

THE EFFECT OF MIND MAPPING OF WRITING ACHIEVEMENT IN DESCRIPTIVE TEXT OF GRADE X STUDENTS

Farida Lutfia

Program Studi Pendidikan Bahasa Inggris FKIP Universitas Islam Malang

Email: faridalutfia1@gmail.com

Abstract

The aim of this present study is to know the effectiveness of mind mapping in writing descriptive text of vocational high school students to get better performance. The research was conducted in grade X students of SMK NU Sunan Ampel Poncokusumo with 22 students as the experimental group and 22 students as the control group of the research. Sample was determined randomly. The researcher collected the data by applied pre-test, treatment, and post-test. Then, for reaching the purpose of the study, the data was analysed using SPSS Statistical 20 program. Based on the result, the mean score of experimental group was 69.000 while the mean score of control group was 61.909. The independent sample t-test pointed out that the level of significance (2-tailed) of this study was 0.046. It means that the level of significance was lower than 0.05. Therefore, it showed that there is significant different score of students' achievement in writing descriptive text that was taught through mind mapping technique and without mind mapping technique. Therefore, the teacher is suggested to apply mind mapping as a great technique in teaching writing process especially for descriptive text. Since mind mapping can help the students to obtain ideas and make a coherence paragraph easily. The suggestion for the next researcher is can be better to apply mind mapping in other skills.

Keywords: writing achievement, descriptive text, mind mapping, effect

INTRODUCTION

Writing is a complicated assignment and be the hard assignment of four the language skills (Adas & Bakir, 2013). Many of students can easily get high scores in listening, reading, and speaking yet only few of students can reach the good score in writing. It shows that writing be the involute skill of English major. Monaghan (2007) has argued that writing is an important type of communication, needed in our life, in business, in creativity, in scientific activity; in conclude, it is not just a living instrument, it is a survival instrument. When we study writing, we do not only get the knowledge about writing but also get the knowledge about grammar and writing mechanics. A person can be called as a master of a language if that person can speak with good pronunciation and can write with good writing mechanics. Writing is important because writing is more formal than speaking. For example writing is worth 80 points and speaking is worth 20 points in the examination (Abdul & Kareem, 2014).

The common problems faced by students are less background knowledge, grammatical problem, needs long time to create an idea; there is no feedback, and way to make a coherence paragraph. Less vocabulary is the problem of English students. So, students' use the same words in many times; and the creativity are hampered (Adas & Bakir, 2013). Mourtaga (2010, as cited in Adas & Bakir, 2013) indicated that most of students confront the

difficulties in connecting their thoughts well, and the difficulties are lack of vocabulary and capability for writing effectively.

Some researchers and teachers have created many techniques for teaching and learning writing texts like descriptive text, narrative text, procedure text, report text, etc. Each technique has advantages and some techniques only suitable in certain text. For descriptive text, the appropriate strategy is mind mapping. The researcher chose descriptive text because describing is used in many types of writing.

Mind mapping is good for improving students in creating idea and discussing ideas in a group. Also the big important thing is mind mapping just resolving the problem in developing ideas and arranging the paragraph be the good arrangement paragraph. However, a study about mind mapping toward writing achievement in descriptive text has not been well explored. For example, two researches that investigate mind mapping toward writing achievement (Sya'bana, 2015; Islami, 2014). The first study investigated mind mapping toward writing achievement in analytical exposition text while the second study examined mind mapping toward writing achievement in argumentative essay. It could be concluded that a study regarding mind mapping toward writing achievement in descriptive text are still left with no conclusive findings.

Mind mapping is the most superior instrument which supporting mind to think regularly (Buzan, 2005, as cited in Purnomo, 2014). Mind mapping can help students to arrange the brain system is good, to create some ideas easier, produce the creativity, and increase skill in memorizing. In applying mind mapping, the first step is the teacher requests the students making a mind map before arrange a paragraph. After the students finish making mind mapping, they can start writing according their outline mind map. The outline mind map will help the students to create an excellent writing text. Therefore, in this study, the students write a descriptive text agree with the structure of the text by applying mind mapping focuses in describing person.

According to the explanation above, this research was conducted to detect the effectiveness of mind mapping in descriptive text toward writing achievement. Then, the research problem of this study can be formulated below:

Is the use of mind mapping technique more effective than conventional technique of writing achievement in descriptive text?

METHOD

The researcher determined for using experimental design to examine whether or not mind mapping influenced students' writing achievement at SMK NU Sunan Ampel Poncokusumo. Latief (2017) claimed that experimental research detects the influence of experimental and control group toward other variable.

