III. RESEARCH METHODS

This chapter discussed the design of this research and how to collect the data from samples. The researcher presented the data collecting technique and the procedures of this research. The researcher also gave the scoring system and how the data were analyzed.

3.1. Research Design

The researcher conducted comparative study with control group pretest posttest design in this research that belongs to the true experimental design. The researcher used the design because the researcher wanted to compare both of two Media (animation movie and dialogue video) which one of them was more effective in increasing students' listening achievement.

Since the researcher used through experimental design, there were two classes – that was experimental one and experimental two classes. The researcher gave three treatments to each class. The students of the experimental class were taught about asking for information, give an opinion, give the direction, and certainty through animation movie. On the other hand, the students of experimental class two were taught through dialogue video about finding the conclusion of those animation movie. Both classes received the same pretest posttest. Pretest was administered to determine the students' basic ability within both groups in order

to ensure that their ability was equal before treatments. Then, after giving the treatments, the researcher managed posttest to both groups.

According to Hatch and Farhady (1982:22), the researcher design was presented as follows:

G1 : T1 X1 T2

G2 : T1 X2 T2

Symbol		Meaning
G_1	=	the experimental class one
G_2	=	the experimental class two
T_1	=	the pretest
T_2	=	the posttest
X_1	=	treatment by the researcher (Teaching listening through animation movie)
X_2	=	treatment by the researcher (Teaching listening through dialogue video)

3.2. Variables

In this research, there were three variables that were studied:

1.The first independent variable was animation movie (X_1)

2.The second independent variable was dialogue video (X_2)

3.The dependent variable was listening achievement (Y)

3.3. Population and Sample

The population of the research was the eleventh grade students of SMAN 12 Bandar Lampung. There were 21 classes in this school and each year had 7 classes. The total number of the population was 714 students, consisting of 397 female students and 344 male students. In this research, the researcher chose the eleventh grade students in the second semester of academic year 2013/2014 that were investigated. There were seven classes of the eleventh grade students, they were XI IPA 1, XI IPA 2, XI IPA 3, XI IPA 4, XI IPS 1, XI IPS 2, XI IPS 3 and each class consisted of 30 students. Their ages range around 16-17 years old.

Based on the population above, two classes were taken as the sample of this research, one as experimental class one, the class that was given the treatment by the researcher (teaching listening through animation movie), and second as experimental class two that was given the treatment by the researcher (teaching listening through dialogue video). Two classes were taken purposively to compare the listening achievement of two primary classes in second grade of SMAN 12 Bandar Lampung.

3.4 Data Collecting Techniques

The following steps were taken in collecting the data:

1. **Tests**

The test was divided into two parts: pre-test and post test. The researcher managed the pretest before giving the treatment in order to know the

students' basic listening achievement. There were 25 test items of multiple choices with five options of each item. One of the options was the correct answer and the rests were as distracters. The total score was 100 points, so if the students answer the whole questions correctly they got 100 point.

After conducting the treatments to each group, the researcher gave the posttest to both groups. The text type of the posttest was also about the listening achievement text. The items of the posttest were the same as the pretest that the items were analyzed. This test was given to know the students' listening achievement after they received the treatment.

2. Interview

Interview was utilized in order to find out students' problem during listening activity carried out through animation movie and dialogue video. The interview was done after the researcher conducted post test. 15 students which were the representative from both experimental classes were selected as the sample. There were three primary questions regarding the problem faced by students during listening practice. For each student, the interview took approximately 10 minutes.

3.5 Research Procedures

1. Determining the Population and Sample

The population of this research was the eleventh grade students of SMAN 12 Bandar Lampung. The samples of this research were two classes of whole.

2. Selecting and Determining the Materials

This research used the materials based on School Based Curriculum 2006 (KTSP) for the eleventh grade students.

3. Conducting Try Out

Before the test was given, firstly the researcher tried out the instrument. The test was given to other class that had the same ability to the experimental class. It was aimed to determine the quality of the test. The try out was administered for 35 items in 2 x 45 minutes. There were 35 items of multiple choices with five options and one of them was as the correct answer. The total score was 100 point, so if the students answered the whole questions correctly they got 100 point.

There are several aspects that were measured in order to ensure the credibility of the data. Those aspects concerned the validity, reliability, level of difficulty and discrimination power of the test.

a. Validity of Test

The validity of the test was considered in this research. The researcher took content validity for this research. It was considered that the test should be valid and in line with listening theory and material.

There were four basic types of validity: content validity, criterion-related validity, face validity, and construct validity, (Hatch and Farhady, 1982:251). To determine the validity of the test, the researcher emphasized only on content validity.

Content validity was the extent to which a test measured a representative sample of the subject matter content. The focus of content validity was on ability of the sample and not simply on the appearance of the text. To assure the researcher of content validity of a test, the content of whatever the test measured must be carefully defined.

b. Reliability of the Test

Reliability referred to extend to which the test was consistent in its score and gave us an indication of how accurate the test score were. (Hatch and Farhady, 1982:244). The test should not be elastic in their measurement, if a student took a test at the beginning of the course and again at the end, any improvement in his score should be the result of the differences in his skill and not inaccuracies in the test. Reliability also meant the consistency with which a test measured the same thing all the time.

To measure coefficient of the reliability the first and second half group, the researcher used the following formula:

$$r_l = \frac{\sum XY}{\sqrt{\left[\sum X^2 \sum Y^2\right]}}$$

Notes:

r_l : The coefficient of reliability between first half and second half group

X : The total numbers of first half group

Y : total numbers of second half group

X^2 : The square of X

Y^2 : The square of Y

(Lado in Hughes, 1991:3)

Based on the computation of the instrument analysis, the coefficient of reliability of the test was 0,93. it meant that the instrument of the research was highly reliable.

c. Level of difficulty

Level of difficulty was generally expressed as the fraction (or percentage) of the students who answered the item correctly.

