

CHAPTER 1

INTRODUCTION

This chapter explains the background, why this research is important to be studied and how it is related to the topics in research fields. This chapter also elaborates several theories by the expert to justify the study of this research based on the problem.

A. Background

Language is an important role in improving students' intelligence, social, and physical. The language contains words which are used in making sentences named vocabulary. Learning vocabulary is very important since vocabulary is an important thing in communication. Vocabulary is essential in the process of learning English. There is no language without vocabulary. That is why it is one of the most important elements of language. The mastery of vocabulary helps learners understand reading materials, understand other speaking, given responses listening and writing materials. In other words, students can communicate fluently. As Mukoroli (2011) defined, "vocabulary as the entire stock of words belonging to a branch of knowledge or known by an individual." Having good mastery of vocabulary, contributes significantly to the achievement of the subjects in the class.

In my pre-liminary research , it was about communication/ conversation between the researcher and an English teacher who explained that students find difficulties in vocabulary.

The problem which was found at SMPN 1 Karawang Timur is the students could not make a sentence in English. They got the difficulties when this research is given the assignment to describe someone in English. Although they could make a sentence to describe someone in English, they just used the same words. The data in this research is gotten by giving some tests of descriptive text, the students could not use variation words and could not make good sentences. It was caused they are lack of vocabularies to express their idea to describe someone in English. It showed by their descriptive text score.

In order to help the students improve their vocabulary mastery, a teacher needs to apply an appropriate technique. One of the techniques that might be used in teaching vocabulary is mind mapping. According to Buzan (2006) “mind mapping is an easy way to place information to the brain and take information out from the brain. Mind Mapping is a creative and effective way to write and will map your mind by a simple way.” (Buzan, 2006) also said that it is a creative, effective and simple method of note-taking. It is a powerful graphic technique which provides a universal key to unlock the potential of the brain. Mind mapping is very useful for students to memorize vocabulary (Sahrawi, 2016).

There is a previous research that has done by Azura (2016) which is related to this research. The research found that the use of mind mapping has a significant impact on the students' performances in the vocabulary list. The result shows that the students have higher motivations and more confidence in vocabulary list via the mind mapping thus improving their writing performances. However, the result shows more to vocabulary list than vocabulary mastery while

this research showed more about students' vocabulary mastery by using mind mapping for 7th-grade students'.

This research is chosen mind-mapping as the technique to solve the students' problems because there are several purposes such as students can enhance their vocabulary and try a new solution to create an effective note toward vocabulary. The teachers can apply a creative strategy in the teaching learning process. Thus, it can make students more interesting in learning vocabulary.

Based on the explanation, this research tried to apply technique related to students' mind in English teaching and learning. That is the reason why this research is chosen and entitled "THE USE OF MIND MAPPING TECHNIQUE TO IMPROVE STUDENTS' VOCABULARY MASTERY"

B. Research Question

Based on the background explained above, here are the following specific problems as follows:

1. What is the students' vocabulary mastery by using lecturing technique?
2. What is the students' vocabulary mastery by using mind mapping?
3. What are the significant different between the students' vocabulary mastery by using mind mapping and lecturing technique

C. Research Objectives

The aim of this research is:

1. To find the students' vocabulary mastery by using mind mapping.
2. To find the students' vocabulary mastery by using lecturing technique

3. To find the significances between the students' vocabulary mastery by using mind mapping and lecturing technique.

C. The Significances of the Research

The result of the present study is expected to give both theoretical and practical importance as the following:

Theoretically, the result may give the addition of information about how mind mapping teaching technique will improve the students' vocabulary mastery in English and support. Furthermore, it can support the existing similar studies which have already revealed the importance of vocabulary mastery by language learners who learn English.

Practically, this search is intended to improve the students' in vocabulary mastery. The students are expected to be more motivated in studying English.

D. Rationale

Vocabulary mastery refers to the great skill in processing words of a language. It is an individual achievement and possession (Rivers as cited in Alqahtani, 2015) Vocabulary mastery plays an important role in the four language skills and it has to be considered that vocabulary mastery is one of the needed components of language (Alqahtani, 2015).

