CHAPTER III

RESEARCH METHODS

In this chapter, the researcher presents the description of the research methods used in this study. It covers: the research design, the population and sample of the study, variable, the instrument, and the technique of collecting the data, the data analysis, and hypothesis testing.

A. Research Design

The researcher was practice in teaching writing process using situational picture in the class. The aim of this study was to find out whether or not pictures in internet can improve students' writing ability in descriptive texts.

There are two groups, the control group and the experimental group. Both of them were given post-test, and then the treatment was administered to the experimental group, while the control group was taught as usual without manipulation. In this study, the researcher acts as the practitioner who teaches the students using situational picture technique. In this study, firstly, the experimental group and the control group were determined by using the score. Then, the scores both of the group were administered to measure the students' writing ability before the treatment. The next step is applying the experimental treatment of independent variable to the experimental group for four times. Then, a posttest is administered to measure the dependent variable of two groups. From those steps, the effect of pictures in magazine and newspaper was examined.

B. Research Population and Sample

a. Population

The population of the study is the second semester students in eleventh grade of class IPA in academic 2008-2009. In eleventh grade students, there are ten classes consist of: language classes, science classes and social classes, the number of the students among + 357 students. This study conducted at SMA Muhammadiyah 1 Gresik, which is located on Jln. KH. Kholil No. 90 Gresik.. The researcher chooses them with the consideration even though they study at the since program, they can improve their writing skill in English such as write descriptive texts through situational pictures. Here, the researcher hoped that write English was not difficult for them so that they could pay attention and sure in learning process.

b. Sample

The researcher uses the sample from the students, and she takes the sample from two classes are random sampling; class XI-IPA 3 and XI IPA-4, and the total of the learner amount 75 students. The writer taken these sample because the writer believe that even thou they came from the science classes, they can to express their ideas on ability of writing descriptive text by using situational pictures. The writer took this entire sample from the science classes to linier the result and the background.

C. Variable

There are two variables in this study. They were independent variable and dependent variable. Independent variable is a variable that who's variable that is selected, manipulated, and measured for investigation.[31] In this study, the application of pictures from internet is the independent variable. While, the dependent variable is a variable that is observed and measured in order to determine the effect of the independent variable. The students' writing ability is the dependent variable.[32]

D. Instrument

The researcher her self has the key instrument. It means that she played an important role in doing the research. In other words, the success of the research greatly depended on her role. The researcher used tests in order to enable her to observe and gather any information on what was going on in the class when the "Situational Pictures" arrived by the student. The instrument was English test. There are five aspects used as a guideline for scoring writing ability: content, organization, vocabulary, language use and mechanics. The type of test was subjective one (making English composition, especially writing descriptive texts). At the last meeting of the treatment the researcher gave the last written tests to know the effect of using situational pictures on writing descriptive texts.

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[31] Susanto, *Developing a Research Proposal a Practical Guidline*.(Surabaya: UNESA University Press.2002). Page 10.
[32] Ibid. 10

According to Arikunto, a good instrument should be valid and reliable. The concept of validity and reliability are discussed below:

1. The validity of the test

The test can b called a valid test if it measure internal knowledge or measure what should be measured. Heaton states that every test whether it is a short, informal classroom test, or public examination, should be as valid as the constructor can make it.[33]

Based on the testing of validity, Arikunto divides validity into two types: external validity and internal validity. External validity is the validity which is achieved when the data collected by the instrument are appropriate with the data. It was measured by using the form product moment correlation.[34]

In this study, the writer used external validity and the formula product moment correlation of row scores.

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{ N\sum X^2 - (\sum X)^2 \}\{ N\sum Y^2 - (\sum Y)^2 \}}}$$

Where r_{xy} = the coefficient of correlation between variable X and Y, X= the students' scores from the teacher, Y= the students' scores from the writer

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[33] Suharsimi, Arikunto. *Prosedur Penelitian.* (Jakarta: Rineka Cipta, 1975). Page. 143
[34] ibid. 1992. Page 153

and N= the number of the students. During the treatment, the situational pictures presented to the experimental group, the topic were adopted from the line of the curriculum, especially descriptive texts.

