# CHAPTER III

# RESEARCH METHODOLOGY

## 3.1.Formulation of the Problem

In the previous chapter it was briefly discussed that this research was conducted to investigate several issues related to the teaching of English vocabulary in the junior high school by using pictures. Therefore, there were two variables involved in this research, namely: the use of pictures as the independent variable and students' vocabulary mastery as the dependent variable.

To be more specific, the research conducted aims to observe the following problems:

1. Are pictures effective in improving students' vocabulary mastery?
2. How are the students' responses towards the use of pictures in teaching English vocabulary?

## 3.2. The Research Method

The method used in this research is a quasi-experimental research method with non-equivalent pre-test post-test as proposed by Hatch and Farhady (1982). The research was carried out for the purpose to examine the effectiveness of pictures in teaching English vocabulary. The data from pre-test and post-test would be compared for the t-test calculation in revealing the effectiveness of the

pictures implementation in this research. The scheme of the pre-experimental model as proposed by Arikunto (1993) can be seen as follow:

| | | |
|---|---|---|
| $O_1$ | x | $O_2$ |
| $O_3$ | | $O_4$ |

O1= experimental group pre-test

O2= experimental group post-test

O3 = control group pre-test

O4 = control group post-test

X =treatment

### 3.3. The Research Hypothesis

According to Fraenkel and Wallen (2009), a hypothesis was a prediction, an explanation of the research outcome. Moreover, Hatch and Farhady (1982) stated that a null hypothesis predict neither a positive nor a negative relationship between two variables. Therefore, the hypothesis must first turn into null hypothesis ( Ho) along with its the alternative hypothesis (Ha). In short, the hypothesis was stated as follow:

Ho= there is no significant difference between students' vocabulary in pre-test and post-test score; means the use of pictures in teaching English vocabulary is not effective to improve the vocabulary mastery.

### 3.4. Clarification of the Key Terms

Some terms need to be clarified in order to comprehend the notions underlying the title of this study. Some terms are clarified as follows:

- Vocabulary refers to a list or collection of words arranged in alphabetical order and explained. It is also the total number of words in a language; all the words known to a person or used in a particular book, subject, etc. (advanced learners, 1995)
- Conventional method refers to old custom teaching, including drilling, and vocabulary memorization.
- Pictures can be defined as a tool to give the information visually without any explanation.
- Picture can be tools or media to stimulate students in describing an object or a person in the pictures.

### 3.5. The Subjects of the Research

According to Arikunto (2005) if the participants were less than 100, it would be better to involve the whole population so the research would become a

population research. If the subject was too large, the researcher may take 10-15% or 20-25% or more, or depends on some consideration:

a. The affordability of the researcher's time, effort and financial.

b. The size of the observation region of every subject, because it is related with quantity of the gained data.

c. The size of the risk. For the high risk research, the larger the sample, the better it will be.

Relating to the subjects of this research, there are 40 seventh grader of junior high school in Majalaya. The number of the students is all students of seventh grade. All of them are included in the research based on the consideration of the usefulness that can be gained. This means the research adopted the total sample participant research. These students are taken into two group, experimental group and control group. Each group consists of 20 students.The time length of the study was five weeks starting from 19 th April to 26th of May 2011.

### 3.6. Data Collection

#### 3.6.1 Teaching Material

There were total 50 pictures used in the research. The pictures were divided into 10 categories, they were: sea animals, birds, jobs, clothes, buildings, musical instruments, health problems, nature, sport and food. The selection of the vocabulary to be taught based on the students' learning level. The vocabulary

consists of nouns since the whole of words as language units begins with early use of nouns for naming objects in first language acquisition (Cameron, 2001). Course book for young learners also often emphasize nouns because they are easy to illustrate and because often young learners do not have literacy skill, so the only words that can be easily featured are nouns ( Linse, 2005).

