

**INCREASING STUDENTS' VOCABULARY THROUGH MIND
MAPPING TECHNIQUE IN DEVELOPING STUDENTS' VOCABULARY
MASTERY AT SMP NEGERI 1 REMBOKEN**

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ABSTRACT

The study aims of this research is to find out whether the use of mind mapping technique effective to increase students' vocabulary In other words, the study was conducted to describe a cause in understanding describing the effect of word mapping strategy on the increase of students' vocabulary. This study is a quantitative research for experimental design with one group pretest-posttest. The population of this research was the first year students of SMP Negeri 1 Remboken and the sample consist of 20 students of gradeVIIC. The data were collected through objective test in multiple-choice format. The findings indicated that using mind mapping technique in teaching vocabulary describe in understanding than without using mind mapping technique. The mean of the students' score in the pretest was 4.4 while the mean of the students score in the posttest was 6.5. The achievement of the students in posttest was higher than that in pre-test. It suggested that the English teacher can collected using use multiple-choice test teaching and learning or Mind Mapping in developing students' vocabulary mastery, because the use of Mind Mapping is effective to develop the students vocabulary and make learning process more interesting for the students.

Keywords: Mind Mapping; Vocabulary describing; Action Research.

INTRODUCTION

Language can not be separated from human life, because every aspect of human life is always related to language. "In order language to communicate to each other, people include a meaning in a their language, although sometimes there are language that have no meaning or meaningless" (Sudarsono, Samola, Maru, 2016p7). English has an important role to link people from diverse countries in the world to interact, to communicate, to convey ideas and to cooperate. This role then requires the mastery of English by the people who get involved in the interaction. The mastery of English can be obtained either through self-learning or educational institutions. In Indonesia, English is taught in every level of schools including pre-school elementary school, high schools and in the university. In school particularly, the students are expected to master the four functional skills of English such as reading, speaking, listening and writing, including the sub-functional skills including grammar and vocabulary. Vocabulary is the body of words used in particular language (Oxford Dictionaries). It is the basic for learning English for vocabulary is a crucial element to master foreign language especially English and it contains the words to be pronounced or written as the efforts to convey meaning.

Maru Mister Gidion (2016) Vocabulary acquisition in foreign language learning is crucial. The crucial role that vocabulary plays is admitted by experts in second/foreign language teaching. All these experts implicitly admit that vocabulary should be the focus of foreign language teaching if learning a foreign language is to be successful. A habit is reinforced by having stimulus recut so often that the response becomes automatic. A learner who just learns grammar without vocabulary will find it difficult to convey what he or she wants to say. However, learners who just learn vocabulary or just read text or open dictionary will be able to say something (Harmer, 2001:13). Furthermore, Saleh (1997:12) argues, "The success in mastering a language is determined by the size of the vocabulary one has learned." In this term, the vocabulary determines on how to interact. However, the students get difficulties in vocabulary mastery. Lack of vocabulary affects them to write their own idea, unable to speak English and difficult in understanding the text. In addition, they tend to read slowly because they do not understand many of words and they have to stop and look up into the dictionary (Edwards, 2006:177). In practice, vocabulary is difficult for students to comprehend. They feel so hard to memorize that because the teacher still use the old method for

