CHAPTER III

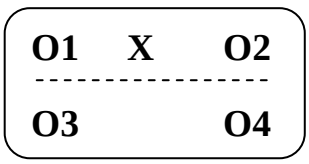
RESEARCH METHOD AND PROCEDURES

This chapter presents: (1) research design, (2) research variables, (3) operational definition, (4) population and samples, (5) techniques for collecting the data, (6) research instrument analysis, (7) research treatments, (8) instrument analysis, (9) techniques for analyzing the data, and (10) hypothesis testing.

3.1. Research Design

In this study, the writer used experimental research. According to Fraenkel, et.al. (2012), "Experimental research is one of the most powerful research methodology that researcher can use" (p. 265). The design selected for this study was quasi-experimental research design and quasi-experimental design did not include the use of random assignment. One of the quasi-experimental designs is Pretest-Posttest Non-equivalent Group Design. There are two groups, they are experimental and control group which both were given pretest and posttest. The experimental group was given treatments by using Animation Film, but the control group was not.

Cohen, Manion and Morisson (2007) defines the figure of Pretest-Posttest Groups Design as follows:



Where:

O1 : Pretest in experimental group

O3 : Pretest in control group

X : Treatment in experimental group using Animation Film

O2 : Posttest in experimental group

O4 : Posttest in control group

---- : Dashed line (Non random)

3.2. Research variables

Based on Fraenkel, et. al. (2012) "Variable is a concept or a noun that stands for variation within a class of objects, such as chair, weight, gender, color, size, shape, achievement, motivation" (p. 77). In this study there are two variable. They are independent variable and dependent variable. Creswell (2012) argues that "Dependent variable is an attribute or characteristic that is dependent on or influenced by the independent variable" (p. 115-116). An independent variable is an attribute or characteristic that influences or affects an outcome or dependent variable. The independent variable in this study was Animation Film and the dependent variable was the students' listening comprehension achievement.

3.3. Operational Definitions

The title of this study is "Using Animation Film to Improve Listening Comprehension Achievement of the Eleventh Grade Students of SMA N 11 Palembang". In order to avoid misunderstanding, several terms used were explained in this study as follows:

Animation Films are sets of moving pictures made by photographing a series of cartoon drawing or sketches, which carry massages or information. By interesting humorous elements animation films are intended the students attention. In this study, the films with 1-2 minutes was played every each meeting. Each of meeting have a different films depend on the materials.

Listening Comprehension Achievement is the outcome of teaching listening process from the materials that students have learned. It was measured by conducting the listening test in the form of multiple choice questions to know students' listening comprehension achievement.

3.4. Population and Sample

3.4.1. Population

According to Creswell (2012) "Population is a group of individuals who have the same characteristic, if someone wants to investigate all of the elements in a research area, his research is population research" (p. 142). The population of this study was the eleventh grade students of SMA N 11 Palembang consisting of eleven classes. The total of the students were 350 students. The distribution of whole population can be seen in the following table 1:

Table. 1. The population of the study

NO	CLASS	TOTAL STUDENTS
1	XI IPA 1	33
2	XI IPA 2	32
3	XI IPA 3	32
4	XI IPA 4	30
5	XI IPA 5	33

6	XI IPA 6	30
7	XI IPS 1	36
8	XI IPS 2	30
9	XI IPS 3	31
10	XI IPS 4	31
11	XI IPS 5	32
	TOTAL	**350**

(Source: SMA N 11 Palembang in academic year 2017/2018)

3.4.2. Sample

In accordance with Fraenkel, et. al. (2012), "A sample in a research study is the group on which information is obtained" (p. 91). In this research, purposive sampling technique was used in two science classes. They were chosen as a sample because of some consideration, such as: 1) they had equal level, 2) they had same difficulties in listening activity,3) they were taught by same teacher and 4) they had same total of students in the class. And then the sample was taken for each experimental and control groups.

To determine experimental group and control group, pretest was given to the students in class XI IPA 4 and XI IPA 6. After pretest, the result of class XI IPA 4 was higher than class XI IPA 6. Therefore, class XI IPA 4 was selected as the control group and class XI IPA 6 as the experimental group. The sample is show in the following table 2:

Table. 2. The sample of the study

NO	GROUP CLASS	MALE	FEMALE	TOTAL
1	XI IPA 4 (Control Group)	10	20	30
2	XI IPA 6 (Experimental group)	12	18	30
	TOTAL			**60**

3.5. Data Collection

3.5.1. Test

In collecting the data, listening comprehension test was used with the form of multiple choices which cover four options, namely (a,b,c and d). There were two tests (pre-test and post-test) that were given to the sample of this study. This listening comprehension test was developed from two books. They were: *Pathway to English for SMA/MA Grade XI (General Program)* and *Pathway to English for SMA/MA Grade XI Kurikulum 2013 Program Peminatan,* written by Theresia Sudarwati and Eudia Grace, and published by Erlangga based on 2013 Curriculum with audio CD. In this study, listening comprehension test was used twice, for pre-test and post-test. The test items in pretest were same as those of posttest because the purpose of the test was to measure students' listening comprehension achievement by using animation film before and after the treatment.

