CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

This research is a correlation research which consists of two variables. The first is contribution of using audiovisual media as the independent variable (X) and the second is students' listening comprehension as the dependent variable (Y).

According to Creswell, Correlation design is a procedure in quantitative research in which investigators measure the degree of association (or relation) between two or more variables using the statically procedure of co relational analysis. This degree of association expressed as a number, indicates whether two variables are related or whether one can predict another.[1]

Correlation research involves collecting data in order to determine whether, and to what degree, a relationship exists between two or more quantifiable variables. The purpose of a correlation research is to determine relationship between variables or to use these relationships to make prediction.[2]

Correlation studies provide a numerical estimate of how related two variables. Clearly, the higher the correlation, the more the two

[1] John cresswell. *Education Research; Planning, Conducting, and Evaluating Quantative and Qualitative Research.* (New Jersey: Pearson Education International, 2008),p.60

[2] L.R. Gay and Peter Airasian. *Educational Research; Competencies for Analysis and application Sixth Edition.* (New Je rsey: Practice Hall. 2000), p.321

variables are related and more accurate are predictions based on the relationship. Rarely two variables perfectly uncorrelated, but many are sufficiently related to permit useful prediction.[3]

B. The Location and Time of the Research

State Junior high school 1 Bangkinang located in Bangkinang district at Kampar Regency. It located at Olahraga street number 25. It was conducted in March 2014.

C. The Subject of the Research

The subject of this research was the eighth grades students of State of junior high school 1 registered in 2013/2014.

D. The Object of the Research

The object of the research was the contribution using audiovisual media towards listening comprehension of the eight grades students.

E. The Population and the Sample of the Research

The population of this research was the eight grades students at state junior high school 1 Bangkinang. The population of this research is 237 students from 9 classes. The specification of the population can be seen on the table below.

[3] Ibid, p. 322

Table III.1

The population of eight grades

No	Class	Male	Female	Total
1	VIII A	10	16	26
2	VIII B	10	16	26
3	VIII C	10	15	25
4	VIII D	12	13	25
5	VIII E	13	13	26
6	VIII F	15	10	25
7	VIII G	13	13	26
8	VIII H	14	12	26
9	VIII I	23	9	32
Total		120	117	237

According to Gay, the sample for a correlation study is selected by using an acceptable sampling method, and 30 participants are generally considered to be a minimally acceptable sample size. There are, however, some factors that influence the size of the sample. The higher the validity and reliability of the variables to be correlated, the smaller the sample can be, but not less than 30. Furthermore, Arikunto, of the amount of the population is less than 100 persons, it is better to take all of the population, but if the amount of the population is more than 100 persons[4]. In the table above, it shows that the population of eighth grade students of state junior high school 1 Bangkinang is more than 100 persons. In this research, writer took sample by using cluster sampling because writer took some considerations in that school and the students also have been

[4] Suharsimi Arikunto, *Prosedur Penelitian: Suatu Pendekatan Praktis.* (Jakarta: Rhineka Cipta, 2006), p. 120

already formed into classes. According to Gay, cluster sampling randomly selected the groups have similar characteristic.[5] It means that sampling in which intact groups, not individuals, are randomly selected. Therefore, the researcher used test to measure the students' listening comprehension.

Table III.2

Sample of the research

No	Class	Male	Female	Students
1	VIII B	10	16	26
2	VIII C	10	15	25
Total				51

In the table above the researcher took class VIII B and VIIC. The total of the sample is 51 students

F. The Technique of Data Collecting

In order to get some data that were needed to support this research, the writer applied the technique as follow:

1. Questionnaire

This questioner contained some questions for the respondents that relate to research variable (audiovisual media) and the questions consisted of the alternative answers. The blue print of questionnaire is:

[5] L.R. Gay and Peter Airasian. Op.cit, p.129

Table III.3

Blue Print Variable X (try out)

no	Indicators	Items Number
1	The video can attract the interest of children	1,2,3,4,
2	The video is true and authentic	5,6,7,8
3	The video appropriate to the maturity level of the audience	9,10,11,12
4	The vocabularies are used correctly	13,14,15,16
5	Unity and the story fairly regular sequence	17,18,19,20

2. Test

The researcher distributed test to determine the students' listening comprehension. The test was multiple choice items from which students must choose one correct answer. That test consists of the indicator of listening comprehension. The blue print of the test is:

Table III.4

Blue Print of Variable Y (try out)

No	Indicator Listening Comprehension	Items Number
1	Students are able to comprehend the expression asking, giving and reducing things.	1, 2, 3, 4,5,6
2	Students are able to get message accepting and interpreting the services	7,8,9,10,11,12
3	Students are able to comprehend expression asking, accepting and rejecting invitation	13,14,15,16,17.18

The researcher evaluated the test on listening comprehension aspect that consisted of comprehended expression asking, giving and reducing things, getting message accepting and interpreting the services and comprehended expression asking, accepting and rejecting invitation.

