#### **CHAPTER III**

#### **RESEARCH METHODOLOGY**

In this chapter, the researcher would like to give the description the research method which used to conduct the study. This chapter consists of research design, population and sample, research instrument and procedure of collecting data.

#### 3.1 Research Design

Planning to collect the data until the researcher can be done by matching and economically with objectivities of study it can be called by research design. From thus, research design is planning to analyze and collect the data and matching with research objectives.

Here this study using experimental design, the purpose of experimental research here is to find out the result of speaking ability which implemented by VII grade students using Role Play technique and tries to find whether there is any effect relation or not. In this research, researcher use quasi experimental because the school does not allow to use true experiment in SMP Muhammadiyah 11 Sukodadi. It is because the classification of the class in SMP Muhammadiyah 11 Sukodadi had been determine by the school. It means that researcher cannot change the classification of the group. So, researcher does not have access to full control the target and the last time for this study is limited.

There are two variable in this study. The first is Role Play technique and the second is speaking ability. The dependent variable is speaking ability and independent variable is Role Play technique. There will be two groups in this study. They are experimental group and control group. Experimental group will thought by using Role Play technique and control group will taught by drilling technique. This study will use performance test to collect the data. The data will be gotten from the students which is VII grade junior high school of Muhammadiyah 11 Sukoadi. The test will be given after treatment. The researcher uses experimental research design because it is appropriate with the purpose of this study which is to investigate how to Role Play implemented by VII grade students can affect speaking skill. There are two procedures to get the result of this study. First of all has some considerations look how to test will be held and how many questions that will be given to the students. The second is of all is processing data.

In this study, design chart can be seen in figure below:

Group	Pre-test	Treatment	Post-test
Experimental	$\checkmark$	$\checkmark$	
Control		-	

#### Table 3.1 pre-test, post-test quasi experimental design

Where:

 $\sqrt{}$ : with treatment of using Role Play technique

- : with treatment of using drilling technique

In the replication both of groups are given pre-test. Then VII – A class uses Role Play technique in their learning process and VII – B class uses Drilling technique in their learning process. For post-test both of groups are given also.

# 3.2 Population and Sample

### 3.2.1 Population

In this research, researcher choose the students SMP Muhammadiyah 11 Sukodadi in first academic year 2019/2020. The reason why researcher takes this school because the school has good facilities so in can support the use of this strategy, the teacher never use Role Play technique but usually use LKS when teaching English so researcher try to implement this strategy in teaching learning process. That was known by interviewed with English teacher in SMP Muhammadiyah 11 Sukodadi. The population of this research is VII grade students in SMP Muhammadiyah 11 Sukodadi 2019/2020 which consist of 40 students.

# 3.2.2 Sample

The researcher used quasi-experimental research design. Sampel is the part of the population that you really want to survey. mcmMillan and Schumacher (1984:32), state that the sample is a group of subjects had chosen from the population. The researcher uses population sampling technique because VII grade students only consist of 2 classes and the number of population used as sample, so the researcher takes population sampling technique. For the sample, researcher takes two classes which have same average score, that consist of VII – A (experimental group) who were taught by using Role Play with 20 students and VII – B (control group) who were taught by using Drilling with 20 students.

#### 3.3 Data Collecting`

In this study, researcher collects data from speaking test by conducting a test before treatment to experimental group and control group. It used to know the influence of Role Play technique in their speaking skill in VII grade of junior high school. The first data is pre-test that is given for students SMP Muhammadiyah 11 Sukodadi. It is know the ability in express the expression before the students get the treatments. After pre-test the researcher gives treatment for four times. Then, the researcher gives post-test to know the influence Role Play technique in their speaking ability.

After that, the researcher collets the data from students pre-test and post-test score. Then, the researcher begins to analyze the data of pre-test and post-test by using general linier model and the data post-test by using independent sample t-test in SPSS 16.0 program.

# 3.3.1 Research Instrument

To reach the goal of study, the writer had to construct the test which suitable. He had to choose the type of test and arrangement of the test. In this study, the writer used the test as instrument to collect data. In this study, the test will be given after the instruction explain the materials. There are two tests that used by the researcher. Those are pre-test and post-test. Pre-test and post-test will be conducted to the junior high school students. It is to find out whether they make progress in the speaking ability or not.