To see the level of difficulty, the researcher used the following formula:

$$D = \frac{U + L}{N}$$

Where:

LD	: level of difficulty
U + L	: the number of the students who answer correctly
N	: the total number of the students

The criteria were

< 0.30	=	difficult
0.30 – 0.70	=	average
> 0.70	=	easy

(Shohamy, 1985: 79)

d. Discrimination Power

A good test item should be able to differ between the good students and the poor students. To see the discrimination power, the researcher used the following formula:

$$DP = \frac{U - L}{n}$$

Where:

D : Discrimination Power

U : Upper half

L : Lower half

n : The total number of the students

(Shohamy, 1985: 81)

The criteria are:

0,00 – 0,19 : poor

0,20 – 0,39 : satisfactory

0,40 – 0,69 : good

0,70 – 1,00 : excellent

Notes:

1. If the value was positive, it had discrimination because a large number or more knowledgeable students than poor students got the item correct. If the value was zero, it meant no discrimination.
2. If the value was negative, it had negative discrimination because more low-level students than high level students got the item correct. In general, the higher discrimination index, the better, in the classroom situation most items should be higher than 0.20 indexes (Shohamy, 1985: 82).

4. Administering the pretest

This test had aim to know the students' basic listening achievement ability before they were given the treatments. It consisted of 25 items of multiple

choices and was conducted within 45 minutes. At least, if a student could answer all items correctly, s/he would get 100 points.

5. Conducting treatments

The researcher taught the students listening achievement used Dialogue video for the experimental class and Animation movie for the control class. The researcher gave three times of treatments in three meetings, which took 2 x 45 minutes in every meeting. The videos were taken from Youtube.

6. Administering the posttest

The researcher conducted the posttest to measure the students' ability in listening achievement after giving treatment. It consisted 25 items of multiple choices which took 45 minutes.

7. Conducting interview

Interview was the done after the researcher conducted the post test. It was administered during the class break. It took approximately 5 to 10 minutes for each student.

8. Analyzing the data (pretest and posttest)

In this step, the pretest and posttest results in experimental one and two were analyzed by using independent group t-test to compare the data of the two means scores (Hatch and Farhady. 1982: 108). In addition, the process of analysing the interview data was done through transcription, codification and classification.

3.6 Scoring System

In scoring the result of students' work, the researcher used Arikunto's formula (1997: 212). The researcher calculated the student's score of the pre-test and post-test by using this formula:

$$S = \frac{R - W}{n - 1}$$

Where :

S	: The score of the test
R	: The rights answer
W	: The wrong answer
n	: Number of option

3.7 Data Analysis

The researcher computed the students' score in order to find out the students' achievement text through Dialogue video and Animation movie using the following steps:

1. Scoring the pre-test and post-test.
2. Tabulating the results of the test and calculating the score of the pre-test and post-test.
3. Drawing conclusion from the tabulated results of the pre-test and post-test administered, that was by statistically analyzing the data using statistical computerization i.e. *Independent Groups T-Test of Statistical Package for Social Science (SPSS) version 15.0 for windows* to test whether the increase of students' gain was significant or not, in which

the significance was determined by $p < 0.05$. It was used as the data come from the two samples (Hatch and Farhady, 1982:111).

3.8 Treatment of the data

In order to determine whether the data were good or not, the data should met the criteria:

1. Normality test

This test was used to measure whether the data in two classes were normally distributed or not. The data was tested by One-sample Kolmogorov-Smirnov Formula (SPSS 15).

The criteria of normal distribution were:

The hypothesis was accepted if the result of the normality test was higher than 0.05 (sign > α). In this case, the researcher used level of significance of 0.05

2. Homogeneity test

This test was used to know whether the data of the posttest from the experimental class 1 and from the experimental class 2 were homogeneous or not. The data were tested by Independent Sample Test (SPSS 15). The criteria for the homogeneity of pre test were:

H_1: There was no significant difference in the level of ability (equal)

H_0: There was a significant difference in the level of ability (not equal)

The result of homogenity test demonstrated that the experimental one and two were somewhat unequal (See Appendix 18). However, since the research only focused on the gain from pre-test to post test in order to find out which media is more effective, the result of homogenity test was not considered.

3.9 Hypothesis Test

After collecting the data, the researcher recorded and analyzed the data in order to find out whether there was an increasing in students' ability in listening achievement or not after the treatment. The researcher used Independent Group T-test to know the level of significance of the treatment effect.

The formulation was:

$$t_{obs} = \frac{\overline{X}_e - \overline{X}_c}{S_{(\overline{X}_e - \overline{X}_c)}}$$

With:

$$S_{(\overline{X}_e - \overline{X}_c)} = \sqrt{\left(\frac{S_e}{\sqrt{n_1}}\right)^2 + \left(\frac{S_c}{\sqrt{n_2}}\right)^2}$$

$\overline{X}_e$: Mean from the difference pre-test and post-test of experimental class and control class

$\overline{X}_c$: Mean from the difference pre-test and post-test of experimental class and control class

S $(\overline{X}_e - \overline{X}_c)$: Standard error of differences between means

n : Subjects on sample

(Hatch and Farhady, 1982:111)

The criteria were:

If the t-ratio is higher than t-table H_1 was accepted

If the t-ratio is lower than t-table H_0 was accepted