

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses the research methodology which includes the research question, explanation of the research design, variables, research hypothesis, data collection, population and sample, research instrument, research procedure, organizing teaching procedure, administering pilot test, administering pre-test and post test, administering interview, data analysis, scoring technique, data analysis on pilot test, data analysis on pre-test and post-test, and data analysis on interview.

3.1. Research Questions

The research questions of this research are:

1. Is the use of Picture effective in improving students speaking ability?
2. What are the students' responses of learning speaking English through picture?

3.2. Research Method

3.2.1. Research Design

The research is conducted the quasi-experimental design, since this study investigated the use of picture to improve students' speaking ability. Quasi-experimental design with nonequivalent control group design is used as research design in this research. Hatch and Farhady (1982; p. 24) state that nonequivalent control group design means that there are two groups in the research; experimental and control group, both groups have the same level but it is used

different set of teaching in the teaching and learning process. Furthermore, procedural text will be used as the materials in teaching and learning process. Each group will be taught how to describe process, yet experimental group applies some treatments to find out the answers of research questions. Meanwhile control group will be taught through conventional method (Three-phases-techniques).

Pre-test and post-test are conducted at the beginning of the research, and post-test that will be given at the end of the research. The result of those tests is used to find out whether or not there is any difference between experimental group and control group. The research design of the study will be illustrated in the following table:

Table 3.1

The Quasi-Experimental Design

Group	Pre-test	Treatment	Post-test
Experimental	Xe 1	T	Xe 2
Control	Xc 1	O	Xc 2

Xe 1 : Students' speaking scores of experimental group on pre-test

Xc 1 : Students' speaking scores of control group on pre-test

T : Treatment using pictures

O : Non- picture treatment

Xe 2 : Students' speaking scores of experimental group on post-test

Xc 2 : Students' speaking scores of control group on post-test

The table shows that both classes were given pre-test and post-test, but the difference is in giving treatment. In the experimental group, picture was given as a treatment to the students in the teaching learning process. But in control group, conventional method (Three-phases-techniques) was given as a treatment in teaching and learning process. After treatments in the experimental group were finished, both experimental and control group were given the post-test in order to find out the result of using picture that could achieve a higher score than conventional method (Three-phases-techniques).

3.2.2. Variables

Hatch and Farhady (1982; p. 12) state that variable can be defined as “an attribute of a person or of an object which ‘varies’ from person to person or from object to object”. Furthermore, there are two variables in this research. They are independent and dependent variables. According to Hatch and Farhady (1982; p. 15), independent variable is a major variable which will influence dependent variable. Meanwhile, dependent variable is the variable that will be affected by independent variable.

Referring to the explanation above, independent variable in this research is the use of pictures. On the other hand, dependent variable in this research refers to students’ speaking ability.

3.3. Research Hypothesis

Hatch and Farhady (1982) defines a hypothesis as a tentative statement about the outcome of the research. In line with this, Sugiyono (2008) states that a

hypothesis is a theoretical answer to the research problem. It is formulated to show the effect of two variables relationship (Arikunto, 2010). This research proposed the null hypothesis (H_0) and alternative hypothesis (H_A). The null hypothesis (H_0) and alternative hypothesis (H_A) formulated as follows:

$$H_0: \mu_1 = \mu_2$$

$$H_A: \mu_1 \neq \mu_2$$

In this research, the null hypothesis (H_0) in this research is that “there is no significance difference in students speaking ability before and after the pictures treatments”. While the alternative hypothesis (H_A) is that “there is a significant difference in students speaking ability before and after the picture treatments”.

3.4. Data Collection

In collecting data, this research study is started from the steps of organizing teaching procedures in experimental and control group classes, organizing the research instruments, trying out test instrument, and then administering pre-test to both control and experimental groups in order to find out initial abilities between the two groups who have the similar level in speaking ability.

After that lesson plans were organized to the use of picture in teaching speaking to experimental group students and teach speaking with conventional method to control group. At the end of experimental treatment, post-test was administered to both control and experimental groups in order to find out the result of the treatment. Furthermore, to answer second research questions,

interview was administered towards experimental group in order to gather further information about students' response in the use of *Picture in Teaching Speaking*.

3.4.1. Population and Sample

The population of this research is the first grade students of SMP Karya Pembangunan 2 Majalaya. The school is chosen due to several easier accesses to conduct the research study here.

Since sample of a study is smaller than population, not all members of the population to assess. Thus, this research study only used two classes as the sample of study. Sample is the group on whom data are collected and for whom comparisons are made (Fraenkel and Wallen, 1990). The first class, 7A was the experimental group and the other, 7B, was the control group. Each class consists of 48 students. To anticipate the absence of some students during the research, there were only 35 students from each class as the sample. So the fix number of the sample is 70 students.