Mind mapping is a creative note-taking technique in a visualization and graphic form that is used to make people feel easy in entering information into their brains, keeping information in a long term memory and taking it out from their brains easily by engaging imagination and association (Buzan, 2006). A mind map is an expression of radiant thinking and uses the line, symbol, words

and pictures; based on the set of simple rules and natural toward the human mind. By using a mind map, the list of information that is so long and boring can change into the colorful diagram and make easy to remember (Buzan, 2006).

To improve vocabulary mastery, mind mapping can be used in some activities. One of the activities is presenting English vocabulary. In this study, the English teacher used mind mapping diagrams to help the students understand English words and their meaning, and made the words easier to be memorized (Buzan, 2005).

To sum up, in finding out the effect of mind mapping to improve vocabulary mastery, this research is figured out the research framework as follows.

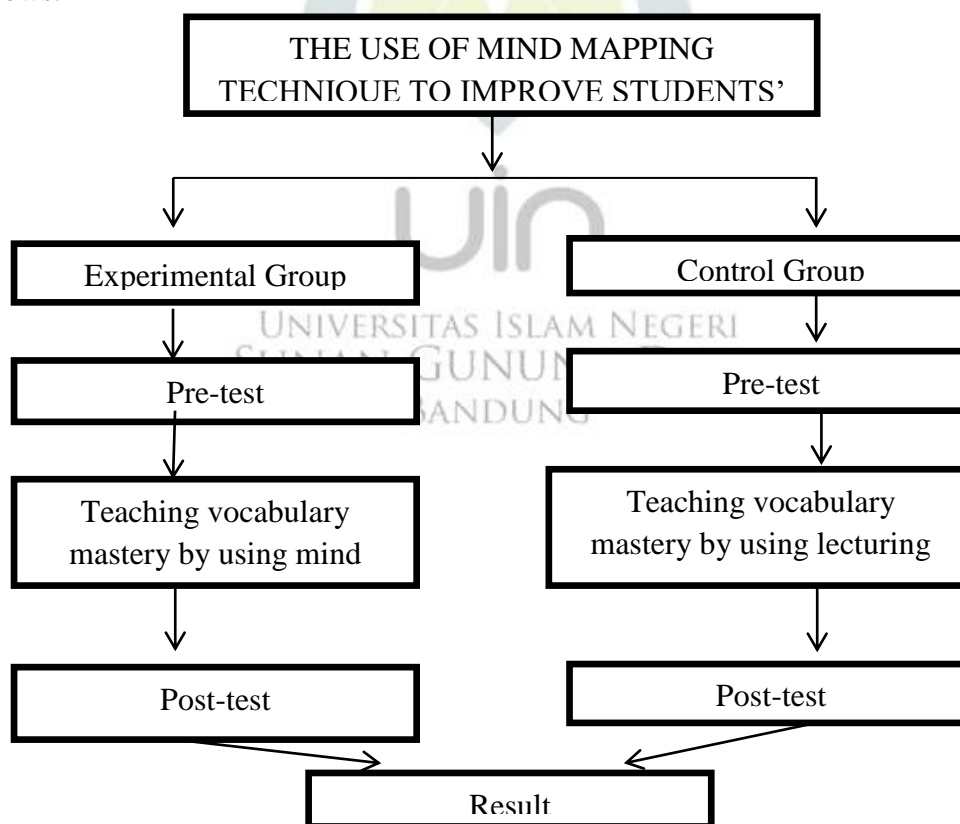


Figure 1.1 Research framework.

Based on the research framework presented in figure 1.1 above, to get the results this student in experiment group and control group is administered a pre test to both groups, conducted experimental treatment activities with the experimental group only, and then administered a posttest to assess the differences between the two groups. The results of those steps will provide the answer to the question of the significance between the students' who are taught by using mind mapping technique and lecturing technique.

E. Methodology of Research

This research is a quantitative research to explain how one variable affects another in this case how the mind mapping technique to improve vocabulary mastery. According to Creswell (2012), the major characteristics of quantitative research among other things are investigating a research problem by explaining a relation among variables, collecting numeric data from a large number of people using instruments with fixed questions and responses, and analyzing data, comparing groups, or relating variables using statistical analysis. Then, this research is taken several steps which are explained below to reach the aims of this quantitative research.