Before the test was given to the sample, the test had been tried out to the one class of eleventh graders of SMA N 11 Palembang. The class was XI IPA 1 (non-sample class), because it had similar characteristics to the sample. After doing the try out test, the validity and reliability of test items were analyzed before giving to the sample. After the test was valid and also consistent as reliable test, the final test was produced. The final test was used in pretest and posttest. The pretest and posttest were explained as follows:

a. Pretest

Before the researcher taught new material by using animation film, the researcher gave a test to the students. Pretest was given to the experimental group and control group. This test was given before the experiment was run.

In pretest for experimental and control groups, the students were tested by using multiple choice items and the total of questions in pretest were 30 questions. The students did the test around 45 minutes. Then the result of students' score in pretest checked and scored by the researcher.

b. Posttest

Posttest was given to the experimental group and the control group. The test was given in order to know the improvement of student's ability in listening comprehension using animation film. The posttest was given to the experimental group and control group after received treatment.

Same as pretest, in posttest the students were tested by using multiple choice items and the total of questions in pre-test were 30 questions. The students did the test around 45 minutes. Then the result of students' score in pre-test checked and scored by the researcher.

3.6. Research Treatments

The research was conducted to the eleventh grade students of SMA N 11 Palembang. The listening materials was taught based on teaching learning objective that refer to the English syllabus of Senior High School. The schedule and materials of treatments can be seen in the following table 3:

Table. 3. The Schedule and Material of Treatment

No	Day/Date		Materials	Research Treatment Meeting	Time Allocation
	Experiment	Control			
1	Friday, Oct 13th 2017	Friday, Oct 13th 2017	Pretest	1st	45′
2	Monday, Oct 16th 2017	-	Unit 1 – In My Opinion …..	2nd	2x45′
3	Wednesday, Oct 18th 2017	-	Unit 2 – What Do You Recommend?	3rd	2x45′
4	Friday, Oct 20th 2017	-	Unit 3 – Hold On A Moment, Please	4th	2x45′
5	Monday, Oct 23th 2017	-	Unit 4 – Inventions Make Life Easier	5th	2x45′
6	Wednesday, Oct 25th 2017	-	Unit 5 – Did You Know That They Were Famous?	6th	2x45′
7	Friday, Oct 27th 2017	-	Unit 6 – Why Is It A Good Habit To Do?	7th	2x45′
8	Monday, Oct 30th 2017	-	Unit 7 – We Cordially Invite You	8th	2x45′
9	Wednesday,	-	Unit 8 – I Wish You	9th	2x45′

	Nov 1st 2017		All The Best		
10	Friday, Nov 3rd 2017	-	Unit 9 – Do The Following Instructions	10th	2x45′
11	Monday, Nov 6th 2017	-	Unit 10 – It Would Be Better If …..	11th	2x45′
12	Friday, Nov 10th 2017	Friday, Nov 10th 2017	Posttest	12th	45′

3.7. Research Instrument Analysis

3.7.1. Validity Test

Fraenkel, et. al. (2012) argue that "Validity is the most important idea to consider when preparing or selecting an instrument for use" (p. 147). In order to ensure each item of listening comprehension test is valid, the writer was used three kinds of validity, and they are:

3.7.1.1. Content Validity

Cohen, Manion and Morisson (2000) describe that "Content validity is achieved by ensuring that the content of the test fairly samples the class or fields of the situations or subject matter in question" (p. 131). In addition, Mawadda (2015) says that "A content validity is very important since it is an accurate measure of what it is supposed to measure" (p. 63). The content and format must be consistent with the definition of the variable and sample of subjects to be measured. In order to know if the contents of the test items were appropriate, the researcher suits them to content of syllabus. The researcher used syllabus curriculum 2013 of Senior High School and table of specification which contain the items which were necessary to test in listening comprehension achievement selecting the appropriate test and items were used based on the syllabus that used in the school. The test items of try out consisted of 60 items. The result of validity shows that there were 33 items accepted. Therefore, there were 30 items for pre-test and post-test. The test of specification was described in table 4:

