

## CHAPTER III

### METHOD

#### 3.1 Research Design

Research methodology is the important part in doing research that is known about the research has many design. There are ten kinds or research that the researcher knows. They are fundamental or pure research, applied research (developmental, experiment, etc), action research, assessment, evaluation, descriptive research, case study, survey, content analyses and follow up study (evaluation).

Based on the statement above we know that there are so many choices that we may use to compose and determine the design of the research. It is depend on the kinds of variable, the data, and the subject of the research. In this research, the researcher uses the experimental method.

Based on Gribbons, Barry & Herman, Joan (1997), experimental designs are especially useful in addressing evaluation questions about the effectiveness and impact of programs. It means that in experiment method, the researcher would be done the test about the method that had been used. So the researcher knew the outcome after used the method.

The research used in this study is quasi-experimental study which the pre-test and post-test design is to fulfill purpose of this study. This is to find out the effect of task based group activities in EYL speaking class. There are two groups, which are control group and experimental group. Both of them are given pre-test and post-test, but in experimental group is administer the treatment while in control group is taught as usual without treatment. The

researcher acts as the practitioner who teaches the students using task based group activities.

The researcher used quasi experiment design because in quasi experiment is not conducted random sampling and in school setting, it is not possible to assign subject randomly to group in other word the researcher is forbidden to change class arrangement. And the teacher does not permit to random the subject. So the researcher uses quasi experiment in this study. The design chart can be se in figure below:

<b>Group</b>	<b>Pre test</b>	<b>Treatment</b>	<b>Post test</b>
<b>Experiment</b>	+	+	+
<b>Control</b>	+	-	+

Table 1. Non Randomized Subjects, pre test and post test Quasi Experiment Design

Where:

+ : With treatment

- : Without treatment

### 3.2 Population and Sample

The population of the study is the first semester in fifth grade academic 2013-2014. In fifth grade, there are three classes and every class consists of V-A, V-B, and V-C. Total the students in fifth grade are 87 students, so in V-A consists of 29 students and in V-B consists of 29 students. This study conducted in SD Muhammadiyah 2 Gresik, which is located in Jln. Kh. Kholil

Gresik. The researcher chooses SD Muhammadiyah 2 Gresik because in this school, the students have many problem to learn about speaking especially in fifth grade. So, the researcher used the task based group activities in order to make the students can improve their speaking skill. The researcher hopes that speaking skill is easy and is not difficult for them so the students can active in speaking skill as well.

In this study, the researcher takes two classes as sample for experimental study. One class is experimental group and the other class is control group. In V-A class is control group and in V-B is experimental group. Each class has 29 students, so the total number of sample is 58 students.

### **3.3 Data Collection**

In this research, the data collected from the tests, there are pre-test and post-test. The researcher make pre-test and post-test to the experiment group and control group. The pre test is given the information about students' ability in speaking skill. After pre test, the researcher give treatment in experiment group because in experiment group the researcher will teach by using task based group activities but in control group is teach without task based group activities.

After the researcher gave the treatment during four times, the researcher gave post-test to the experiment group and control group to know the outcome of task based group activities success or not. Finally, from the result of statistical calculation, interpretation and conclusion made. The researcher is analyzing the data from pre-test and post-test by using SPSS 15.0 program.

### 3.3.1 The Instrument

The instrument is the important part that is the researcher doing the research. Because this research used the experiment method, so the researcher used the test in order to observe and get any information when the task based group activity do by the student. The instrument is speaking test and there are three aspects use for scoring speaking ability: content, pronunciation and fluency, vocabulary.

The type of test is a group activity, because the researcher wants to know the effect of task based group activity in speaking ability. The researcher gives the treatment four times and in the last meeting of the treatment the researcher gives last speaking test to know the effect of task based group activities.

Based on the standard competence in the first semester, the researcher use 'transportation and public places' as a material for the test and treatment in this research. So the researcher decided to use 'transportation and public places' for pre-test and post-test. The students must make a group consist of 2 or 3 students and then make a sentence and dialogue and the instruction which is given by the teacher and based on the book that the students use. The researcher used the criterion in scoring speaking assesment to calculate the speaking ability.