1. Research Design

This research used the quantitative as a research methodology in this study. In quantitative research, the investigator relies on statistical analysis (mathematical analysis) of the data, which is typically in numeric form (Creswell, 2012). Then, because the study examined the use of mind mapping technique to improve students' vocabulary mastery, this research used quasi-experimental with pre-test

and post-test design. The quasi-experimental design is when this research used to control and experimental class but does not randomly assign participants to group (Creswell, 2009). In control group, there was no treatment after pre-test. Essentially, in an experimental group conducted the treatment activities which in using the mind mapping as the treatment. Then the post-test will assess the differences between two groups.

2. Research procedure

According to (Creswell, 2012), there are five key steps in the process of quantitative data collection:

1. The first step is selecting subjects for the research. In this study, the 7th-grade students of SMPN 1 Karawang Timur, as the research subjects are divided into two groups (experimental group and control group) without random.
2. The next step is obtaining permission from the headmaster, curriculum staff and English teacher.
3. The third step is deciding what type of data needed to collect based on the research question or hypotheses. As this research is found out the use of mind mapping, the type of data collected is degrees of comparison test especially in the form of pre-test and post-test.
4. The fourth step is locating, selecting, and assessing the instruments used in data collection. It means this research is found an existing instrument to be used in acquiring the data. It is important to consider reliability and validity of the instruments applied.

5. Finally, the last step is the actual process of collecting the data which needs to be standard and appropriate with the procedure of research design selected. Particularly, in this quasi-experimental research, there are three steps of collecting data; administering a pre-test to both experimental group and control group, giving treatment to the experimental group, and administering post-test to the two groups.

3. Research Site

The research was conducted at SMPN 1 Karawang Timur. There are many students at SMPN 1 Karawang Timur who were difficult to comprehend vocabulary mastery section in the learning process. Most of them cannot identify and analyze what the meaning of the word.

4. Object of the Research

a. Population

According to (Sugiono, 2009), the population is the generalization area that has the object and subject. Those subjects and objects have the special quality and characteristics created by this research in order to make a conclusion. Thus, the population in this study is the whole students in the first grade of SMPN 1 Karawang Timur.

b. Sample and Sampling Technique

The sample is the group of participants in a study which this research is generalized to the target population (Fraenkel & Wallen, 2006). In this study 72 students, have been chosen as the sample which were divided into two groups. The classes are divided into experimental group and control group. Choose the

available group (class) which are selected based on the selection made by the school (Creswell, 2012). 7 A and 7 B class are chosen as a sample in this research which consists of 36 students in each class. In taking the sample this research is used not random sample technique, because of the availability of the class. It is based on the statement from (Creswell, 2012) that is a quasi-experiment, this research is used intact group because if the research is randomly assigned students to the two groups, it will disrupt classroom learning. They are class 7A as an experimental class and 7B as controls class. These classes are selected based on the recommendation from 7th grade English teacher.

5. Techniques for Collecting Data

This research will use the test to collect the data that will be analyzed. There are pre-test and post-test to study the progress of students' vocabulary mastery after they were learning English by using mind mapping. This following below is the processes to collect data:

a. Pre-test

According to (Creswell, 2012), pre-test provides a measure of some attributes or characteristics that you assess for participants in an experiment before they receive treatment. This is the first measure to know how is 7th SMPN 1 Karawang Timur in vocabulary mastery. A pre-test is used to measure students' vocabulary mastery to in SMPN 1 Karawang Timur before they are receiving the treatment. In the pre-test, this research is given the several vocabularies about a few themes such as descriptive text about people's description, parts of the house, and clothes and accessories, to get to know about their vocabulary mastery. In the

pre-test, the researcher was gave the pre-test to students to multiple choice with the choose a, b, c, and d. It was done in once. This step is aimed to know how students' vocabulary mastery before they are given the treatment.

b. Treatments

According to Creswell (2012) stated that the experimental class might be provided with some treatments, while the control class would receive usual treatment. In this process the classes will be divided into two groups, they are experimental group and control group. The experimental group is given treatments by using mind mapping, and the control group is not given treatment but the control class used lecturing technique. In this step, experimental class and control class had 3 meetings.

c. Post-test

According to Creswell (2012) a post-test is a measure of some attributes or characteristics that are assessed for participants in an experiment after treatment. So, post-test is doing after the students have been given the treatment of teaching learning process. The post-test is conducted in the class. This post-test is used to know the influence of the experiment which is conducted toward experimental class and control class to know how far students are able to improve their vocabulary mastery by using mind mapping, and which one is better. In post-test, the researcher was given 30 questions about vocabulary mastery as like pre-test and it was done in once.