An educational research, the researcher selected to use quasi-experimental design. In this case, it means that this research required two classes or as an experimental class and control class for verifying the hypothesis. "In this design, a popular approach to quasi-experiments, the experimental group A and the control group B are selected without random assignment. Both groups take a pre-test and post-test. Only the experimental group receives the treatment" (Creswell, 2009, p.150).

There were two groups those involved in this research. the experimental group and the control group. The researcher got the result by computing the difference between the average score of the experimental group and the control group. In this research, the researcher would try to conduct a pre-test, treatment, and post-test for the students Grade X TKJ at SMK NU Sunan Ampel Poncokusumo. The table of quasi-experimental design is able to be drawn below.

Table 1 Quasi-Experimental Design

Group	Test	Treatment	Test
Experimental Group	Pre-test	Experimental treatment	Post-test
Control Group	Pre-test	Conventional treatment	Post-test

The population of this research was the tenth grade of the students of SMK NU Sunan Ampel Poncokusumo. The researcher took the samples randomly. The first class was class X TKJ 5 as the experimental group and class X TKJ 3 as the control group. Class X TKJ 5 consisted of 22 students, class X TKJ 3 consisted of 22 students also.

The researcher accumulated the data from tests score. The tests was used to detect how mind mapping increases students' writing skill and whether students who were taught utilizing mind mapping had better writing skill than those who were not taught utilizing mind mapping for descriptive text.

The researcher used scoring rubric writing skill adapted from Brown. The tests consisted of the pre-test and the post-test. The post-test score from both experimental and control class was analysed using Independent T-test. Independent T-test was used to examine the comparative hypothesis of two unrelated samples. Then, the result of the T-test and t-value were compared with t-table to know that hypothesis was accepted or rejected. This data that researcher would get in this research, it would be obtained in form of scoring all students in Grade X TKJ 5 and Grade X TKJ 3.

In this research, the researcher used content validity. Content validity is an important part in achievement testing. It discuss about how the test measures the subject matter topics and the included learning outcome during the instructional time. And the researcher utilized test-retest method to know the reliability of the test. Test-retest is organize two different forms of the test with time interval.

The tests (pre-test and post-test) were to examine the quality of students' writing skill before and after the treatment. Pre-test was conducted to measure participants' characteristic before getting the treatment. The researcher delivered pre-test to find out the students' writing skill both groups before they obtained the treatment. In this pre-test, the researcher requested all participants writing a descriptive text about one of family member during 45 minutes. The researcher created test based on the syllabus so that the test was not out from the contents.

The final step accumulating data was giving post-test. Post-test was provided after conducting treatment. In the post-test, the researcher requested the participants for writing a descriptive text with the theme given by utilizing mind mapping. The goal of giving post-test was to quantify some changes of the students' writing ability after got the treatment.

The data was gotten from the field was numerical data and could be formulated using statistical method. The researcher applied t-test and SPSS program to find out the effectiveness and to get stronger conclusion. The t-test was taken from the post-test of experimental group and the post-test of control group. The researcher used independent t-test to calculate the numerical data of post-test from both of group.

FINDINGS AND DISCUSSION

Findings

The researcher used quasi-experimental design for this research. There are pre-test, treatment, and post-test. The data was gained from students' pre-test and post-test. The pre-test namely mind mapping in experimental group and no treatment in control group. The pre-test's result was used to detect the students' writing achievement. After collecting the result of the pre-test, the researcher gave the treatment namely mind mapping for experimental

group and conventional teaching for control group. The post-test was given after the experimental group obtained the treatment and control group taught by conventional strategy. The analytical scoring adapted from Brown is applied to calculate the students' writing skill. The components were used on the scoring in this test were content, organization, grammar, vocabulary, and mechanics.

1. The result of pre-test and post-test of experimental group

The pre-test of experimental group was executed on 30th July 2019. The data from pre-test was purposed to quantify the students' writing achievement. The subject of pre-test in experimental group consisted of 22 students. In pre-test, the students were requested making a descriptive text with the certain topic that was determined by the researcher. The topic was one of family members. The scoring which was applied was adapted from Brown (2007) cited Utami (2014). There are five categories with four degrees to calculate the students' writing achievement. The highest score was 71 and the lowest score was 25. The first treatment was held on 2nd August 2019. The process of first treatment is presented as follows:

- a. Open the lesson.
- b. Give the example of mind mapping picture and ask the students to observe it.
- c. The students ask the function of mind mapping.
- d. Explain about the mind mapping function.
- e. Ask the students to create mind mapping at the director of researcher.
- f. The students exchange their assignment to their seatmate.
- g. The students check their seatmate's assignment before the assignment collected.
- h. Give the feedback and conclusion of what have been learned.
- i. Close the lesson.

