

CHAPTER III

METHODOLOGY

This chapter presents the methodology applied in conducting the study that provides an explanation of how the study was planned and carried out in order to answer the research question.

3.1 Purpose of Research

This study is aimed to prove difference of learning achievement in reading class taught by using multimedia and without multimedia for grade 7th at SMPN 115, Jakarta.

3.2 Population and sample of the study

The population of the study is students in SMPN 115 South Jakarta and the sample of study consist of two classes in that school. Each class consists of 36 students and sample in this study required two different classes with the same level.

3.3 Method of Research

This study is a ex post facto research. According to Kerlinger (1964) defined ex post facto research that research in which the independent variable or variables have already occurred and in which the researcher starts with observation of a dependent variable or variables in retrospect for their possible relations to, and effects on, the dependent variable or variables.

To collect data, the writer used field research by ex post facto research. Field research is carried out by teaching practice and testing with the teacher concerned. The population is all of the students of first grade at SMPN 115 Junior High School, Jakarta. But, the writer just takes two class as the sample. The objects of the study are 7A class and 7B class. The teacher held the field research by taking the students's scores of the learning achievement in reading class taught by using multimedia and without multimedia test.

Since there are two classess with differenet treatment in which one class was taught using muultimedia and the other was taught without multimedia. The data was analyzed by using independent sample t-test.

3.4 Time and place of the study

The study was conducted within four months starting from January until March 2014. The study was conducted in two classes junior high schools in Jakarta.

3.5 Variables

This research involved two variables:

1. Dependent variables : learning achievement in reading class.
2. Independent variables : teaching methodology in reading class.

3.6 Data collection techniques

Collecting data is an important thing for this thesis. The data get which related to the language of teaching reading and multimedia as techniques in improving the students' reading skill. The researcher take the following steps:

Firstly, the researcher suggests the teacher to follow the instructions of lesson plan to teach reading for the students by using the multimedia in class. Then, researcher actively monitored how the class teacher delivered the material to students in both classes. For that purpose, she conducted class observation fourth time. During class observation pictures of the activities were taken and video was made. Pictures are attached in the appendix. Detailed description such observation is presented in tables 1 and 2 below.

Table 1. Description of class with teaching media

Name of teacher/s	Mrs. IL
Day of observation	Tuesday and Thursday
Class	7 A
Topic	Description of friend
Media used	Laptop, White Screen, LCD Projector, Red Light Sensor

Table 2. Description of class without teaching media

Name of teacher/s	Mrs. IL
Day of observation	Wednesday and Friday
Class	7 B
Topic	Description of thing
Media used	None but chalk and board

To give more detailed information about the class taught using multimedia, a narration of class activities can be added. The teacher was using an appropriate of multimedia to teach English which descriptive text in class. Teacher used Laptop, white screen, LCD projector to showing the material to students. Before teacher teach to student, the student must have prepared to set the all of multimedia in class. The teacher delivered the material well and without distraction. The teacher make the material very attractive, imaginative, and colorful in each slide. She uses microsoft power point programme to make easier for presenting the material in class. Then, teacher briefed and brainstormed the material the students by using multimedia. She led students to know the descriptive text starting from general until narrow. Next, the teacher gave the assignment about description of friends/nouns/animals in class into eight gorups. After that, each groups present their work of ideas to in front of their friends in class then guess the name who is he or she.

3.7 Research Instrument

In this study, the researcher focused on the achievement of junior high school's reading class taught by using multimedia but does not develop achievement test herself. Instead, she got the data from the class teacher. However, it could be reported that the teacher, to measure the achievement in reading, class, used a teacher-made test of reading comprehension. The test is attached in the appendix.

3.8 Data analysis

The data that have been collected using the technique as mentioned above was analyzed using independent t-test formula to see the difference of mean scores in two classes. Below are the steps of data analysis:

1. Calculating for difference in the average scores of experimental class (\bar{X}_1) and control class (\bar{X}_2) with the formula:

$$\bar{X}_1 = \frac{\sum X_1}{n_1} \quad \bar{X}_2 = \frac{\sum X_2}{n_2}$$

Where:

$\sum X_1$: number of experimental class difference value

$\sum X_2$: amount of increment value control class

n : number of samples

2. Calculating the deviation standard and grade control with the formula:

$$SD_1^2 = \frac{\sum X_1^2}{n_1} - (\bar{X}_1)^2 \quad SD_2^2 = \frac{\sum X_2^2}{n_2} - (\bar{X}_2)^2$$

Where:

$\sum X_1^2$: number of experimental class deviation value

$\sum X_2^2$: number of control class deviation value

n : number of samples

\bar{X}_1 \bar{X}_2 : the average number of experimental class (\bar{X}_1) and control class (\bar{X}_2)

3. Calculating the independent test and degrees of freedom with formula:

$$t_{1-2} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left[\frac{SD_1^2}{n_1 - 1} \right] + \left[\frac{SD_2^2}{n_2 - 1} \right]}}$$

$$df = (M + N) - 2$$

Where:

t_{1-2} : T-test

\bar{X}_1 : Determining mean of variable X_1

\bar{X}_2 : Determining mean of variable X_2

$SD_{X_1 X_2}$: Determining deviation standard of variable X_1 and X_2

df : Determining degrees of freedom

N : Number of sample

3.9 Alternative Hypothesis

Based on the problem, the hypothesis can be formulated as follows:

The Null Hypothesis (Ho):

The learning achievement of Reading to students in class taught by using multimedia is the same with that of the students taught without using multimedia.

The Experiment Hypothesis (He) :

The learning achievement of Reading to students in class taught by using multimedia is the different from that of the students taught without using multimedia.

3.10 Statistical Hypothesis

Ho: $\mu_1 = \mu_2$

H1: $\mu_1 \neq \mu_2$

μ_1 = the score of reading class taught with using multimedia

μ_2 = the score of reading class taught without multimedia

The level of significance used in this study is $\alpha = 0,05$.