6. Hypothesis

According to Sugiono (2009), the hypothesis is the tentative answers towards the research questions. The truth of the hypothesis is necessary to be tested to know whether it is true or not. In this study, the research has two variables. In the first, the use of mind mapping as variables “X” and the second, is to improve student’s vocabulary mastery as variable “Y”. From the discussion above, the researcher has formulated the hypothesis as follows:

1. H_0 accepted if $t_{count} < t_{table}$: it means there is no significant influence use of mind mapping to improve the students’ vocabulary mastery.
2. H_a accepted if $t_{count} > t_{table}$: it means that there is a significant influence use of mind mapping to improve the students’ vocabulary mastery.

7. Data Analysis

This research uses some ways and steps in analyzing the data as follows:

a. N-Gain

After acquiring the data from the pre-test and the post-test, the data can be analyzed to know the improving students’ vocabulary mastery after the technique. To know the improvement of the students’ vocabulary mastery, normal gain (d) is used with the formula:

$$d = \frac{\text{Post - test score} - \text{Pre - test score}}{\text{Maximum score} - \text{Pre - test score}}$$

Normal gain score acquired is then interpreted into the table below:

Table Normal Gain Interpretation

Score	Interpretation
$g > 0.7$	High
$0.3 \leq g \leq 0.7$	Average
$g < 0.3$	Low

(Hake, 1999)

b. Testing the Normality

i. Calculating the range (R) of data

Formula:

R = the highest score – the lowest score + 1

$$R = H - L + 1$$

(Sugiono, 2009)

ii. Calculating the class interval (K)

Formula:

$$K = 1 + 3.3 \times \log n$$

(Sugiono, 2009)

iii. Calculating the length of class interval (P)

$$P = \frac{R}{K} \text{ Formula:}$$

(Subana. et al, 2000)

iv. Making the table of distribution of frequency

$$a) S = \sqrt{\frac{\sum f_i(x_i - \bar{x})^2}{(n-1)}} \text{Counting deviation standard}$$

(Sugiyono, 2009)

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i} \text{With:}$$

v. Calculating the degree of freedom with the formula:

$$dk = K - 3$$

vi. Calculating the value of χ^2 from the table

$$\chi^2_{tabel} = \chi^2_{(1-\alpha)(dk)}$$

vii. Calculating normality test criteria

Normality test with determination:

- The data is normal if $\chi^2_{count} < \chi^2_{table}$
- The data is abnormal if $\chi^2_{count} > \chi^2_{table}$

viii. Hypothesis Test

A hypothesis test is used to know the improving students' vocabulary mastery using mind mapping as a technique. The hypothesis test is done by testing the statistic data.

$$t = \frac{M_d}{\sqrt{\frac{\sum d^2 - \frac{(\sum d)^2}{n}}{n(n-1)}}}$$

If the data is distributed normally, so the parametric statistic test is

conducted with the t-test.

(Subana. et al, 2000)

Explanation:

M_d = the average from the gain between the pre-test and the post-test

d = score gain of the post-test toward the pre-test of each object

n = number of subjects

The next step is determining the table score:

$$z = \frac{T - \mu_T}{\sigma_T}$$

Explanation:

T = number of the lowest range/rank

$$\mu_T = \frac{n(n+1)}{4}$$

$$\sigma_T = \sqrt{\frac{n(n+1)(2n+1)}{24}}$$

(Sugiyono, 2009)

$$z = \frac{T - \mu_T}{\sigma_T} = \frac{T - \frac{n(n+1)}{4}}{\sqrt{\frac{n(n+1)(2n+1)}{24}}}$$

Hence,

(Sugiyono, 2009: 137)

Criteria:

- $Z_{count} > Z_{table}$, so, H_o is rejected and H_a is accepted.
- $Z_{count} < Z_{table}$ so, H_o is accepted and H_a is rejected.

In summary, the data acquired is to prove the research's circumstances including the teaching and learning process before and after treatments. Thus, the absolute result of the data analysis appears.