teaching it through only writing down on the white board and asked them to translate and memorize the words. In this pattern, the students can easily forget it as in their ages, there is no space for their creativity, being fun with the materials, or direct interaction with words they mention and memorize. Remembering new words is hard as according to Hadfield (1999:4) that words are slippery things, before people know it; they have wriggled away and are gone. Students have to go through three distinct processes. They have to fix the meaning of the words in their minds, they have somehow to make the words their own and they have to use the words creatively in context from themselves. A technique that can make them easily to remember and to broaden new vocabularies is Mind-Mapping Technique. Mind mapping is creative note-taking method, which eases us to remember much information (De Porter, Readon, and Nourie, 1999:175). Besides, the students can use several things such as color pencil, papers, picture, et cetera, and connected with lines in order to make their imagination more colorful and more interesting to ward vocabulary. Regarding to this technique, Phail in Buzan (2007:36) testified that Mind Mapping is a process which identifies concept within an oral or written text, organizes these concept in hierarchy from the most general to the most specific concept, and illustrates by using linking words the meaning relationships between concept. He added that a mind mapping is a powerful graphic technique which provides a universal key to unlock the potential of the brain. It is visual map of ideas, laid out in a radial format around a central thought and it involves a unique combination of imagery, color and visual-spatial arrangement which is proven to significantly improve recall when compared to conventional methods of note-taking and learning by rote.

To develop students' vocabulary mastery by teaching mind mapping technique, Buzan (in Purwoko, 2004:56) gives some technical direction such as: (1) Make a central image in the center of the paper. Colorr and add something interesting; (2) Draw some basic ordering ideas, spread out from the central image; (3)Thinking of all something interesting as much as possible and funny for you and it can be connected with the central image to give you the inspiration; (4)Add some branches to the basic ordering ideas using symbols, pictures, and colors as much as possible; and (5) Thinking of the details which are interesting and it can encourage your curiosity. Add to your mind map; (6) Continue it until you have adequate information for your mind map; (7) created a mind map. Several studies have been conducted about how using mapping technique in developing students' vocabulary mastery. The studies were mostly conducted by university students. Ita kurnawan (2011) investigated the use of Mind-mapping to

improve English achievement on reading of the Second year Students of MTs Al-Ittihad Pabelan. She used collaborative action research, employed pre-test and post -test in order to know students' achievement. Then, she used two cycles through four meetings in classroom. She found out that the majority of students' achievement in English especially in reading had improved by using of mind-mapping method. Furthermore, a study conducted by Nurus Shofa (2009) on Improving Students' Vocabulary Mastery through Crossword Puzzle. The technique intends to increase the students' vocabulary, to create an effective learning towards vocabulary and to fabricate the new environment of learning, as emphasized by Li, Yang and Chen (2010) that mind-mapping is useful for the building of knowledge and understanding, ideas as sociation and vocabulary learning. Thus, it will make students more interesting in learning vocabulary.

. Liando Nita, (2012:268) "Studies on motivation have expended to foreign language learning. Maru Mister Gidion (2016:58), Language is the most important aspect in the life of all human beings. As an International language English is important to be learned by people in the world. Being able to speak English allows people to communicate effectively in numerous countries.

"The Use of Mind-mapping to Improve English Achievement on Reading of the Second year Students of MTs Al-Ittihad Pabelan in the Academic year of 2008/2009 (Classroom Action Research Based on the explanation above, the writer tries to apply mind-mapping technique related with students' mind in English teaching and learning to increase their vocabulary. Thus, the writer has chosen the title **"Increasing Students' Vocabulary through Mind Mapping Technique"**

1.2. Research Questions

The research question is formulated as follows: Is the mind-mapping technique effective to increase students vocabulary?

1.3 The Purpose of the Study

The purpose of this research is to describe the effectiveness of mind mapping technique in increasing students' vocabulary .

1.4. The Significance of the Study

The significance of this study can be viewed from both implication and application, as described below:

1. Implication

It is expected that this research can emphasize on how important to determine a suitable technique such as Mind Mapping in increasing students' vocabulary.

2. Application

It is expected that the result of this research will be beneficial for English teachers in increasing students' vocabulary and the students to learn increasing their vocabulary.

1.5 Delimitation of the Study

This study is delimited to the vocabulary of animals, the wild and domestic ones. It is based on the material for second semester of SMP KI3 KD 3.10 Apply text structure and linguistic elements to carry out the social function of descriptive text by stating and inquiring about the description of persons, animals, and objects, short and simple according to the context of its use. This study was conducted at SMP N 1 Remboken second year students Class VIII C.