The use of pictures was arranged based on categories and presented in interesting way so that students will not be bored. Context relations with students' real life make the new vocabulary easier to understand.

This research was prepared to see the effect of the treatments. The treatments were given using pictures. An example of the treatment can be seen in the following teaching procedures:

Pre-activity

- Greeting
- Checking students' attendance
- Teacher relates the present's material with eliciting answer from the students.

Whilst- activity

- Teacher and students discuss about the words elicited from students' answer. Students are asked to guess the meaning of the pictures showed.
- Students are asked to pronounce the new vocabularies
- Teacher conducts drilling with the new vocabularies

- Teacher and students discuss about the new vocabularies
- Teacher allow students to ask questions concerning the theme of the vocabulary
- Teacher and students discuss about the answer of the questions

**Post-activity**

Showing the vocabularies given by asking the students to mention the vocabularies in today's' lesson.

**3.6.1.2. Study Agenda**

The research was conducted in five weeks. It started on 19th April to 26th of May 2011. . The schedule is described by the table 3.1

**Table 3.1**

**Research Schedule**

| Meeting | Activity | Date | Material |
|---|---|---|---|
| 1 | Pre-test | April, 19th 2011 | Pre-test sheet |
| 2 | Treatment 1 | May, 5th 2011 | Vocabulary lesson (themes: jobs and clothes) |

| | | | |
|---|---|---|---|
| 3 | Treatment 2 | May, 7th 2011 | Vocabulary lesson (themes: health problems) |
| 4 | Treatment 3 | May, 12th 2011 | Vocabulary lesson (themes: sea animals and bird) |
| 5 | Treatment 4 | May, 14th 2011 | Vocabulary lesson (themes: part of body) |
| 6 | Treatment 5 | May, 19th 2011 | Vocabulary lesson (themes:Nature ) |
| 7 | Treatment 6 | May, 20th 2011 | Vocabulary lesson (themes: Sport) |
| 8 | Treatment 7 | May, 21st 2011 | Vocabulary lesson (themes: musical instrument) |
| 9 | Treatment 8 | May, 24th 2011 | Vocabulary lesson (themes: Buildings) |
| 10 | Post-test | May, 26th 2011 | Post-test sheet and questioners sheet |

### 3.6.2 The Research Instruments

#### 3.6.2.1 Test

a. Pre-test

The pre-test passed through on the first meeting for 90 minutes. There were 30 test items to be answer by the students. The first 10 items were matching the pictures with the name of the objects. The next 10 items were selecting the right answer from three options according to the pictures and the last 10 items were arranging the alphabets to match the pictures.

b. Post-test

The procedures of conducting the post-test were similar as the pre-test was carried out to examine the progress of the students' vocabulary mastery level.

#### 3.6.2.2. Questionnaire

The questionnaire was distributed to attain the data analysis concerning with the used pictures in classroom process. The questionnaire handed out contains a set of 10 simple questions which required the students to give their opinions or agreements on the implementation of picture.

### 3.7. The Research Procedures

To obtain the data for the analysis, the research was conducted through a number of steps as follow:

- Pre-test was carried out basic data the students' vocabulary mastery level. It was given in the first meeting. The pre-test admitted on 19th April 2011. The total amount of the pre-test items was 30. The pictures in the test represented all categories to be taught.

The treatments were conducted from 19 th April to 26st of May 2011. The students were taught vocabulary using pictures with 10 different themes.

- Post-test was carried out to evaluate the differences between the pre-test score and the post-test score after the implementation of pictures. The post-test was conducted on 26th of May 2011.

- Questionnaire was distributed to the students conducted right after post-test was done.

### 3.8. Data Analysis

The data was collected from the result of tests and questionnaire. After that, it was used for doing analysis and making conclusion.

