CHAPTER III

RESEARCH METHODOLOGY

3.1 The Research Design

The purpose of this research is to find out the effectiveness of making short film for students' speaking ability. This research can be called the experimental research. Experimental design is the blueprint of the procedures that enable the researcher to test hypotheses by reaching valid conclusions about relationships between independent and dependent variables (John and James 2006:177). Experimental design has 3 kinds; they are pre-experimental design, true experimental design, and quasi experimental design. This research is using snowball sampling to classify between experimental group and control group. This research uses true experimental design as the design. The true experimental design uses 3 types of design; they are the post-test only equivalent – group design, the pre-test – post-test equivalent - group design and the solomon four - group design. One by one has the different utility for research. This research uses post-test only design. Myers (2006) said that the aim of using post-test only design is to know an impact of treatment with comparison of samples after conducted treatment.

The researcher applied quantitative strategies for this research. According to Creswell (2012:140), the process of collecting quantitative data consists of more than simply collecting data. The researcher will get the data after doing research process and it is end in post-test. The scores are taken after students conducting making short film in speaking.

3.2 Place and time of the study

a. Time of the research

The researcher held the research from 21 April – 28 may 2015. This research is experiment by implementation of making short film in teaching speaking. It gave one week for process to making short film.

b. Location of the research

The researcher did the research at the second grade of SMP Muhammadiyah 4 Gadung which was located on jl. Gadung no III/7 Wonokromo Surabaya.

3.3 Population and Sampling

3.3.1 Population

According to Suharsimi Arikunto (2006:108), population is totality subjects of the research. The population of this research is the students of eighth grade of SMP Muhammadiyah 4 Gadung Surabaya in the year of 2015. The totality of the eight graders is 88 from three classes, A, B, C.

3.3.2 Sampling

Based on the populations above, this research was used snowball sampling. That method includes Nonprobability Samples. According to John and James (2006:19) “Snowball sampling is used to find subjects of interest from those who are most likely to be able to identify them”. That is just rely on a few or someone who more understand about the capability of population for choose that appropriate to use become sample for this research. It means of few there is

English teacher of SMP Muhammadiyah 4 Gadung. This research needs two classes for doing this research. Two classes are as experimental group and as controlled group. After the researcher applied that method, the suggestion from three classes A, B and C are A and C class. C class as Experimental group and A class as Controlled group. The reason of the teacher chooses both classes because the students are more interesting in learning English than the students in B class. This research design used comparing group to analize between control and the experimental group from post-test only. The aim of this research is to know how the comparison result between control and experimental class of post-test and different treatment.

According to John and James (2006:177) In discussing experimental designs, the researcher followed Campbell and Stanley's symbol system:

R : subjects of groups or treatments

X : exposure of a group to an experimental (treatment) variable

C : exposure of a group to the control or place be condition

O : observation or test administered

The Posttest only

Group	Treatment	Posttest
R	X	O
R	C	O

This design is appropriate for this research because it uses group comparison design in that experimental and control group by random assignment. The setting of analyzing are (R) group class, (X) treatment group, (C) control group , (O) post-test only.

3.4 Variables of the research

Related with this research, it was found out two variables. There are independent variable and dependent variable. Related with the topic of this research, the researcher wants to clarify about teaching speaking with new strategy for students' speaking ability. The researcher wants the students makes a short film. The researcher want to know how the effectiveness of that strategy for the students' speaking ability. The dependent variable is students' speaking ability while independent variable is short film.

3.5 Instrumentation

The students' scores by using the rating scores of oral performance test. It is to know the effectiveness of making short film for students' speaking ability. In the scores, the researcher has five categories, which are the scores of pronunciation, grammar, vocabulary, fluency and comprehension. All of them have a criterias and five scales in rating of scores. The categories of scoring are adapted from Douglas Brown (1977: 172-173). It is called rubric scores and the researcher uses that rubric in post-test. The post-test will give after the researcher did different treatment in control and experimental class. The post-test of the both class are same the test is oral performance in class. For treatment of the both class are control group is the researcher ask making script conversation and

experimental group is the researcher ask the students making script conversation and apply it in short film. The question of the test for control class is “Please makes a scripts conversation with a free interesting topic and theme like your daily activities and please practice that conversation in front of your class with your group!!”. The instruction of the test for experimental class is “Please makes a scripts conversation with topic and theme that interesting it is become short film and please practice that conversation in front of your class with your group”!!

