CHAPTER III

METHODOLOGY OF RESEARCH

3.1 Research Design

The design of the study is experiment research. Experiment research is a study to know the result of the treatment which is wilfully by the researcher. The study is aimed to know how the effect of using describing pictures as a media on students speaking ability. Based on Sugiyono (2014), there are four kinds of experiment research, there are pre-experimental, true-experimental, factorial experimental, and quasi experimental. Because the researcher does not have full control of the object of research, so the researcher used quasi experimental designed. Quasi experiment research is an elaboration from true experiment research when the researcher does not have full control of the variable. Quasi experiment is used to find out the influence of treatment which is given by the researcher. The treatment in this study is the implementation of describing pictures as a media in learning speaking ability. The researcher consider to use quasi experiment research because, he has limited fund, force, time, and capability.

In this research, the researcher should pay attention to the experimental and control variables and the result of the experimental. This research consists of two groups. There are experimental group and control group. The experimental group is the group in scientific experiment where the experimental is performed. The experimental group was exposed to the independent variable being tested and gives the changes observed and recorded but the control group was not. Both the groups were given a pretest. The treatment is given to the experimental group but

the control group is without given a treatment just being taught as usual. However both of the experimental groups and control groups were given same material, pretest and post-test at the same time.

The design of pretest and post-test in the experimental group is:

Group	Pre-test	Treatment	Post-test
E	X1	T	X2
C	X1	-	X2

Table 3.1 Quasi Experimental Design

E   : The Experimental group (which given treatment)
C   : The Control group (which not given a treatment)
X_1 : The pretest (before the experimental treatment)
X_2 : The posttest (after giving a treatment)
T   : The Treatment

In this case, the researcher use the eighth grade of SMP Maa'rif NU Benjeng Gresik. The researcher decided VIIIA and VIIIB class in the observation.

3.2 Research Variable

Variable is something that can be changed, such as characteristic or value. In this study the variable are media, teacher, students and score value. Based on the function and the correlation variable consist into two types there are dependent variable and independent variable. Dependent variable is the variable that is measured by the experimenter. It is impact or the result of the study. Dependent variable can be influenced by another variable. In contrast, independent variable is the variable that is controlled and manipulated by experimenter. It is cause of the study. Independent variable can not influenced by another variable. Therefore, the purpose of variable is to measure the qualities and to describe how to classify the subject into groups or categories.

In this study, the independent variable is describing pictures as a media while the dependent variable is the scores of students speaking ability of eighth grade at Junior High School.

3.3 Population and Sample

Based on Sugiyono (2014), population is the generalization area which consist of object/subject that has particular quality and characteristic those set by the researcher to be learned then draw the conclusion. So the population not only the students or learner but also the object in the school, and it includes the characteristic of the students. The population of this study is the eighth grade of Junior High Schools in SMP Maa'rif NU Benjeng Gresik. The researcher takes 60 students as data sample in this research. It consists of two classes. One class were taken as the sample of this study there are VIII-A consist of 30 students in the experimental group and VIII-B consist 30 students in the control group.

3.4 Data Collection Technique

Data collection is the process of gathering and measuring information.

There are stage to collect:

3.4.1 Instrument of the Study

Instrument is tool used to collect the data. It is the most important component of research design because the researcher gathers or collects valid data or information from research instrument. Without research instrument, it is impossible that researcher can collects the valid data. A good instrument will reflect the good result. It is because the instrument takes the important role in collecting valid data. Data is gathered to answer research question, it refers to the information.

3.4.1.1 Test

Appropriated instrument which will be used to collect data with this study is test. Test is a set techniques, procedures, and items that constitute an instrument of some sort that requires performance or activity on the part of the test taker. A test is standard question of cognitive knowledge or skill (Mc Millan,1992:114). There were two tests that was given to the both experimental and control groups, they are pre-test and post-test.

3.4.1.2 Pre-test

Before using the method as a treatment, the researcher organized pre-test to the subjects. Pre-test was arranged in both experimental and control group. Pre-test was used to know the basic ability to the students in speaking ability. The researcher gives the students 60 minutes for finishing their pre-test. Pre-test was utilized to know the ability before giving treatment for the students.