# 3.3.1.1 Test

The most important point activity in the research was to collect the data needed. Researcher instrument which is used by researcher to collect the data. Instrument could create whether the researcher successful or not. There are two test which used by the writer, these are pre-test and post-test. Pre-test and posttest is given to experimental group and control group to know students speaking ability influence or not.

a. Pre-test

Before giving treatment the writer will be giving pre-test. The data will be collected by pre-test in both of classes. Pre-test will be held to know the students speaking ability after and before giving treatment. b. Post-test

Post-test was conducted after giving treatment. For the experimental group, Role Play was used to improve their speaking ability. For control group use drilling technique in their activity. Post-test was to measure that Students Ability after giving treatment.

#### 3.3.1.2 Validity

Researcher will test the validity of items in pre-test and post-test to know the test is valid or not. The researcher used content validity because researcher wants to measure the items for students especially on speaking test. Here, the researcher also conducts a test to measure the capability of students speaking skill. To test content validity, the writer compared the content of instrument the subject based on English curriculum and syllabus. If the content reflects the syllabus and curriculum guide, the tests can be said have content validity. After comparing all items, researcher can conduct pre-test and posttest.

## 3.3.1.3 Reliability

Reliability is a necessary characteristics of any good test, for it is valid at all, a test must first be reliable as a measuring instrument (Heaton, 1988). In this study, the researcher adopted rubric from Penny Mcky (2013) to use scoring rubric. So, this reliability was measuring the rubric was valid or not in this researcher. The researcher did try out in the VII – A and VII – B. based on the result of trying out for pre-test and post-test, researcher found that both of pretest and post-test were reliable. It was shown from the result of test items reliability in scoring rubric after try out. The all aspects in scoring rubric had covered criteria of students speaking skills.

# 3.3.2 Scoring Guide

This study use scoring technique based on the standard criteria of speaking performance. To measure the test for students speaking skill, researcher uses Comprehension, fluency, vocabulary, pronunciation and grammar. The researcher scores all five components of speaking skill whether in the pre-test and post-test experimental group and control group. For measuring the effect of using a Role Play in teaching speaking, the writer divides the score into five components based on Penny McKay. Hereby, the instrument used to get the data needed in the research followed:

		• Understand everyday conversation and normal classroom discussion without difficulty.	5	93-99
		• Understand nearly everything at normal speed. Although occasional repetition may be necessary.	4	83-92
	Comprehension	• Understand most of what is said at slower- than-normal speed with repetition.	3	73-82
		• Has great difficulty following what is said. Can comprehend only "social conversation" spoken slowly and with frequent repetition.	2	63-72
	// 3	• Cannot understand even simple conversation.	1	Below 62
	R	• Dialogue in everyday conversation and in classroom discussion is fluent and effortless approximating that of a native speaker	5	93-99
		• Dialogue in everyday communication and classroom discussion in generally fluent, with occasional lapses while the student's searches for the correct manner of expression.	4	83-92
	Fluency	• Dialogue in everyday communication and classroom discussion is frequently disrupted by the student's search for the correct manner of expression.	3	73-82
	$( \star$	<ul> <li>Usually hesitant; often forced into silence by language limitations.</li> </ul>	2	63-72
		• Dialogue is as halting and fragmentary as to make conversation virtually impossible.	1	Below 62
		• Use of Vocabulary and idioms approximates that of a native speaker.	5	93-99
		• Occasionally uses inappropriate terms or must rephrase ideas because of inadequate vocabulary.	4	83-92
	Vocabulary	• Frequently uses the wrong words conversation somewhat limited because of inadequate vocabulary.	3	73-82
		Misuse of words and very limited vocabulary make comprehension quite difficult.	2	63-72
		Vocabulary limitations so extreme as to make conversation virtually impossible	1	Below 62