Then, the second treatment was held on 6th August 2019. The process of second treatment is presented as follows:

- a. Open the lesson.
- b. Give the example of descriptive text by utilizing mind mapping for the students.
- c. The students identify the text and ask how to create descriptive text by applying mind mapping.
- d. Explain how to contrive descriptive text through mind mapping.
- e. Ask the students to create descriptive text through mind mapping.
- f. The students exchange their assignment to their seatmate.
- g. The students check their seatmate's assignment before the assignment collected.
- h. Give the feedback and conclusion of what have been learned.
- i. Close the lesson.

And the post-test of experimental group was conducted on 20th August 2019. Giving post-test for experimental group is purposed to have information about the students' achievement in writing descriptive text after received mind mapping as the treatment. The subject of post-test in experimental group consisted of 22 students. In post-test, the students were requested for describing one of family members by using mind mapping. The highest score was 87 and the lowest score was 43.

2. The result of pre-test and post-test of control group

The control group were not taught through mind mapping. But the students were taught by using conventional technique that is usually carried out by the teacher. The pre-test of control group was delivered in the first meeting exactly after the experimental group finished their pre-test. Pre-test was given by the researcher on 31st July 2019. Pre-test was aimed to find out the students' writing achievement at control group. The researcher requested the students to make descriptive text with the available topic. The topic was same as the experimental group. The participants of control group were the students of X TKJ 3. The scoring that was used was adapted from Brown. There were five categories with four levels.

The highest score was 70 and the lowest score was 33. The first class of control group was held on 2nd August 2019. The activities of control group are presented below:

- a. Open the class.
- b. Greeting the students.
- c. Teaching the students through conventional technique.
- d. Providing exercise.
- e. Give feedback.
- f. Close the class.

While the second class of control group was held on 7th August 2019. The activities of control group were same as the first class. Then, the post-test was given after the researcher taught the students through conventional technique. Post-test was purposed to be compared to the pre-test score of control group. Post test was administered on 14th August 2019. The highest score was 87 and the lowest score was 33.

3. The summary of normality and homogeneity of experimental group and control group

In this study, the normality test was tested to establish the distribution of score on variable whether the distribution of the participant score was normal or not. Thereafter, the standard deviation and mean for all participants were calculated. The standard deviation was to find out the spreading of score of each student whereas the mean was to summarize the score of all participants.

The number of participants from this research was 44 students. Since the subjects were less than 50 students, the normality was calculated using Shapiro-Wilk on SPSS application. The following table showed the descriptive statistic of the normality both tests.

Table 1 The Descriptive Statistic for Normality of Experimental Group and Control Group

Group	Shapiro-Wilk		
	Statistic	Df	Sig.
X TKJ 5	,960	22	,495
X TKJ 3	,945	22	,246

According to the Table 1, the significance level of experimental group was at 0.495 and for the control group was at 0.246. It shows that the significance level was higher than 0.05 and it can be concluded that the normality of the score was normal.

The other requirement for testing data was homogeneity. Homogeneity test was used to investigate whether the post-test score of experimental group and control group have similar variance or not. The result of homogeneity is presented below:

Table 2 The Descriptive Statistic for Homogeneity of Experimental Group and Control Group

Levine Statistic	df1	df2	Sig.
,164	1	42	,688

Based on the computation in the Table 2, the level of significance was bigger than 0.05. In conclusion, that the score of the test both group was in homogeneous variant.

For the standard deviation and the mean of experimental group and control group were calculated also. The table of the standard deviation and the mean both of groups were shown as follows.

Table 3 The Descriptive Statistic for the Standard Deviation and the Mean of Experimental Group and Control Group

Group	N	Mean	Std. Deviation
XTKJ 5	22	69,000	10,4471

X TKJ 3	22	61,909	12,3786
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Based on the Table 3, the mean of experimental group was 69.000 and the mean of control group was 61.909. Furthermore, the standard deviation of experimental group was 10.4471 and the standard deviation of control group was 12.3786.

According to the post-test score of experimental group and control group were normal and homogeneous therefore the researcher only compared the students' post-test score of experimental group and control group. The researcher compared the students' post-test score of both groups which consisted of the highest score, the lowest score, and the mean score in writing descriptive text. From students' score in post-test, the researcher knew whether the students' writing achievement was getting down, same or increase.

4. The result of independent t-test on writing skill

For analyzing the research data, independent t-test was applied as the primary statistical procedure in examining between the experimental students and the control students. In addition, the result of independent t-test was applied to uncover the significance difference of writing skill between experimental group and control group. Also, the result of independent t-test was utilized to fulfill the research question and discover the effectiveness of mind mapping.

As the previous explanation above, independent t-test was utilized to expose the effect of mind mapping on writing achievement. This study compared the result of experimental group and the result of control group on writing achievement. Independent t-test was required when the normality of the experimental group's score and the control group's score distributed normally. The result of independent t-test was displayed in the Table 4.