3.4.1.3 Post-test

Post test was used to know the effect of describing pictures as a media on students speaking ability after getting a treatment. The time allocation was 60 minutes. The research subject were topic, describing pictures then they had to find the ideas until describe clearly. The post-test has same procedure with the pre-test.

3.4.2 Procedure of Data Collection

To collect the data, the researcher should make a procedure. For the first step, the researcher will ask permission the school where the study will be conducted. The second is the researcher prepares pretest and posttest for describing pictures as a media on students' speaking ability. The third step, the researcher divides the subject into two group, control group and experimental group. For the fourth, the researcher gives treatment for the experimental group and for the control group, they will be taught by the researcher using discussion in pair. For the treatment, students will be given some pictures. In the fifth step, the researcher gives the posttest for both of two groups. And the last, the researcher will analyze the data from the pretest and the posttest using SPSS 16.0 program.

3.4.3 Validity and Reliability

A test is valid when it is appropriated, meaningful and useful in term of purpose of the test (Brown, 2004:22). There are three kinds of validity: content validity, criterion-related validity and construct validity. In this study the test was analyzed by using content validity and construct validity. To determine validity, the researcher asked the English teacher to check the instrument validity. The content validity was measured by relating the content of the instrument in Indonesian curriculum. Whereas to define the construct validity, the researcher used the assistance of SPSS version 16.0 program to calculate the descriptive statistic of the instrument

validity which was examined by analyzing item well. The formula to

testing the instrument is:

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

Where:

r_{xy}	: The correlation coefficient between X variable and Y variable
N	: The number of students
X	: The sum of X scores
Y	: The sum of Y scores
$\sum Y$	: The sum of total score for each student
$\sum X$	: The sum of total score in each item
$\sum XY$	: The sum of multiple score from each student with the total score in each item
$\sum X^2$	: The sum of the square score in each item
$\sum Y^2$	: The sum of the total score from each student each item square is determined by using these following categorizations

The test should determine whether the items of the test represent the

objective. Reading and listening included to the objective item whereas

speaking and writing included to the subjective. This study included in

subjective test, the content validity was measured by relating the content of

the instrument with content standard in Indonesian curriculum. The

instrument of this study is in the form speaking test which measured the

ability in speaking skill. It was matched with the competence standard and

basic competence of the content in Indonesian curriculum.

The reliable test when the test is consistent and trusty in

measurement (Brown:2001,386). The reliability is used to know whether the

test reliable or not. To measure the reliability of a subjective test such as

speaking test, the interested were used to measure to consistency of the test.

The procedure determining the reliability is administering test once, then

having two different people score the test. It will get the data of scores. Then,

the last is computing correlation between those three sets of scores. To compare the reliability of the test, the formula of Pearson r is conducted. The formula is:

$$r = \frac{\frac{\sum XY}{N}XY}{S_\chi S_\gamma}$$

Where:
N   : The number of pairs of scores
∑XY : The sum of the products of each pair of scores
X   : The mean of the X distribution
Y   : The mean of the Y distribution
S_χ : The standard deviation of the X distribution
S_γ : The standard deviation of the Y distribution

3.5 Scoring guide

To assess the students test, the researcher adapted scoring guide of presentation by Nguyen (2013) which assesses students test on content, visual aid, grammar, pronunciation and eye contact & body language. Then, the researcher modified it into content, word choice, grammar, pronunciation and eye contact & body language. Whereas, the researcher divides the scoring grade into four criteria, they are: excellent if they get 90-100, very good if they get 70-89, good if they get 50-69, and fair if they get < 50.

Because, oral presentation is a subjective test which need an accurate in correction, the correctors are the researcher self and English teachers in SMP Maa'rif NU Benjeng,

here is the rubric of students' presentation:

No.	Aspect	Score	Criteria
1.	Content & organization 30%	Excellent 90-100	The student's always has accurate content, very clear information and well organized.
		Very good 70-89	The student is essentially accurate content, clear information and organized.
		Good 69-50	The student uses unclear content and information in most of the time but organized.
		Fair < 50	The student uses not relevant content and poorly organized.
2.	Word Choice 15%	Excellent 90-100	The student's word choice contributes to effectiveness of the speech, and vocalized pauses (um uh er etc.) not distracting. Students use appropriate vocab.
		Very good 70-89	The student's uses good word choice and a half of the audience seems understand and vocalized pauses (um uh er etc.) not distracting. Students use several inappropriate vocab.
		Good 50-69	The student uses inappropriate word choice so the audience seems confused at time and vocalized pauses (um uh er etc.) are distracting. Students use many inappropriate vocab.
		Fair < 50	The student has poor word choice and vocalized pauses (um, uh,er etc.) are often used. Use wrong vocab.
3.	Grammar 20%	Excellent 90-100	There isn't mistake is using grammar
		Very good 70-89	There are some mistakes in using grammar
		Good 50-69	Almost the grammar is wrong
		Fair < 50	All of the grammar is totally wrong
4.	Pronunciation 20%	Excellent 90-100	Speaking with correct pronunciation and understandable
		Very good 70-89	Speaking with several incorrect pronunciations and understandable
		Good 50-69	Speaking with incorrect pronunciation but still understandable
		Fair < 50	Speaking with incorrect pronunciation and understandable
5.	Eye contact & Body language 15%	Excellent 90-100	The student has excellent gesture and eye contact with the audience.
		Very good 70-89	The student maintains good gesture and eye contact most of the time.
		Good 50-69	The student has little eye contact and the gesture needs improvement.
		Fair < 50	The student has no eye contact and poor gesture.

Table 3.2 Scoring Rubric

Scoring Grade:

Categorization	Score
Excellent	**90-100**
Good	**70-89**
Fair	**50-69**
Poor	**<50**

3.6 Data analysis

   After collecting the data from pretest and posttest, the researcher will analyze

the data using SPSS program. Analyze the data is very important in this study, it

will answer the research problem. To analyze the data, researcher uses the

Independent sample t-test. The result of t-test is to determine whether there is

significant effect between experiment and control group.

3.6.1 Homogeneity Test of Variance

   Homogeneity test of variance uses to know that both of two groups are

equal. It means that two group are in the same position. The researcher uses

Levene's test of homogeneity in SPSS 16.0 program because it is to assess the

quality of the variance for a variable which calculate for two or more groups.

There are two groups in this study; control group and experiment group.

The test of Levene's test defined as follow:

$$P = \frac{(N - k) \sum_{i=1}^{k} N_i \ (Z_i - Z. \ .)^2}{(k - 1 \sum_{i}^{k} \sum_{j=1}^{Ni}(Z_{ij} - Z_i)^2}$$

   The significance of P is tasted a gained F (α,k-1, N-k) where F is a

quintile of the test distribution, with k-1 and N-k is degrees of freedom, α is

the chosen level of significance (0.05).To analyze the homogeneity, the

researcher uses SPSS 16.0. The homogeneity will check in SPSS by Levene's

test with the following procedure. First, insert the pretest score of both groups in the data view. Second, go to the analyze menu, select compare means and choose independent sample t-test. Last, interpret the homogeneity test output, the researcher looks (sig.) at the Levene's test column to know whether the quality of variance in group of score is homogeneity or not. If the sig. > α (0.05), two populations of variances are homogeneous or adequate but if sig. < α (0.05) two populations of variance are not homogenous or not adequate.

3.6.2 Hypothesis Testing

The hypothesis of this research could be formulated as:

H_0: There is no significant effect of using describing pictures as a media on students' speaking ability between experimental group and control group.

H_1: There is significant effect of using describing pictures as a media on students speaking ability between experimental group and control group.

The step of calculating the data are: the tests of hypothesis research and the setting α (alpha) level at 0.05 (two tailed test). The second step is finding t-value. It uses independent sample t test and comparing the probability with the level of significance for testing the hypothesis. If the sig. (2-tailed) >α (0.05), H_0 can be accepted, but if the sig. (2-tailed) < α (0.05), H_0 can be rejected. It means that H_1 accepted.

The formula of calculating t-test is:

$$t = \frac{(X_1 - X_2) - (\mu_1 - \mu_2)}{S_{X_1 - X_2}}$$

In calculating t-test, the researcher uses SPSS 16.00 version. The first steps, input the data of posttest, the experimental and control group in SPSS program, then click analyze then compare mean then the independent sample

t-test. In independent sample t-test, input the score variable into t-test variable column and group variable grouping variable column, then click define group, choose group 1 for experimental group and group 2 for control group, then click OK.