		• Pronunciation and intonation approximates that a native speaker.	5	93-99
	Pronunciation	• Always intelligible, though one is conscious of a definite accent and occasional inappropriate intonation patterns.	4	83-92
		• Pronunciation problems necessitate concentration on the part of listener and occasionally lead to misunderstanding.	3	73-82
		• Very hard to understand because pronunciation problem, must frequently be asked to repeat in order to be understood.	2	63-72
		<ul> <li>Pronunciation problem so severe as to make speech virtually unintelligible.</li> </ul>	1	Below 62
		• Grammatical usage and word order approximate a native speaker's.	5	93-99
		• Occasionally make grammatical or word order errors which do not obscure meaning.	4	83-92
	R	• Makes frequent errors of grammar and word order which occasionally obscure meaning.	3	73-82
	Grammar	• Grammar and word order error make comprehension difficult. Must often rephrase or restrict what is said to basic patterns.	2	63-72
	Z	• Errors in grammar and word order as severe as to make speech virtually unintelligible.	1	Below 62

# Total Score = <u>Score</u> x 100

25

# 3.3.3 Procedure of Collecting Data

In collecting data, researcher does some procedures. The first is ask permission to school where researcher conduct the study. The second step is researcher makes pre-test and post-test item. Then, researcher makes a subject into two groups as experimental group and control group. Next, the researcher gives treatment to experimental group using Role Play technique and control group does not Role Play technique. After that, researcher gives post-test to experimental group and control group. The last, analyzing the data from pre-test and post-test by using SPSS 16.0 program. For pre-test, the researcher used Levene'e test of Homogenity test, used of Independent t-Test to find out the hypothesis testing.

No	Meeting	Activities
1.	First meeting	Giving pre-test for experimental group and control group
2.	Second meeting	Giving first treatment
3.	Third meeting	Giving second treatment
4.	Fourth meeting	Giving third treatment
5.	Fifth meeting	Giving fourth treatment
6.	Sixth meeting	Giving post-test for experimental group and control group

In this study, researcher conduct four meeting to apply Role Play technique in speaking ability at SMP Muhammadiyah 11 Sukodadi.

# 3.4 Data Analysis

After collecting the data, the researcher will analyze the data. The researcher analyzes the data by using t-test from SPSS program especially by using Independent sample t-test. The t-test for independent sample is carried out to determine whether there is any significant between experimental group and control group.

The assumption for Independent t-test where: (1) Independence: Observation within each sample must be independent, (2) Normal Distribution: The two population must be normally distributed. In this study include in parametric research which divided into two kinds of data; ratio and interval. The data of this study is ratio because zero has value or absolute zero. If the data are ratio, the data is definite homogeny and normal distribution. Last, (3) Homogeneity of Variance: The two populations must have equal variance.

# 3.4.1 Normal Distribution

Normal distribution test have aimed to find out the distribution of pre-test score in two groups are normally distributed. Besides, the result of the normality distribution also used to find out the hypothesis which had been determined can be accepted. To analyze the normal distribution, the researcher uses komogrov smirnov sample test in SPSS version 16.0.

The first step in calculating normality distribution test is state the hypothesis H0: the score of experimental and control group are normality distributed. The second step is tried to compare the asymp sign (probability) with the level of significance for testing the hypothesis. If the asymp more than the level of significance (0, 05) the null hypothesis is accepted and the score normally

distributed. On the contrary, if the asymp less than the level of significance (0, 05) the null hypothesis is rejected. The procedure of analyze is press menu, choose nonparametric test then chose 1= smaple k-s clict exact next monte carlo 99% and the last click OK.