NO	ITEMS	SCORE
1.	Content <ul style="list-style-type: none"> <li>• Can be understand the content well in all part.</li> <li>• Can be understand the content but considerable part.</li> <li>• Can be understand the content but in a small part</li> <li>• Little understanding about the content and in a small part.</li> </ul>	5 4 3 2

	<ul style="list-style-type: none"> <li>• Can not be understand the content well.</li> </ul>	1
2.	Pronunciation and Fluency <ul style="list-style-type: none"> <li>• There can be mistakes or errors with minimal pronunciation.</li> <li>• There are an error with 6-9 pronunciation.</li> <li>• There are an error with 9-12 pronunciation.</li> <li>• There are an error with 12-15 pronunciation.</li> <li>• There are an error with more than 15 pronunciation.</li> </ul>	5 4 3 2 1
3.	Vocabulary <ul style="list-style-type: none"> <li>• Able to use more than 15 words</li> <li>• Able to use more than 10 words</li> <li>• Able to use more than 7 words</li> <li>• Able to use 5 words</li> <li>• Able to use 3 words</li> </ul>	5 4 3 2 1

Table 2. The standard criterion is used in scoring of composition can be seen in the following table (*Elfata English College Course*) but the researcher change it in the level of English Young Learners.

To conduct this study, there are several instruments that require during the process. The instrument would be very important because it is to help monitoring and observing the data. The instrument that will be required is like mentioned below:

- 1) Syllabus and lesson plan: This is will be require to decide the material and what kinds of activities in teaching-learning process.
- 2) SPSS 15.0: The instrument for the researcher as the way to analyze the result of the test to check whether good effect or not during speaking learning in experimental group.
- 3) Test item: The test will be conduct in two times, the first is pre test and the second is post test.

### **3.3.1.1 Pre Test**

Pre test is the test that used to find out the initial different between experiment group and control group as they have similar level in speaking ability. Before receiving the treatment, the researcher gives the test to experiment group and control group. The test is speaking test. The researcher give speaking test to the students based on the material and then their speaking test are assessed by the teacher based on the criteria given.

### **3.3.1.2 Post Test**

Post test is the test that is used to find out whether the students progress in their speaking ability. Post test use after the researcher gives treatment for one group that is experiment group. Post test is the same procedure with pre test but post test is the result test that is do in this research. After do the post test, the researcher will know about the progress of the students after get the treatment in a period time.

### **3.3.2 The Procedure of Data Collection**

The researcher needs to make the permission letter for the school and they allow this study. After clearing all of the instruments which will be used, there are some steps in this study. The first step, the experiment group and control group determined by using score. The scores both of group re administered to measure the student' speaking ability before the treatment. The second steps after the researcher

determine the experiment group, the researcher applying the experimental treatment of independent variable to the experiment group for four times. The third step is a post test. Post test do after the researcher give the treatment in experiment group. Post test is administered to measure the dependent variable of two groups. From those steps, the effect of task based group activities is examined.

To manipulate the data of speaking learning, the researcher will give the different treatment for both experimental and control group in speaking learning. Experiment group will get treatment for four times. Meanwhile, control group will not get any treatment. They have the normal activities but do not introduce the task based group activities.

The dependent variables in this research study are task based group activities and also students' speaking ability which need to be evaluated. The evaluation for the dependent variables is by comparing the result of pre test – post test. If there is a significant difference before and after conducting the test by seeing the result, it is possible if dependent variables positively influence the student in speaking activity.

### **3.4 Technique of Analyzing Data**

After get the data, the next step was to analyze the data by using statistical analysis. The researcher analyzed the data by using Independent sample t-test because the groups are independent and the t-test for independent samples is to find out the differences between experiment group and control group. The researcher used SPSS version 15.0 to conduct in order to find the

effect of the treatment whether there is positive effect by using task based group activities.

### **3.4.1 Validity**

Before conducting pre test and post test as the instrument for this research, the item of test must be valid. Validity is measure to indicate the level of validity instrument. The instrument called valid if the researcher check the validity. In order to check the validity of test, the researcher checking content validity. To determine content validity, The researcher check the instrument validity based on English curriculum and syllabus. In this study, the content of the test matched with the handbook. The book is containing about transportation and public places. The test should be tried out in terms of its validity and reliability in order to check the validity and reliability of the test. The researcher does it with checking content validity. The basic concept of reliability of a test is consistency of the test score. To check content validity and to see the consistency of the test, the researcher asked to two English teachers to help checking the instrument validity, because the test is a speaking test and the student's performance in front of the class. So there are two people that are assessing the test, they are the researcher and the English teacher in order to find out the validity of the test.