3.4.2. Research Instruments

According to Sowell and Casey as quoted by Widaningsih (2010), instrument refers to decisions that researcher make about collecting data. A speaking test which served as research instruments was used to find out the effectiveness of picture in speaking ability. In addition, pre-test, post-test and questionnaire were used to support the data in explaining more information about the students' responses of using picture in improving students speaking ability.

The instruments in this research are oral test (includes pre-test and post-test) and interview. Those instruments are used to measure the effectiveness of using pictures in improving students' speaking ability and to find out the factors which influence it. Pre-test and post-test are conducted orally. 35 students in each group will answer some questions orally. The questions are about how to describe process something. Moreover, pre-test is administered before the treatment. It contrasts with post-test which is obtained after the treatment.

Pre-test is given to assess students' speaking ability before the students in experimental group are taught procedural text by using pictures. Meanwhile, control group will be taught through conventional method. Moreover, it uses the lesson plan from the school. In contrast, experimental group will use lesson plan modified to apply teaching method by using pictures. Besides, test instrument must be appropriate to the syllabus of the school to accomplish the purpose of subject. The syllabus of seventh grade in speaking skill, as follows:

Table 3.2

Syllabus of Seventh Grade in Junior High School

Standard Competence	Basic Competence
Speaking 10. Mengungkapkan makna dalam teks lisan fungsional dan monolog pendek sangat sederhana berbentuk <i>descriptive</i> dan	10.1 Mengungkapkan makna yang terdapat dalam <i>teks lisan fungsional pendek</i> sangat sederhana dengan menggunakan ragam bahasa lisan secara akurat, lancar, dan berterima untuk berinteraksi dengan lingkungan

<i>procedure</i> untuk	terdekat.
berinteraksi dengan lingkungan terdekat.	10.2 Mengungkapkan makna dalam monolog pendek sangat sederhana dengan menggunakan ragam bahasa lisan secara akurat, lancar, dan berterima untuk berinteraksi dengan lingkungan terdekat dalam teks berbentuk descriptive dan procedure.

On the other hand, interview is conducted in this research to get more information about the factors which influence the effectiveness of using pictures in improving students' speaking ability. According to Fraenkel and Wallen (1990; p. 94), basically interview and questionnaire are the same; they are consists of questions that should be answered by the sample of the research, yet interview is taken orally.

3.4.3. Research Procedure

It was previously mentioned that this research study started from organizing teaching procedure. After organizing the teaching procedure, pilot test was conducted to check the validity and reliability of the instrument. To answer the research questions of the study, pre-test, post-test and interview were conducted.

3.4.3.1. Organizing Teaching Procedure

This quasi experimental study is to see the effect of the two different groups: experimental and control group. The experimental group was taught using *Picture*, while the control group used the conventional method of teaching learning process.

Pre-test was conducted before the treatment while post-test was after the treatments. Such activities were conducted to both groups to see the improvement of speaking ability. The research schedule is figured out in the next following table.

Table 3.3
Research Schedule

No	Experimental Group		Control Group	
	Date	Theme/Material	Date	Theme/Material
1.	19-5-11	Pre-test	19-5-11	Pre-test
2.	20-5-11	How to make favorite drink 1	20-5-11	How to make favorite drink 1
3.	21-5-11	How to make favorite drink2	21-5-11	How to make favorite drink2
4.	27-5-11	How to make favorite food 1	27-5-11	How to make favorite food 1
5.	28-5-11	How to make favorite food2	28-5-11	How to make favorite food2
6.	3-6-11	How to operate something	3-6-11	How to operate something

7.	4-6-11	Review and post-test	4-6-11	Review and post-test
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3.4.3.2. Administering Pilot Test

The pilot test as tryout of the research instrument is necessarily administered to find out the validity and realibility of the instrument (Arikunto, 2006). It is aimed to measure the instrument's relevance. The test used in the research is categorized into standard test so it is not necessary to be tried out to find its validity and reliability. As well Arikunto (2006) adds that a standard test conducted is not necessary to be tried out.

On the other hand, though considering the relevance to the curriculum, the speaking test instruments in this research need a pilot test since it is developed by the researcher. The pilot test was administered towards twenty respondents drawn from respondents of the research beside the research study sample to check test instruments' validity and reliability.

3.4.3.3. Administering Pre-test and Post-test

Pre-test is administered to both experimental and control group before the treatment conducted to experimental group. After series of treatment was implemented, post-test was also administered to both groups. The scores from pre-test were used to see that the initial ability of both group were similar before conducting treatment. On the other hand, the scores from post-test were used to measure whether the implemented method influences the experimental group or not.

3.4.3.4. Administering Interview

In order to get descriptions of information concerning the use of Picture, such as to find out the students responses of implementation picture from students' point of view, and their strategies to overcome the obstacles in learning speaking by using Picture, the students of experimental group were interviewed.