Table. 4.Test of Specification

Objective	Test materials	Indicators	No. of test	Type of test	Answer key
The students are able: 1. to find the main idea of the text 2. to find cause/effect of the text 3. to find the detail and factual information	Giving and Responding Opinion	The students are able to: 1. to find the detail and factual information	1,2,3,	Multiple Choice	A,B,C
	Offering and Suggestion	The students are able to: 1. to find the detail and factual information	4,5,6, 7,8,9	Multiple Choice	B,A,B, A,D,A
	Appointment	The students are able to: 1. to find the detail and factual information	10,11 ,12	Multiple Choice	C,B,C
	Report Text	The students are able to: 1. to find the detail and factual information 2. to find the main idea of the text	13,14 ,15,1 6,17	Multiple Choice	A,C,C, A,D
	Descriptive Text	The students are able to: 1. to find the detail and factual information 2. to find the main idea of the text	19,18 ,20	Multiple Choice	D,C,B
	Persuasion	The students are able to: 1. to find the detail and factual information	21,22	Multiple Choice	A,C
	Invitation	The students are able to: 1. to find the detail and factual information	23,24	Multiple Choice	B,B

	Hope And Wish	The students are able to: 1. to find the detail and factual information	25,26 ,27	Multiple Choice	A,C,A
	Procedure Text	The students are able to: 1. to find the detail and factual information 2. to find the main idea of the text	28,29 ,30	Multiple Choice	B,B,D

3.7.1.2. Construct Validity

According to Brown (2004) "Construct validity is a major issue in validating large-scale standardized tests of proficiency" (p. 25). The construct validity of this study involve two types, they were items for pre-test and post-test and lesson plans for experimental group. The researcher did construct validity of the test to judge or measure whether or not a test instrument well to measure student ability. After constructing the instruments related to some aspect measured, then it was consulted to achieve some expert judgments from at least three validators to evaluate whether the components of the instrument are valid or not to be applied in research activities. There are some characteristics for expert judgments or validators, such as (1) English educational background. (2) English lecturer, and (3) minimum score TOEFL 500.

In relation to the statement above, the researcher asked the lecturers of English Education Study Program at UIN Raden Fatah Palembang as validator in this study. There were three validators to validate the research instruments and lesson plan. Based on the assessment carried out by validator I, II, and III, the instruments and lesson plan can be used with little revision. The first validator gave B both instrument and lesson plan. The second validator gave B both instrument and lesson plan. And the third validator gave B both instrument and lesson plan. From the validators, it could be assumed that the instrument and lesson plan were appropriate to apply in this research.

3.7.1.3. Validity of Each Question Items

Validity test of each question item is used to indicate whether the test item of the instruments in each question is valid or not. To find out the validity of each question items, the try out will be done. The instrument of the test is given to non sample group of eleventh grade students of SMA N 11 Palembang. The result of the test will be analyzed by using (Statistical Package for Social Science) SPSS version 20. To know whether it is valid or not, the score of significance (r-output) should be compared with the score of "r-table" product moment. If the result of the test shows that r-output is higher than r-table with sample, it means that the item is valid.

In this part, there were 60 multiple choice items given to the students of non sample group at SMA N 11 Palembang. It was found that there were 27 questions considered invalid. It means that 27 items test could not be used as the instrument since the scores of significance are lower than 0,361. Then, 33 questions item were used as the instrument since the scores of significance are higher than 0,361. There were only 30 valid questions items to be instruments of pre-test and post-test.

3.7.2. Reliability Test

A test must be reliable as measuring instrument. Based on Saputra and Marzulina (2015) "Reliability is a measure of degree to which a test gives consistent result or scores" (p. 8). According to Fraenkel et al. (2012) "Reability refers to the consistency of the scores obtained how consistent they are for each individual from one administration of an instrument to another and from one set of items to another" (p. 154). In this design of the study follow internal consistency method that will be used to estimate the reliability which involves comparing different sets of items that were part of instrument of this study. Reliability test measures whether research instrument used for pretest and posttest activities is reliable or not.

To know the reliability of the test uses in this study, the researcher calculated the students' score by using Spearman-Brown Prophecy Formula found in SPSS 20 (Statistical Package for the Social Science) program. The score of reliability is obtaining from tryout analysis which was done using instrument test. In this part, the test was analyzed by using Split-half Procedure Formula SPSS 20 program. It was used to obtain the score of try out analysis.