2. The reliability of the test

Reliability is a necessary characteristic of any good test must first be reliable as a measuring instrument. To check the reliability of the test, the writer tried to compare the scores from the writer and the teacher. The scorer or rater reliability concerns the stability or consistency with which test performance are evaluated. Two or more scorers assign equivalent scores for the same performance. The existence of two scorers was expected to add the objectivity of the scoring. It is because there would be two different sides in assessing the students' writing from two different people. And if we use more than one scorer, reliability can be greatly enhanced by having more than one scorer. The writer asked one of the English teachers of SMA Muhammadiyah 1 Gresik to be another scorer. The formula used was product moment. The most frequently employed technique for determining the correlation between two sets of test scores is by means of the person product-moment formula.

3. Pre – Experimental Stage

Before coming to the experimental stage, the writer held the pre – experimental stage by offering try out to the first year students. The test consisted of 37 items and the time needed is 60 minutes. Try – out test is

necessary given. To find out the instrument used in the study is valid and reliable or not.

4. The treatment

In his study, both groups experiment group and control group were taught using the same teaching material and the same test items. The difference lied only on how the writer presented the materials.
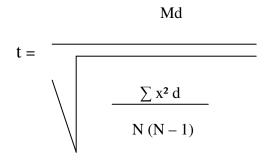
E. Data Collection Technique

In this research, the data collected from the tests. The researcher made a final test to the experiment group and control group. It was used to give information about students' ability to write descriptive texts before the treatment. Here in the control group was asked to write descriptive texts without any media. The treatment will do for four times which suitable on head master permission.

F. Data Analysis

In other words, the success of the research greatly depended on her role. There are four kinds of data gathered in the study. The first data are those concerning with result of the students' active involvement during the class. The second data are concern with result of the students' category in writing descriptive texts; the fourth data are those concerning with result of the students' respond toward the process of learning using situational pictures techniques, if the data were obtained, then it was analyzed by using statistical calculation of t-test to find

out the difference score between experiment and control group was significant or not.

Here, the researcher used three formulas. First, to analyze the significance difference between the result of pre-test and post-test (Arikunto, 1992: 261).

$$t = \frac{Md}{\sqrt{\dfrac{\sum x^2 d}{N(N-1)}}}$$

t   : the t-ratio

Md   : mean from the different pretest and posttest

xd   : the deviation of each subject (d - Md)

$\sum x^2 d$: the sum deviation square

N   : subject on the sample

$$Md = \frac{\sum d}{N}$$

The formula to calculate of the final – test scores of experimental group.

$$SD\, x1 = \sqrt{\frac{\sum d^2}{N}}$$

$$SD_{x1} = \sqrt{\frac{\sum d^2}{N}}$$

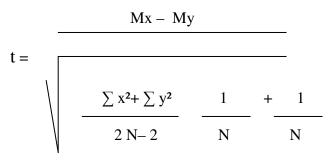Then, the writer used the formula of t-test below to analyze the final-test both experiment group and control group.

$$t = \frac{X_1 - X_2}{\sqrt{\frac{SD\,X_1^2}{N_1} - \frac{SD\,X_2^2}{N_2}}}$$

Where:

$X_1 - X_2$: The difference between two means

SD : Standard deviation

N : Number of subject

The last formula t-test, the writer used to analyze the significant difference scores both groups:

$$t = \frac{Mx - My}{\sqrt{\frac{\sum x^2 + \sum y^2}{2N - 2}\left(\frac{1}{N} + \frac{1}{N}\right)}}$$

Where:

Mx : mean score of experiment group

My : mean score of control group

$\sum x^2$: the sum of deviation square of experimental group

$\sum y^2$: the sum of deviation square of control group

$df = N1 + N2 - 2$

G. Hypothesis Testing

As stated before, this study is conducted to test the hypothesis, which is consisted of two major hypotheses: the null hypothesis states that there is no significant difference in writing descriptive text between the students who are taught by using situational pictures and those who era not. The alternative hypothesis states that there is a significant difference in writing ability in descriptive text between the students who are taught by using situational pictures and those who are taught without situational pictures. The hypothesis that be tested was the null hypothesis.