1.6 Reasons for Choosing the Topics

The topic of this study is chosen because of the reasons below:

1. The writer is interested in applying mind mapping technique in increasing students' vocabulary to see the best result of the application.
2. Vocabulary is crucial for students to be mastered in English. Therefore, it requires the suitable technique to be applied.
3. By applying mind mapping technique, the students' vocabulary mastery would be improved.

1.7 Definition of the Key Terms

Increasing is become or make greater in size, amount, intensity, or degree (www.oxford dictionaries.com). Similarly, in other dictionary we can find the word increase which means to become progressively greater (as in size productive to become better (Webster, 1994:487). Student is a person who is studying at a college, polytechnic or university or anyone who studies or who is devoted to the acquisition (Hornby, 1994: 859). Based on Webster, vocabulary is the list of words,

usually arranged alphabetically and defined, explained or translated or the range of language, the stock of word at a person's command or used in particular work, branch of a subject, language, etc (Webster, 1994:979).

Mind-map is a highly effective way of getting information in and out of your brain. Mind-map is a creative and logical means of note-taking and note-making that literally maps out your ideas (Buzan, 2006:6). Color is very important to make a concept in developing learning vocabulary in ateaching and learning process. It can help both teacher and students to share each ideas or opinion. In addition, they also concluded that while the children use the colors as a way to remember, it helps the retention of information. If color can increase arousal, and arousal can increase memory, then it is possible that we could find that color can increase the memory (Spence, Wong, Rusan and Rastegar, 2006). Vocabulary can be taught or introduced to students through explicit teaching or direct instruction.

a. Frequency

We decide which word we should teach on the basis of how frequency they are used by the speakers of the language. The words which are most commonly used are the ones we should teach first.

b. Coverage

A word is more useful if it covers more things than if it only has one very specific meaning.

2.3 The Mind Mapping Technique

Mind mapping is creative note-taking method, which eases us to remember much information (De Porter, Readon, and Nourie, 1999:175). In addition, Phail in Buzan (2007:36) testified that Mind Mapping is a process which identifies concept within an oral or written text, organizes these concept in hierarchy from the most general to the most specific concept, and illustrates by using linking words the meaning relationships between concepts. He added that a mind mapping is a powerful graphic technique which provides a universal key to unlock the potential of the brain. It is visual map of ideas, laid out in a radial format around a central thought and it involves a unique combination of

imagery, colour and visual-spatial arrangement which is proven to significantly improve recall when compared to conventional methods of note-taking and learning by rote.

2.3.2 The Advantages of Using Mind Mapping

Mind mapping avoids dull, linear thinking, jogging your creativity and making note taking fun again. The use of mind mapping in teaching English gives the advantages either for teacher or student. De Porter and Hernacki (in Abdurrahman, 2008:172) describe some advantages of using mind mapping technique, they are as follows;

1) Flexible

Explaining something can be easy without confusing in add the material based on the mind mapping. We can put the label and category of something based on our own opinion anywhere in the mind mapping.

2) Concentrate on the Topic

Getting the subtopics what we talk about with focus on the main ideas easily. Keep focus on the keyword can help us to make it simple and it does not waste the time.

3) Increasing Comprehension

Using mind mapping can make easy in understanding the material. Mind mapping is a simple think pattern so it is not make us confuse to understand what we have learned and easy to remember the material.

4) Enjoyable

Imagination and creativity are unlimited in using mind mapping, so it can be funny to learn. By using pictures and colours, it makes the brain enjoy and excited in thinking something what we want about the material.