The data collected from the interview were interpreted and grouped into the student's responses of *using Picture* from the students' point of view, and students' strategies to overcome the obstacles in learning speaking by using Picture.

Moreover, the data taken from interview can support the validity test result. The data can show the students' language behavior towards the implemented method. Students' language behavior were then be interpreted into their response to the implemented method. Positive response of students such as being involve in the teaching learning process or being lively can support the data that mention the advantages of the implemented method. On the other hand, any possibly negative response such as hesitance of the students can support the data that mention the disadvantages of the use of Picture to the experimental group.

3.5. Data Analysis

The analysis of the data is done after collecting the required data and the conclusions are made after completing the whole process of this research study (pre-test, post-test, and interview).

3.5.1. Scoring Technique

A speaker needs to find the most appropriate *words* and the correct *grammar* to convey meaning accurately and precisely, and needs to organize the discourse so that a listener will understand (Cameroon 2001). The aspects of speaking ability to be measured are the fluency, grammar, context and vocabulary. Each aspect will be measured as follows:

Fluency

- 10 = the speaker speaks naturally and continuously.
- 8 – 9 = the speaker generally speaks naturally and continuously but there are some pauses in the utterances.
- 6 – 7 = there are some pauses in the utterances but the speaker manages to rephrase and continue.
- 5 – 6 = the speaker speaks less continuously, and there are many pauses in the utterances.
- <5 = there are long pauses, and utterances are left unfinished or there is no response.

Grammar

- 10 = the utterances of the speaker are clear and logical.
- 8 – 9 = the utterances are uttered clearly by the speaker.
- 6 – 7 = the utterances are uttered logically by the speaker.
- 5 – 6 = the utterances of the speaker are unclear.

Context

- 10 = the speaker includes context to present sufficient information.

8 – 9 = contextual information is not presented in detail by the speaker.

6 – 7 = some contexts are not included in the utterances by the speaker.

<6 = the utterances present no contexts.

Vocabulary

10 = the words used are selected, varied, and relevant with the situation and condition.

8 – 9 = the chosen words are varied and generally relevant with the situation but there are some inappropriate words.

6 – 7 = the words have already been relevant with the topic and situation; they however do not have any variation.

5 – 6 = there are lots of words used inappropriately.

<5 = poor and irrelevant words related to the topics and situation are used in the utterances.

(Cited in Weir, 1990; p. 147-148)

3.5.2. Data Analysis on Pilot Test

Pilot test is administered to know that the test is valid and reliable. If the respondents had the ability to understand the instruction of the instrument and were able to give appropriate responses, it can be conclude that the instrument can be used to conduct pre-test. The data from the oral pilot test were transcribed to check respondents' response and to see whether or not the responses fulfill all the speaking aspects to be measured.

3.5.3. Data Analysis on Pretest and Posttest

The form of pre-test and post-test is the same. Yet, those tests have different purpose such as pre-test is done to measure students' speaking ability before giving the treatment. Meanwhile, post test is conducted to know the improvement of students' speaking ability both in experimental and control groups after comparing it to the pre-test. In calculating the data, t-test will be used in this research. It is usually used statistical test to compare two means because t-test can accommodate very small sample sizes (Hatch and Farhady, 1982; p. 108).

In addition, Hatch and Farhady (1982; 114) also state that there should be certain assumptions in doing statistical test, they are: only one group is the subject in the experiment, the scores on independent variable are continuous, and the scores are normally distributed, while variances of score are equal. Therefore, normality test and variance homogeneity test are used in this research before conducting t-test.

In conducting normality test, Kolomogorov-smirnov is used to analyze normality distribution. Then, Levene formula in SPSS for windows is applied to analyze the variance homogeneity in the research. On the other hand, independent t-test can be used if the data is normal and homogeneous. It is required to find out initial ability of students' speaking skill in experimental and control group.

Moreover, post-test has the same procedure in analyzing the data. It is administered to know whether there are any differences between two means of both group or not.

Furthermore, matched t-test will be used in this research. It is done to see the difference quality of each group; experimental and control group by comparing the scores of pre-test and post-test means.

3.5.4. Data Analysis on Interview

The data of interview will be transcribed in collecting the information from the sample in the research. There are some questions of interview that should be answered by the students orally. It is used to get more information related to the use of pictures in improving students' speaking ability. Specifically, interview is conducting to answer the second question in research question that is in order to find out the students responses of learning speaking through picture.

In short, the instrument in this study consists of pre-test, post-test and interview to answer the research questions. Moreover, six meetings will be used to conduct the treatment by using pictures.

Research finding and discussion will be explained in the next chapter. In chapter four SPSS 17.0 versions for windows will be used to compute the data.