind mapping is one of the approach to improve student's achievement in writing descriptive paragraph of junior high school especially in eight grade and nine grade. It can map what students want to write, so students can describe something in detail. As a teacher it will be creative select an approach in conducting the process of teaching and learning one of strategy to teaching is digital mind mapping. Based on the researcher, digital mind mapping can be used to enhance performance student's achievement in writing descriptive paragraph. Student's achievement in writing descriptive paragraph is improved by using digital mind mapping, which they can also apply to other texts.

The researcher hopes that this research can give some knowledge about how to use and benefit of digital mind mapping and to learn about the advantage of using digital mind mapping.

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