In addition, According to Michalko, Davis (2010:9) in his book *Cracking Creativity*, mind map will activate all of the brain, finishing the brain for the low mental, enable to the researcher centered on the topic, help learners to show the connected between part of information that separate, gives clearly explanation to all and detail, enable us to make concept grouping help learners to compare it, and requires us to center attention on the topic that help shift information about that from short memory to long memory. Also particularly to the students, the more personalised the mind maps, the more easily the learner could retrieve information (Buzan & Buzan, 2000). The strong visual

appeal of mind maps can speed up the learning process and help students to memorise and recall information effectively (Brinkmann, 2003).

2.3.2 The Classification of Mind Mapping Technique

Trianto (2009:160) describes that mind mapping can be distinguished into four kinds, namely; (1) network tree, (2) event chain, (3) cycle concept map, and (4) spider concept map.

1) Network Tree

The main ideas made in a quadrangle and other words written in the connection line. It is suitable for visualization (a) a cause and effect relation (b) a hierarchy, (c) branch procedure, and (d) technical terms which can be used to explain some correlations.

2) Event Chain

The event chain can be used for giving an accident order, steps in a procedure, or steps in a process. It is suitable for visualization (a) some steps in a process, (b) some steps in a linear procedure, and (c) an accident order.

3) Cycle Concept Map

In this concept map, the accident combination has no final result. It is suitable to show a correlation how a combination accident is interacting to produce a group of result repeatedly.

4) Spider Concept Map

The spider concept can be used for sharing opinion from a central idea until get more various big ideas. It is suitable to visualization (a) something which is not based on hierarchy (b) a category which is not parallel, and (d) the result of sharing opinion.

Mind mapping is similar to a road makes study, work and thinking enjoy able, it can help to solve the lack of stock of students' vocabulary in memorizing some words which are related from universal word as a key word.

2.3.3 Procedure of Making Mind Mapping in Classroom

Based on what Buzan (in Purwoko, 2005:20) states that the mind mapping uses colors and pictures to help constructing your imagination with your style in making mind mapping. Words or pictures which are in the curvy lines or branches will help the students' memory to make associations. In general, as

Buzan (in Purwoko, 2005:20) explains the steps below in how to make mind mapping, they are presented below;

- 1) Take a piece of white paper and it is in a landscape position.
- 2) Start by drawing a coloured image in the centre of the paper and write the key word with capital letters.
- 3) Choose a color and draw the main themes of the mind mapping on the thick branches radiating out from the central image.
- 4) Add other main themes branches around the map.
- 5) Make thick and colourful branches spanning out from your mind map.
- 6) Write basic ideas about the key word and still use the capital letters.
- 7) Add an image to all the main branches to represent each key theme and also use images to visualise every important key word on your map.
- 8) Let your mind mapping be as imaginative as possible.

Meanwhile, theoretically, In teaching mind mapping technique, Buzan (in Purwoko, 2004:56) gives some direction, it is as follows:

- Step 1:** Make a central image in the centre of the paper. Colour and add something interesting.
- Step 2:** Draw some basic ordering ideas, spread out from the central image.
- Step 3:** Thinking of all something interesting as much as possible and funny for you and it can be connected with the central image to give you the inspiration.
- Step 4:** Add some branches to the basic ordering ideas using symbols, pictures, and colours as much as possible.
- Step 5:** Thinking of the details which are interesting and it can encourage your curiosity. Add to your mind map.
- Step 6:** Continue it until you have adequate information for your mind map.
- Step 7:** Voila! You have created a mind map. Remember, it doesn't matter have to be a work of art. Allow yourself to be as messy and creative as you like it doesn't matter if other people can't understand your mind map. you just need to be able to. If you'd like to see how mind maps have been used to simplify complex topics such as warming animals.

RESEARCH METHOD

This chapter focuses on research design, participants, data collection, and data analysis. The details are discussed below.

3.1 Research Design

The study aims at describing the effect of word mapping strategy on the increase of students' vocabulary stock? In other words, the study was conducted to describe a cause-effect relationship between the independent variables, (the use of) word mapping strategy and the increase of vocabulary stock as dependent variable. The relationship between the existing variables is visually presented in Figure 1.