To know the reliability test using split-half method, p-output must be higher than r-table. Frankel and Wallen (2009) also state that the test score is considered reliable if p-output is higher than 0.70. Moreover, it was found that the p-output of *Guttman Split-half Coefficient was* 0.820. Therefore, it could be stated that this instrument was considered reliable for this study since the p-output was higher than r-table (0,361) with sample (N) was 30 students. The result of analysis of reliability test was described in table 5:

Table. 5. Result of Reliability Analysis Measured Using Split Half

Reliability Statistics

Cronbach's Alpha	Part 1	Value	-.067[a]
		N of Items	15[b]
	Part 2	Value	.380
		N of Items	15[c]
	Total N of Items		30
Correlation Between Forms			.729
Spearman-Brown Coefficient	Equal Length		.843
	Unequal Length		.843
Guttman Split-Half Coefficient			.820

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

b. The items are: item1, item2, item3, item4, item5, item6, item7, item8, item9, item10, item11, item12, item13, item14, item15.

c. The items are: item16, item17, item18, item19, item20, item21, item22, item23, item24, item25, item26, item27, item28, item29, item30.

3.8. Instrument Analysis

3.8.1. Listening Test

In this study the test was given to each classes of the sample. 1) The test was distributed by the researcher, it must be done in the same situation and condition, where the sample must answer the question in the classroom and in the similar limitation. 2) The test type to measure students' listening comprehension achievement is multiple choices type. It consist of 30 items with four alternatives (a,b,c, and d), it is allocate 45 minutes of answering the test. 3) The test was analyzed to determine the listening comprehension achievement by accounting the total number of correct answer; the total numbers of questions are 30 items. The maximum score that the students get if they answer all questions correctly is 100 point

4) Finally

$$\text{FINAL SCORE} = \frac{\text{TOTAL CORRECT ANSWER}}{\text{TOTAL ITEM}} \times 100$$

achievement test by using animation film was analyzed by using percentage formula suggestion by the classification of students' listening comprehension achievement score of SMA N 11 Palembang is apply in the following table 6

Table. 6. The classification of students' Listening Comprehension Achievement

No	Range	Qualification
1.	**86 – 100**	**Excellent**
2.	**76 – 85**	**Good**
3.	**56 – 75**	**Average**
4.	**< 55**	**Poor**

(*Source: Based on Curriculum Score Range of SMA N 11 Palembang*)

3.9. Data analysis

Habibi, Wachyuni and Husni (2017) states that "Data analysis the process systematically applying statistical or logical techniques to describe illustrate and evaluate data" (p. 99). In analyzing the data, the researcher described some techniques as follows:

3.9.1. Data Description

Before the data was analyzed, distribution of the data was used to see the distribution of frequency the data and descriptive statistics. The procedure in distribution of the data is described as follow:

3.9.1.1. Descriptive Statistics

In descriptive statistics, number of sample, the score of minimal, maximal, mean, and standard deviation are analyzed. Descriptive statistics were obtained from students' pretest and posttest scores in experimental and control groups. The students' pretest-posttest scores in experimental and control group was divided into four categories. 1) Score 86-100 is excellent. 2) Score 76-85 is good. 3) Score 56-75 is average. 4) Score fewer than 55 is poor.

3.9.2. Prerequisite Analyses

A prerequisite analysis was done before testing hypothesis. It estimates whether or not the obtained data from students' pretest and posttest score in experimental and control group are distributed normal and homogene. According to Flynn (2003) the use of parametric statistics requires that the sample data, be normally distributed, have homogeneity of varians and be continous. The first choice for a researcher is using parametric statistics. It means that if the researchers wanted to know the statistics that used in analyzing the data, the researchers firstly have to test the normality and homogeneity. The procedures in pre-requisite analysis as follow:

3.9.2.1. Normality Test

Normality test was used to determine whether the sample data has been drawn from normally distributed population or not. The data was obtained from students' pretest and

posttest in experimental and control group. Moreover, Flynn (2003). also states that the data that have normal distribution is the score of significancy higher than 0.05.In measuring normality test, the researcher used One-Sample Kolmogorov-Smirnov test in SPSS 20 (Statistical Package for the Social and Science) software application.

3.9.2.2. Homogeneity Test

Homogeneity test was used to measure whether the data obtained are homogenous or not. According to Flynn, (2003). the data can be categorized homogene whenever it is higher than 0.05 levels. The homogeneity test was used to measure students' pretest and posttest scores in both groups (experimental and control). In measuring homogeneity test, the writer used *Levene Statistics* in SPSS program software.

3.10. Hypothesis testing

In measuring significant improvement and significant difference on students' listening comprehension achievement by using Animation Film, the explanation as follows:

1. In measuring a significant difference between two variables, Independent sample t-test was used for testing student's posttest scores in control and experimental groups.The significant difference is accepted whenever the p-output (Sig.2-tailed) is lower than 0,05 and t- obtained is higher than t-table.
2. In measuring a significant difference more than two variables, Two ways ANOVA was used for testing student's posttest scores in control and experimental groups.The significant difference is accepted whenever the p-output (Sig.2-tailed) is lower than 0,05.