### 3.8.1. The Analysis of the Technique

The results of pre-test were analyzed to examine whether the use of pictures effective in teaching English vocabulary. The data collected from pre-test and post- test were analyzed using SPSS 15.0 for Windows. The procedure of analyzing the data comprised several steps. First, the data collected from experimental group and control group were computing to get the score of both groups. Second, the scores were calculated in order to find out the means of both scores. After that, the means of these tests were compared using independent t-test with the assist of SPSS 15.0 for Windows to find out whether or not the use of pictures effective in teaching English vocabulary. Before conducting independent t-test, the normal distribution and homogeneity variance test were done.

#### 3.8.1.1 Normal Distribution Test

Normal distribution test was calculated before t-test. It aimed to investigate whether or not the distribution of pre-test and post-test scores in groups were normally distributed. The statistical calculation of normality test used Kolmogorov-Smirnov by following four steps below:

1. Setting the hypothesis, $H_0$= the score between experimental and control group is normally distributed
2. Setting the level of significance (p) at 0.05
3. Analyzing the normality distribution using Kolmogorov-Smirnov test
4. Comparing score between test result and level of significant value. If Asymp. Sig>0.05, the null hypothesis is not rejected which means the

sample score is normally distributed. In contrast, if Asymp. Sig<0.05, the hypothesis is rejected which means the score is not normal.

#### 3.8.1.2 Homogeneity of Variance

The homogeneity of variance test used Levene test in SPSS program. The steps are as follows:

1. Setting the hypothesis, $H_0$=data between the two groups are homogeny
2. Setting the level of significance (p) at 0.05
3. Measuring the homogeneity variance using Levene's test
4. Comparing the result of Lavene's test and alpha level of significant

   If Asymp. Sig.<0.05, the null hypothesis is rejected which means the two groups are not equal. In contrary, if Asymp. Sig>0.05, the hypothesis is not rejected which means variance data of two groups are equal or the data are homogenous.

#### 3.8.1.3 Independent t-test

The independent t-test was used to analyze the difference between means of experimental and control group. In this research, the independent sample test was analyzed using computation with IBM SPSS Statistics 15.0. The steps are as follows:

1. Setting the hypothesis, $H_0$= there is no significant difference between students' writing score in experimental and control groups.

2. Setting the level of significance (p) at 0.05 with two-tailed of significant.
3. Calculating t-test score using SPSS 15.0.
4. Comparing t-obtained and t-critical. If t-obtained>t-critical, it means that the hypothesis is rejected, there is a significant difference between two groups. In contrary, if t-obtained < t-critical, the hypothesis is not rejected; there is no significant difference between the two groups.

### 3.8.2. The Analysis of the Questionnaire

Students' responses towards the employment to picture in teaching English vocabulary were examined through the distribution of questionnaire. The questionnaire of ten questions related to the impression after the implementation use of pictures in teaching English vocabulary. The questionnaire was distributed to all subjects of the research right after the post-test was given.

The percentage of all students' responses was calculated by using the following formula proposed by Ningrat (2008):

$$P = \frac{F \times 100}{N}$$

P = percentage

F = frequency

N = the number of respondents

100 = constant

The criteria of percentage categories are described as follow:

Table **Error! No text of specified style in document.**.2
Criteria of Percentage of Respondent

| **Percentage of Respondent** | **Criteria** |
|---|---|
| 1- 25% | Small number of students |
| 26-49% | Nearly half of students |
| 50% | Half of students |
| 51-75% | More than half of students |
| 76-99% | Almost all of students |
| 100% | All of students |

This chapter has discussed the research method. The following chapter will use the formula to calculate the questionnaire.

### 3.9. Limitation of the study

This study would have been better of it had administered a pilot study to gain more insightful findings. However, this research did not take any pilot study because of time constraint, (the school was almost over) and the big size of classes, and also this study was based on the problem frequently appeared in the researcher's English teaching learning process such as : students were passive, bored, and had difficulties in memorizing and understanding the material given.

Besides, the researcher had been used the pictures in teaching learning process before.