3.6 The Technique of Collecting data

The data of this research use post-test only design. The researcher gives post-test to the students after the researcher explained them the instruction for making a short film. The material of this test that asked to the students must make a script conversation and apply it in short film. The researcher measures the scores from five criterias; they are pronunciation, grammar, vocabulary, fluency and comprehension. According to John and James about post-test only design (2006:179) At the conclusion of the experimental period the difference between the mean test scores of the experimental and control groups is subjected to a test of statistical significance, usually at test or an analysis of variance.

3.6 Procedures of Collecting data

The procedure of collecting the data is steps how the researcher does this research. The procedure in this research has three steps, they are: pre-research, research process, research closing.

Table 1

The procedures of the research

Control Class	Experimental Class
Pre-research	
a. Determining the school and the class for the research. b. Dividing a group. c. Determining material about dialy conversation and the topic to learn the activities of the research. d. Arranging and making lesson plan during learning the activities of the research . e. Determining the instrument of the research f. Analyzing the instrument of the research	a. Determining the school and the class for the research. b. Dividing a group. c. Determining material about daily conversation and the topic to learn the activities of the research. d. Arranging and making lesson plan during learning the activities of the research . e. Determining the instrument of the research f. Analyzing the instrument of the research
Research process	
a. Introducing and explaining about material whether that will use in teaching and learning activities of the research. b. The researcher ask the students to	a. Introducing and explaining about material whether that will use in teaching and learning activities of the research. b. The researcher ask the students to

make a script conversation all of group. c. The students practice their sript conversation in class	make a script conversation all of group. c. The student practice their conversation in class d. The researcher ask the students apply their script conversation in short film.(min 5 minutes) e. Editing and finishing short film.
Research closing	
a. Giving post-test to measure control class (oral performance in class) b. The researcher analyzes the data of post-test c. The researcher will count the data and compare between control and experimental class to know the effectiveness of this method.	a. Giving post-test to measure experimental class (oral performance in class) b. The researcher analyzes the data of post-test between control and experimental class. c. The researcher will count the data and compare between control and experimental class to know the effectiveness of this method.

3.7 Technique of Data Analysis

3.7.1. Validity and Reliability

Validity and realibility test are held before post-test given. Validity and reliability are important test than others test, because it is related with instrument that used in post-test. The test is try out, in this test the researcher gives an instruction to the students to make a script conversation and practice in class as oral performance test. The aims of try out was conducted are the first determine whether instrument of the test are valid and reliable or not. Second, to determine whether instrument of the test are appropriate and suitable for level of students' ability or not. According to John and James (2006:288) "reliability and validity are essential to the effectiveness of any data-gathering procedure or instrument".

a. Validity

Sugiyono (2013:121) said that valid instruments is the measurement that used to get the data. Valid means the instruments are used to measure what should be measured. According to John and James (2006:289) "Validity is that quality of a data-gathering instrument or procedure that enables it to measure what it is supposed to measure". Therefore, in using valid instruments in this research, the researcher expected the valid result. The data of validity was measured from the valid instruments. To make the instruments became valid in making short film for developing students' speaking ability in eighth graders, the researcher used standard competency and basic competency in Indonesia curriculum that was related with those instruments.

b. Reliability

After adapt the instruments with standard competency and basic competency of curriculum, the researcher must measure the reliability of the instrument. Reliability need to measure the instument if it reliable and appropriate to use. Brown (2004:20) stated that a reliable test is consistent and dependeble. It means that the result of the measurement should be similar when this test used in another occasion and it can be proved that the result is similar. In the other statment comes from John and James (2006:289), they said that reliability is the degree of consistency that the instrument or procedure demonstrates: Whatever it is measuring, it does so consistently.

The researcher using interreter reliability design as the assessment did by two observers they are the teacher as rater one and the researcher as the rater two to give the try out scores. So, it is conducted with two different observer. According to Creswell (2012:161) "The observers record their scores of the behavior and then compare scores to see if their scores are similar or different".