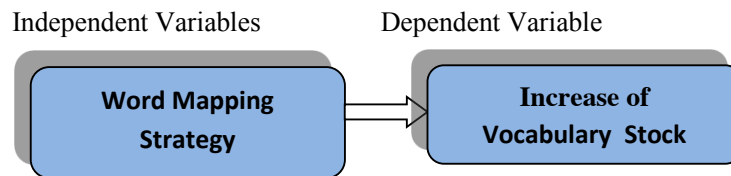


Figure 2. Cause-Effect Relationship between Independent & Dependent Variables

Legend:

\Rightarrow = Affect

Since this study is a pre-experimental and the design used was the one called one group pre posttest design (Tuckman, 1999:160). The design can be visualized as this:

O₁ X O₂

Figure 3. One group pre –posttest design
(Tuckman, 1999:161)

Legend:

X = Experimental treatment

O₁ = Observation₁ (pretest)

O₂ = Observation₂ (posttest)

As illustrated in Figure 2, the pre-experimental study was conducted following this procedure:

1. Pretest administration
2. Expose the group into experimental treatment
3. Posttest administration

3.2 Participants

The participants of this study were the first graders of SMP Negeri 1 Remboken in the academic year 2016/2017. There is only one first grade class in the school with 20 students in all.

3.3 Data Collection

The data representing students' knowledge of vocabulary were collected using multiple-choice test. The same test was used in both pretest and posttest. To minimize pretesting effect, the items in the posttest were rearranged. Thus, the order of items is different from that in the pretest. In doing this research, the writer used pre-experimental descriptive method with one group pre-test and post-test design.

The test developed is based on the selected songs, and was validated using expert judgment technique. The validation involved the two skripsi advisors. The purpose is to check whether the test is properly developed. The test was administered in 30 minutes.

3.4 Data Analysis

The data representing knowledge of vocabulary were statistically analyzed using descriptive statistics. For this purpose, three important measures would be done: (1) computation of Percentile rank, (2) computation of mean and (3) computation of standard deviation.

Mean was computed using this formula:

$$\bar{X} = \frac{\sum x}{N}$$

(Moore, 1983:38)

Legend:

\bar{X} = Mean

$\sum x$ = Sum of X

N = Total number of subjects

Standard deviation was computed using raw score method:

$$s = \sqrt{\frac{\sum x^2}{N} - (\bar{X})^2}$$

(Moore, 1983:251):

Legend:

s = Standard deviation

\bar{X}^2 = Mean square

N = Total number of subjects

Results of the statistical analysis were compared to find on the effect of the experimental treatment.

4.1 Presentation of the Data

As pointed out in 3.3, the data in this study were collected using 20 multiple-choice items. In this analysis, pretest score is symbolized as X, while post test Y. The data collected are presented in Table 1.

Table 1. Raw scores of Pre- and Posttest

No	X	Y
1	8	13
2	10	15
3	9	12
4	7	11
5	5	9
6	7	10
7	10	13
8	8	12
9	11	15
10	9	14
11	7	12
12	8	13
13	5	10
14	9	14
15	7	9
16	10	16
17	7	10
18	9	14

19	10	15
20	6	11

Using interval scale, the raw scores mentioned in Table 1 were later on transform into 1 -10 scale before they were analyzed

Results of the transformation is presented in Table

Table 2. Transformed Data

No	X	Y
1	4	7
2	5	8
3	5	6
4	4	6
5	3	5
6	4	5
7	5	7
8	4	6
9	6	8
10	5	7
11	4	6
12	4	7
13	3	5
14	5	7
15	4	5
16	5	8
17	4	5
18	5	7
19	5	8
20	3	6

The collected data were analyzed statistically using descriptive statistics. Furthermore, as pointed out in the Previous chapter the collected data were analyzed statistically using descriptive statistics.