#### 3.4.2 Homogeneity Test of Variance

Homogeneity test of variance uses to know whether two groups are in the same position. For homogeneity test, the researcher uses Levene's test of homogeneity in SPSS 16.0 version because Levene's test of the homogeneity uses to assess the equality of the variance for a variable calculates for two or more groups. So, in this study uses Levene's test. The test of Levene's test or P defined as follow:

$$W = \frac{(N-K)}{(k-1) \sum_{i}^{k} = 1 \sum_{j}^{ni} \sum_{i}^{ni} \sum_{i}^{ni} \sum_{j}^{ni} \sum_{i}^{ni} \sum_{i}^{ni$$

Where:

W: The result of the test

K: The number of different groups to which the sampled cases belong

N: The total number of cases in all groups

Ni: The number of cases in the  $i^{th}$  group

Yak: The value of the measured variable for the  $j^{th}$  case from the  $i^{th}$  group

# $Zij = |Y_{ij}-\gamma_{i}|, \gamma i \text{ is mean of } i - \text{th group}$ $Zij = |Y_{ij}-\gamma_{i}|, \gamma i \text{ is median of } i - \text{th group}$

The significance of W is tested against F ( $\alpha$ , K-1, N-K) where F is a quintile of F test distribution, with K-1 and N-K it is degree of freedom and  $\alpha$  is the chosen level of significance (usually 0,05 or 0,01)

The procedures in analyzing the homogeneity by using SPSS version 16.0 areas follow: first, make two columns. The first column is a group and the second column is a score, after the pre-test and post-test data are input, then click Analyze then Compare Means then Independent Sample T-test, input the score into Test Variable and the grouping variable, then click define groups to determine group 1 (post-test) and group 2 (pre-test) click continue and the last click OK.

#### 3.4.3 Hypothesis Testing

Independent t-test uses to find out the significant difference of using Role Play technique implemented by VII grade to improve speaking ability between experimental group and control group. The steps of t-test calculating are: first, the tests the hypothesis of the research and the setting  $\alpha$  (alpha) level at 0,05 (twotailed test). The hypothesis in this research could be formulated as follow:

Null hypothesis is  $\mu_1 - \mu_2 = 0$  ( $\mu_1 = \mu_2$ )

Alternative hypothesis is  $\mu_1 - \mu_2 = 0$  ( $\mu_1 \neq \mu_2$ )

 $H_0$ : There is no significant effect on fluency students speaking skill taught by using role play at VII grade students of SMP Muhammadiyah 11 Sukodadi.

 $H_1$  : There is significant effect on fluency students speaking skill taught by using role play at VII grade students of SMP Muhammadiyah 11 Sukodadi.

The second step is finding t-value using Independent – Sample T-test and comparing the probability with the level of significance for testing the hypothesis. After the score compute in SPSS 16.00 version, then see the output of Independent – Sample T-test and interpret the output that if sig. (2-tailed) >  $\alpha$  (0,005), the researcher should accept the H0, but if sig. (2-tailed) <  $\alpha$  (0,005), the researcher can be rejected the H0, it mean H1 is accepted.

T-test calculates to find out the comparison of two means between pre-test and post-test score of experimental group and control group. In analyzing the data, the researcher uses independent T-test formula. The formula for calculating T-test is:

$$\mathbf{t} = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{Sx_1 - x_2}$$

#### Where :

T : is t value

 $x_1$  : is average group 1

 $x_2$  : is average group 2

S : is standard error of the two groups

 $\mu_1 - \mu_2$ : Is always defaults to 0

$$Sx_{1-}x_{2} = \frac{\sqrt{S^{2}\text{pooled} + S^{2}\text{pooled}}}{n_{1+}n_{2}}$$

Where:

$Sx_1 - x_2$	: is standard error of two groups
S <sup>2</sup> pooled	: is variants of the two groups
$n_1$	: is Number of sample group 1
<i>n</i> <sub>2</sub>	: is Number of sample group 2

Pooled variance: the average of two sample variances, allowing the large sample to weight more heavily.

Formula:

Estimated standard error of the difference

or of the difference  

$$Sx_1 - x_2 = \frac{\sqrt{(SS_1 + SS_2)(1+1)}}{(n_{1+} n_2)(n_{1+} n_2)}$$

In calculating t-test, the researcher uses SPSS 16.00 version. The first steps, input the data of post-test in SPSS program between experimental group and control group, then click Analyse then Compare Mean then Independent Sample T-test. In Independent Sample T-test, input the score variable into Test Variable column, and group variable Grouping column, then clicks Define group, choose group 1 (for experimental) and group 2 (for control), then click OK.