This research applied standard significance 95 % ($\alpha = 0, 05$) for testing the hypothesis. The hypothesis testing of this research is presented below:

- a If t value is bigger than t table, the alternative hypothesis (H_a) is accepted and the null hypothesis is rejected. The significance level is lower than significance standard. It means that there is significant different score of students' achievement in writing a descriptive text that was taught without utilizing mind mapping technique and using mind mapping technique.
- b If t value is smaller than t table, the alternative hypothesis (H_a) is rejected and the null hypothesis is accepted. The significance level is higher than significance standard. It means that there is no significant different score of students' achievements in writing a descriptive text that was taught without utilizing mind mapping strategy and utilizing mind mapping strategy.

Table 4 Research Findings Using Independent T-test

		Independent Sample Test	
t-test for Equality of Means	t	2,053	2,053
	df	42	40,847
	Sig. (2-tailed)	0,046	0,046
	Mean Difference	7,0909	7,0909
	Std. Error Difference	3,4534	3,4534
	95% Confidence Interval of the Difference	Lower	0,1217
		Upper	14,0602

The independent sample t-test presented in the Table 4.5, the level of significance (2-tailed) of this research was 0.046. It means that the level of significance of the research was lower than 0.05. Therefore, it indicated that there is significant different score of students' achievement in writing a descriptive text that was taught without using mind mapping strategy and using mind mapping strategy.

Discussions

The study is about the effect of mind mapping in writing achievement of the grade X. In this section, the researcher presents the discussion about data analysis which is intended to know the effect of using mind mapping on the students' achievement in writing descriptive text. It could be recognized from the result of pre-test and post-test from experimental group and control group. The researcher applied independent t-test for testing the hypothesis and detects the significant difference of the experimental and control group. It was applied for making certain whether H_0 was accepted or not. The criteria is if $t\text{-value} > t\text{-table}$, it means H_a is accepted. Whereas if $t\text{-value} < t\text{-table}$, it means H_a is rejected. In other words, in construing significance value, if it is higher than 0.05 ($\text{Sig} > 0.05$) H_a is rejected while if it is lower than 0.05 ($\text{Sig} < 0.05$) H_a is accepted.

The level of significant of using mind mapping in writing ability was 0.046, it means that the level of significant of this research was lower than 0.05. Furthermore, the students score who have taught through mind mapping were higher than the students' score that have not taught by applying mind mapping. Therefore, according to the hypothesis testing, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. So, the use of mind mapping to assist teaching and learning English writing ability of Vocational High School is significantly affected.

The finding of this study verified that employing mind mapping had crucial role and big effect on academic achievement especially on speaking ability at Vocational High School. It means that mind mapping is an effective strategy to support students' writing skill. "Users of the mind mapping software became faster and more efficient in generating and organizing ideas for their paragraph and were able to generate more detailed ideas than students who did not use the mind mapping software" (AL-JARF, 2009, p.9).

From explanation above, employing mind mapping in teaching and learning writing achievement is effective and appropriate. According to the research finding of the study, there is significant difference of writing descriptive text of students before and after being taught through mind mapping. Therefore, it can be concluded that using mind mapping as technique on the students' skill in writing descriptive text is effective on the tenth-grade students of SMK Sunan Ampel Poncokusumo in the Academic Year of 2019/2020.

CONCLUSION AND SUGGESTIONS

This research was organized to answer the research problem; that was mind mapping technique is more effective or not for students' writing ability. The researcher applied quasi experimental design to answer the research question. There were two groups: experimental group and control group. Both of groups got pre-test before obtaining the treatments to have information of students' writing skill. Then, the treatment was delivered to both groups; experimental group got mind mapping treatment and control group obtained conventional treatment. Afterwards, the students from both groups got post-test. It was to detect whether there was the differences or not.

According to the result of data analysis, that the result of the test indicated the students who were taught through mind mapping obtained higher score than those who were not. The level of significant of using mind mapping in writing achievement was 0.046. It shown that the level of significant was lower than 0.05. Also, it indicated that H_a is accepted and H_0 is

rejected. Therefore, it concluded that mind mapping technique is more effective for students' writing ability than conventional technique.

In this study, the researcher divided the suggestion into practical purposes and future researcher. For practical purposes, the researcher suggests the teachers to apply mind mapping technique as one of interesting technique in teaching writing process. It is because the result of the study indicated that mind mapping is more effective than conventional technique. Through mind mapping, students can get ideas easily make a coherence paragraph easily. So, the students will feel enjoy when they are in learning and teaching process.

This research also can be a reference for future researchers who want to organize the same technique for their researches. And for future researcher would be better use mind mapping other skill or apply mind mapping for mix skill like writing and reading skill.

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