4.2 Statistical Analysis

It has been pointed out that the data were analyzed using descriptive statistics. In this case, percentile rank, mean and standard deviations of both groups of scores were computed, starting with computation of percentile rank. See Table 2

Table 2. Frequency Distribution of Pretest Scores

Score	Tally	Frequency	Frequency Percentage	Cumulative frequency	Cumulative percentage
6	<i>I</i>	1	5%	20	100%
5	<i>IIII III</i>	8	40%	19	95%
4	<i>IIII III</i>	8	40%	11	55%
3	<i>III</i>	3	15%	3	15%

It is shown in Table 2 that of 20 students attending the pretest, one students (5%) got a six, eight (40%) got a five, another eight (40%) got a four, and three (15%) got a here. The highest score is 6, the lowest 2. Visually, score frequencies are displayed in Figure 2.

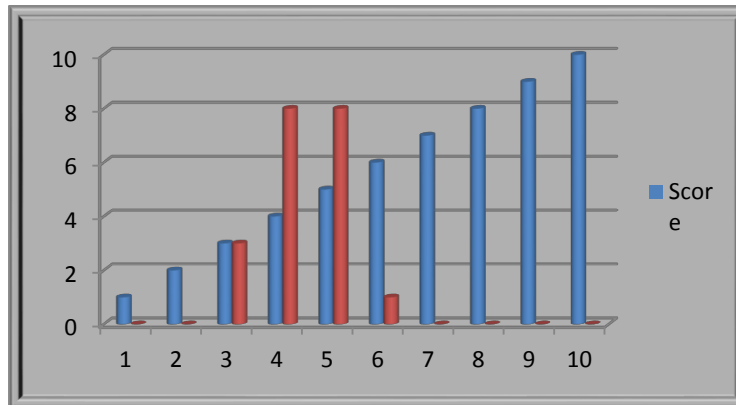


Figure 1. Score Frequencies of Pretest Scores

Having finished computing the percentile rank of the pretest, percentile rank of posttest was then computed as seen below.

Table 3. Frequency Distribution of posttest Scores

Score	Tally	Frequency	Frequency Percentage	Cumulative frequency	Cumulative percentage
8	<i>IIII</i>	4	20%	20	100%
7	<i>IIII I</i>	6	30%	16	80%
6	<i>IIII</i>	5	25%	10	50%
5	<i>IIII</i>	5	25%	5	25%

As in Table 3, in Table 4 of 20 students attending the posttest, four students (20%) got an eight, six (30%) got a seven, five (25%) got a six and another five (25%) got a five. The highest score is 8. the lowest 5. Visually, score frequency distribution of posttest scores is displayed in Figure 3.

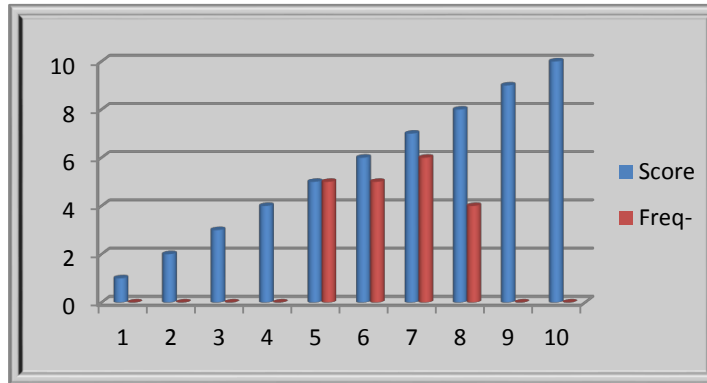


Figure 2. Frequency Distribution of Posttest Scores

The next is the computation of mean and standard deviation of the two groups of scores.

For this purpose, the sums (Σ) of X, Y, X² and Y² should first be computed

Table 4. The sums of X, X², mean X, and Y, Y², mean Y.