### **3.4.2 Homogeneity Test**

One of the assumptions of analysis of variance is that variances of the observations in the individual groups are equal, a situations referred



to as homogeneity of variance. The researcher uses Levene's test of homogeneity in SPSS 15.0 version.

The test statistic,  $P$ , is defined as follows:

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

Where

- $P$  is the result of the test,
- $k$  is the number of different groups to which the samples belong,
- $N$  is the total number of samples,
- $N_i$  is the number of samples in the  $i$ th group,
- $Y_{ij}$  is the value of the  $j$ th sample from the  $i$ th group,

$$Z_{ij} = \begin{cases} |Y_{ij} - Y_{i\cdot}|, & Y_{i\cdot} \text{ is a mean of } i\text{-th group} \\ |Y_{ij} - \tilde{Y}_{i\cdot}|, & \tilde{Y}_{i\cdot} \text{ is a median of } i\text{-th group} \end{cases}$$

The significance of  $P$  is tested against  $F(\alpha, k - 1, N - k)$  where

$F'$  is a quintile of the F-test distribution, with  $k - 1$  and  $N - k$  its degrees of freedom, and  $\alpha$  is the chosen level of significance (0.05).

### 3.4.3 Hypothesis Testing using an Independent Sample t-Test

Hypothesis testing procedures that use separate samples for each treatment condition (between subject designs). In hypothesis testing have four steps to analysis the data, which are:

Step 1: State the hypothesis

$$H_0: \mu_1 - \mu_2 = 0 \quad (\mu_1 = \mu_2)$$

$$H_1: \mu_1 - \mu_2 \neq 0 \quad (\mu_1 \neq \mu_2)$$

Step 2: Set the criterion

Step 3: Compute the t-statistic

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{S_{\bar{x}_1 - \bar{x}_2}}$$

Where:

- $t$  is t value
- $\bar{x}_1$  is Average group 1
- $\bar{x}_2$  is Average group 2
- $S_{\bar{x}_1 - \bar{x}_2}$  is standard error of the two group
- $\mu_1 - \mu_2$  is always defaults to 0

Where:

$$S_{\bar{x}_1 - \bar{x}_2} = \sqrt{\frac{S_{pooled}^2}{n_1} + \frac{S_{pooled}^2}{n_2}}$$

Where:

$S_{\bar{x}_1 - \bar{x}_2}$  is standard error of group of the two group

$S_{pooled}^2$  is variants of the two groups

$n_1$  is Number of sample group 1

$n_2$  is Number of sample group 2

Where:

$$s_{pooled}^2 = \frac{(df_1)s_1^2 + (df_2)s_2^2}{df_1 + df_2} \quad \text{OR} \quad s_{pooled}^2 = \frac{SS_1 + SS_2}{df_1 + df_2}$$

$df_1$  = df for 1st sample;  $n_1 - 1$

$df_2$  = df for 2nd sample;  $n_2 - 1$

Estimated Standard Error of the

Difference

$$s_{\bar{x}_1 - \bar{x}_2} = \sqrt{\left( \frac{SS_1 + SS_2}{n_1 + n_2 - 2} \right) \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}$$

Step 4: Make a decision about hypothesis

### 3.4.4 t-test computation

Independent sample t-test is used to compare differences between separate groups and to find out the significant differences between the pre-test mean for experiment group and control group after the treatments. The researcher used SPSS version 15.0. There are procedures to calculating t-test using SPSS version 15.0. The first is open the SPSS version 15.0 for windows program. The second is typing “Nilai” in the first row and “Group” in the second row of variable view, change “values” in the “group” rows. Then, typing “1” in the “value” and “control” in the “label”. The third is insert the post test scores of

experiment group and control group in the “data view”. The forth is click “analyze”, “compare means”, and “Independent Samples t-Test”. The fifth is typing “Nilai” in the “test variable”, and “Group” in the “group variable”. Change the define groups, group 1 with 1 and group 2 with 2. And then click continue and oke.