CHAPTER III

RESEARCH METHODOLOGY

This chapter presents about research design, population and sample, research instrument, data collection procedures, data analysis

3.1 Research Design

This research was quantitative and used the quasi-experimental design. This research is appropriate using the quasi-experimental design because the researcher could not able to random the class and the teacher does not allow to random the class. This researcher has one independent variables that is using telegram and one dependent variable that is learner's listening skill. In this research, there are 2 groups which are one experimental groups and one control group. The experimental group receive a pre-test, treatment using offline learning through telegram as media of exercise and also post test and with video listening [with telegram]. The control group receive a pre-test, treatment using online learning through telegram as a media of exercise and also post test with video listening [with non telegram].

3.2 Population and Sample

The population for this research is the whole of the eleven grade of senior high school Semen Gresik. There were 5 classes consist of X1, X2, X3, X4, X5. Each classes consist 20 of students. The students' age range between 16-17 years old. The sample will take by purposive random sampling. The researcher does not random the class but the researcher looking for the class which has an equal ability and good sampling distribution between high achievement and low achievement because the class should be balance. The

researcher could see their score and seeing the number of students that are belongs to high achievement, medium achievement and low achievement from their teacher. So, the researcher would know the students' ability which is not really different. The researcher decides to choose X3 for experimental group, and X5 for control group.

3.3 Research Intruments

Instrument was the tool that used for collecting the data. In this research the researcher use test. There are pre-test and post-test.The test is multiple choice and consists of 20 question. The question for pre-test and post-test cover the same topic "meeting new people". A correct answer would get 5 points so, the total score is 100. But incorrect answer would get no point. For preparing the pre-test and post-test the researcher make 20 question.

Then, the researcher used validity to measure the test whether it was valid or not. There would be tryout for checking validity and reliability of the test. The tryout would be conducted in other class X3 and X5 who has the equal ability and saw the number of students that were belongs to high achievement, medium achievement and low achievement from their teacher. The test was adapt from learningenglish.british council.org There were 2 validity, the first was content validity in order to check test with syllabus, basic competence or the test could be check by the teacher. The second one was construct validity, the test would be try out to other class with the equal ability in order to check whether there was question which too difficult or too easy. For the result would be count using validity test and it would know which items are valid and invalid. If there was invalid item, it should be changed. So that's

why, the researcher prepared the items more than 20. Not only the validity, but also there was reliability. The reliability is use to measure the test reliable or not. In order to know the criteria of reliability, the researcher used Pearson's Interpretation of Correlation Coefficient.

The test validity

$$rxy = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{\left[N.\sum x^2 - (\sum x)^2\right]\left[N\sum y^2 - (\sum y)^2\right]}}$$

Note:

N = number of Student

tsx = number of test items

y = number of Score

xy = coefficient correlation between x and y

$\sum$ = total number

The test reliability

$$r_{11} = \frac{2r_{1/21/2}}{1 + r_{1/21/2}}$$

r11 = Coefficient

r1/21/2 = Score correlation

Pearson's Interpretation of Correlation Coefficient

Scale	Level of Reliability
0.00 – 0.20	Not Reliable
0.20 – 0.40	Less Reliable
0.40 – 0.60	Reliable Enough
0.60 – 0.80	Reliable
0.80 – 1.00	Very Reliable

3.4 Data Collection Procedure

First meeting, the researcher give a pre-test for the one experimental groups and one control group to know the basic knowledge of the students before the treatment. A pre and post-test distribute via telegram form by the researcher. For doing a pre-test and a post-test the researcher ask students to open telegram that the researcher has prepare. In order to check them that they do a pre-test and a post-test by their self. Before do the test, the researcher would give instruction to the students. The students took 40 minutes to answer 20 questions for a pre-test and a post-test. Second meeting, the researcher give material about expression. Third meeting the research ask the students to practice in front of the class "asking each other about expression". The last meeting, the researcher give a post-test for experimental group and control group. The purpose of giving a post-test is to know the student's understanding after the treatment given. The students has 30 minutes for answering the pos-test.

Procedure in experimental group	Procedure in control group
Before Class 1. Teacher give material about expression, so students can learn it first **During Class** 1. Teacher start the class 2. Teacher let the students ask about the material and teacher try to answer by giving explanation 3. Teacher give students some exercise (listening with telegram) and answer it	**Before Class** 2. Teacher give material about expression, so students can learn it first **During Class** 1. Teacher start the class 2. Teacher let the students ask about the material and teacher try to answer by giving explanation 3. Teacher give students some exercise (listening with non telegram) and answer it

After that, the researcher and students can discuss the answer together. So, to make them more understand about expression. The students could ask about the material that they had not understood yet via telegram. The researcher asked them to make 1 sentence about expression.

3.5 Data Analyis

The researcher used quantitive data analysis. Quantitive data are analyze by use statistical methods. The researcher calculate the data which is obtain from the research. After get the data from a pre-test and post-test of 2 group which are 1 experimental groups and control groups, the researcher compare the result of 2 groups to know the mean score of each classes. The technique us to know whether the are significant differences of student's listening skill using telegram. So, the researcher decide to use T-test for analyzing the data.

1. Descriptive Analysis

It is use in analyzing the data by describing the data that had been got from 2 groups. We could analyze mean, median, standard deviation, minimum, maximum, kurtosis and skewness using SPSS program version IBM Statistics 20.

2. T-test

It is use to know whether there is any different before and after the treatment.

$$t_o = \frac{M1 - M2}{SE_{M1M2}}$$

M1 : Mean of difference of experiment class

M2 : Mean of difference of control class

SE_{M1} : Standard Error of experiment class

SE_{M2} : Standard Error of control class

The procedure of the calculation as follows :

Variable X : Teaching listening (with sub title) through telegram application

Variable Y : Teaching listening (no sub title) through telegram application

1. Determine Mean of variable X

$$\mathbf{M_1} = \frac{\sum x}{\mathbf{N_1}}$$

2. Determine Mean of variable Y

$$\mathbf{M_2} = \frac{\sum x}{\mathbf{N_2}}$$

3. Determine Standard Deviation score of variable X

$$SD_1 = \frac{\sqrt{\sum X^2}}{\sqrt{N_1}}$$

4. Determine Standard Deviation score of variable Y

$$SD_2 = \frac{\sqrt{\sum Y^2}}{\sqrt{N_2}}$$

5. Determine Standard error of mean variable X

$$SE_{M1} = \frac{SD_1}{\sqrt{N_1 - 1}}$$

6. Determine Standard error of mean variable Y

$$SE_{M2} = \frac{SD_2}{\sqrt{N_2 - 1}}$$

7. Determine Standard error of difference mean of variable X and Y

$$SE_{M1M2} = \sqrt{SE_{M1}{}^2 + SE_{M2}{}^2}$$

8. Determine t_o

$$t_o = \frac{M1 - M2}{SE_{M1M2}}$$