No	X	X ²	Y	Y ²
1	4	16	7	49
2	5	25	8	64
3	5	25	6	36
4	4	16	6	36
5	3	9	5	25
6	4	16	5	25
7	5	25	7	49
8	4	16	6	36
9	6	36	8	64
10	5	25	7	49
11	4	16	6	36
12	4	16	7	49
13	3	9	5	25
14	5	25	7	49
15	4	16	5	25
16	5	25	8	64
17	4	16	5	25
18	5	25	7	49
19	5	25	8	64
20	3	9	6	36
N = 20	$\Sigma X = 87$	$\Sigma X^2 = 391$	$\Sigma Y = 129$	$\Sigma Y^2 = 855$

Results of X, Y, $\sum X^2$ and $\sum Y^2$ calculations mentioned in Table 4, the mean and standard deviation of X and Y were calculated.

$$\begin{aligned} \bar{X} &= \frac{87}{20} = 4.4 \\ Y &= \frac{129}{20} = 6.4 \end{aligned}$$

The standard deviations of the two treatment groups were computed using raw score formula.

$$\begin{aligned} s_{(x)} &= \sqrt{\frac{391}{20} - (4.4)^2} \\ s_{(x)} &= \sqrt{19.6 - 19.4} \\ s_{(x)} &= \sqrt{0.2} \\ s_{(x)} &= 0.4 \\ \\ s_{(y)} &= \sqrt{\frac{855}{20} - (6.5)^2} \\ s_{(y)} &= \sqrt{42.8 - 42.3} \\ s_{(y)} &= \sqrt{0.5} \\ s_{(y)} &= 0.7 \end{aligned}$$

Results of percentile rank, mean and standard deviation computations of the pretest and posttest are summarized in Table 5.

Table 5. Summary of the Computations

	Pretest	Posttest
Mean	4.4	6.5
Standard Deviation	0.4	0.7
Highest Score	6	8

Lowest Score	3	5
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Based on the results mentioned in Table 5, it can be said that (1) the highest and lowest scores of the pretest are 6 and 3 respectively while the highest and lowest of the posttest are 8 and 5 respectively; (2) the mean of the pretest is lower (4.4) than that of the posttest (6.5); and (3) the standard deviation of the pretest is smaller (0.4) than that of the posttest (0.7). Seen in terms of the percentile rank and the mean, it can be stated that performances of students in pretest were not as good as their performances in the posttest. In terms of standard deviation of the pretest is smaller (0.4) than that of the posttest (0.7), meaning that students' performances after the treatment are more heterogeneous than before the treatment.

FINDINGS AND DISCUSSION

Discussion

As described in table 1, 2, and 3 we can see the different scores of the sample class in pretest and posttest. In this case, the students get better score in post-test. It means that the treatment that has been given to them before that has an effect on their ability in reading narrative text. The implementation of Mind Mapping technique in the treatment makes students able to improve their reading ability in narrative text. Table 4 indicates to mean score and standard deviation of the pre-test. It is found that the mean score in the pre-test is 4.4 and the standard deviation is 0.4. The mean score can be seen by dividing the total score of all students with the total students. describe about the total students who are able to get certain score in which in pretest, the highest score is 6 was achieved by only one student. Table 5 indicates to mean score and standard deviation in the post-test. The highest score was 8 and the lowest was 4.4. It can be identified clearly that the mean score is 6.5 while the standard deviation is 0.7 it means that the means score in the post-test was higher than the mean score in the pre-test and so the standard deviation.

CONCLUSION

The result of this research showed that the mean score of post-test $\bar{x} = 6,5$ and standard deviation (s) = 4,4 was higher than the mean score in the pre-test $\bar{x} = 19,4$ and standard deviation (s)= 0,7 That was mean this research successfully improved the reading ability of the students. Teaching reading by using Mind mapping technique was effective to help them in improving their reading ability especially in reading text. was very suitable to use in helping the students to improve their ability.

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