According to Bartz (1976:195), pearson product-moment correlation is common uses in measuring reliability. The formula is as follows:

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

r_{XY} = correlations coeffesient

$\sum XY$ = total of result times score X and Y

$\sum X$ = total score X (total score from the researcher as the teacher as rater 1)

$\sum Y$ = total score Y (total score from another researcher whom mastering english as rater 2)

$\sum X^2$ = total quadrate score X

$\sum Y^2$ = total quadrate score Y

N = number of subjects

From that formula, the level of reliability is determined based on the criteria by Bartz (1976:205) as seen in the table below:

Criteria	Description
0.80 < r	The reliability is very high
0.60 ≤ r ≤ 0.80	The reliability is strong
0.40 ≤ r ≤ 0.60	The reliability is moderate
0.20 ≤ r ≤ 0.40	The reliability is low
r< 0.20	The reliability is very low

Table 2

The result of Analyzing Reliability

	X Rater 1	Y Rater2
Mean	64.9	61.8
Standard Deviation (s)	9.2	11.4
Pearson product moment (r)	0.92	
Explanation	The reliability is very high	

The researcher calculate the data to get the reliability uses Ms Excel and manualy. The calculation of result it can be seen at appendix.

3.7.2. Test of normalitas distribution

This test used to know normality of the data of two samples. They are controlled and experimental class. The test used to know the normality of hypothesis.

The test used software SPSS version 16.0 for windows. A pair of the hypotheses that was tested below:

H_0 = sample of data is normal distribution

H_1 = sample of data is not normal distribution

The criteria of the test based on *p-value* as below*:*

H_0 push away, if $p_{(value)} < \alpha$, so there are influence

H_1 Push away, if $p_{(value)} > \alpha$, so there is no influence

3.7.3. Test of varians homogenity

The test homogenity that was used have some variant in population to measure the similarity of it. The formulation used biggest variant than smallest variant homogenity. The test used score of speaking in daily speaking class of students with the topic “descriptive place”. That score is from English teacher of eight grade of SMP Muhammadiyah 4 gadung. This test is used SPSS software 16.0 for windows.

$H_0 : \sigma_1^2 = \sigma_2^2$ there is no differences variant between control and experimental class.

$H_1 : \sigma_1^2 \neq \sigma_2^2$ there is difference bertween control and experimental class.

The criteria make decision : H_0 accept, if $F_{count} < F_{table}$

$$F_{count} = \frac{S_1^2}{S_2^2}$$

Explanation : S_1^2 =biggest varians

S_2^2 =smallest varians

dk_1 = dk of denominator

dk_2 = dk of numerator

varians formula by Sudjana (2005:95) :

$$S_1^2 = \frac{n\sum f_1.x_i^2 - (\sum f_i.x_i)^2}{n(n-1)}$$

3.7.4. T-test

This test is used to know how the differences scores of each items of test between experimental class and controlled class. The definition of hypothesis which will be tested as below:

$H_0 : \mu_1 = \mu_2$ or $H_0 : \mu_1 - \mu_2 = 0$, (the average of post-test between control and experimental class is same).

$H_0 : \mu_1 \neq \mu_2$ or $H_0 : \mu_1 - \mu_2 \neq 0$, (the average of post-test between control and experimental class is different).

H_0 accept for $t_{count} < t_{table}$

$$T_{test} = \frac{\overline{X}_1 - \overline{X}_2}{S_{gab}\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}, = t$$

Formula Sgab :

$$S_{gab} = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_1 - 1)S_2^2}{(n_1 + n_2) - 2}}$$

(formula by Sugiyono 2008:181)

$\overline{X}_1$ = average pre-test of experimental group

$\overline{X}_2$ = average pre-test of controlled group

n_1 = numbers of experiment group

n_2 = numbers of of controlled group

Sgab = composite of variant

3.7.5 Eta Square

This test is used to know the effect size of making short film whether it is effective or not for developing the students' speaking ability. The researcher counted it manualy and the data is from independent t-test. According to Pallant (2010:243) there are three effect scales of this calculation, 0.01 is small effect, 0.06 is moderate effect, and more that 0.14 is large effect. The formula of eta square as seen below:

$$\text{eta square} = \frac{t^2}{t^2+(N1+N2-2)}$$

t^2 = t -value

N^1 = numbers of experimental group

N^2 = numbers of controlled group