G. The Validity and Reliability of instrument

1. Questionnaire validity

Table III.5
Result of validity tryout the questionnare

Item	R	Status
1.	0.689	Valid
2.	0.65	Valid
3.	**0.354**	**Invalid**
4.	0.69	Valid
5.	0.639	Valid
6	**0.105**	**Invalid**
7	0.632	Valid
8.	0.861	Valid
9.	0.684	Valid
10.	0.610	Valid
11.	0.600	Valid
12.	0.720	Valid
13.	**0.139**	**Invalid**
14	0.58	Valid
15.	0.73	Valid
16.	0.427	valid
17	0.576	Valid
18.	0.69	valid
19.	**0.247**	**Invalid**
20	0.600	Valid

2. Reliability of questionnaire

Table III.6

A commonly accepted rule of thumb for describing internal consistency by using cronbach alpha

Cronbach Alpha	Internal Consistency
$\alpha \geq .9$	Excellent
$.9 > \alpha \geq .8$	Good
$.8 > \alpha \geq .7$	Acceptable
$.7 > \alpha \geq .6$	Questionable
$.6 > \alpha \geq .5$	Poor
$.5 > \alpha$	Unacceptable

To obtain the reliability of the questionnaire given, the researcher used SPSS 17.0 program to find out whether or not the questionnaire is reliable.

Table III.7

Reliability Table

Cronbach's Alpha	N of Items
.734	20

The reliability of questionnaire is accepted if Cronbach Alpha > 0.50. From the table above, it can be seen that the value of cronbach's alpha is that 0.734 > 0.50.

3. Validity of the Test

Every test should be as valid as the test constructor can make it. The test must aim at providing a true measure of the particular skill in which it is intended to measure.

Heaton states that the validity of a test refers to appropriateness of a given test or any of its component parts as measure of what it is purposed to measure. It means the test is valid to the extent that is measured what it is supposed to measure. There are three kinds of validity. They are face, content, construct and empirical validity[6]. This research used content validity. Content validity refers to whether or not the content of the manifest is right to measure the latent concept that we are trying to measure.[7]

The test given to students was considered too difficult or too easy. Item difficulty was determined as the proportion of correct responses. This was held pertinent to the index difficulty; it was generally expressed as the percentage of the students who

[6]J.B Heaton. *Writing English Language Test*. (New York: Longman Group UK Limited, 1988), p. 159

[7] Daniel Muijs. *Doing Quantitative Research in Educaton.* (London: Sage Publications, 2004), p.66.

answered the questions correctly. The formula[8] for item difficulty is as follows:

$$P = \frac{\sum B}{N}$$

P : proportion of correct answer = index difficulties

∑B : the number of correct answer

N : the number of students taking the test

The formula above was used to find out easy or difficult test items that researcher gave to the respondents. The items did not reach the standard value of difficulty were modified. the standard value of the proportion of correct can be seen in the table bellow:[9]

Table III. 8
Index Difficulty Level of Instruments

Proportion correct (p)	Item category
P > 0.70	Easy
0.30 ≤ P ≤ 0.70	Average
P < 0.30	Difficult

The facility value under 0.30 is considered difficult and above 0.70 is considered easy. The items categorized in the level of easy or difficult p < 0.30 or p > 0.70) should be modified.

[8] Hartono. *Analisis Item Instrumen*, (Bandung: Zanafa Publishing, 2010), p.38.
[9] *Ibid.*

Therefore, the standard value of the proportion of correct is between 0.30 and 0.70.

4. Reliability of the test

According to H. Douglas Brown[10], that reliability has to do with accuracy of measurement. This kind of accuracy is reflected in the obtaining of similar result when measurement is repeated on deferent occasions or wit different instruments or by different persons. The characteristic of reliability is sometimes termed consistently. Meaning that, we can say that the test is reliable when an examinee's results are consistent on repeated measurement. To obtain reliability of the test, the Mean and Standard Deviation of test must be known.

The categories of reliability test are as follow:

1. 0.0-0.20 = reliability is poor
2. 0.21-0.40 = reliability is satisfactory
3. 0.41-0.70 = reliability is good
4. 0.71-1.0 = reliability is excellent[11]

To know the reliability of the test, the writer used the following formula:

[10] H. Douglas Brown. *Language Assessment*: Principles and Classroom Practices. (New York: Pearson Education Inc, 2003) pp. 19-27

[11] Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan*, Jakarta:Bumi Aksara,2009,P.218

KR20: $.r_{11} = \frac{n}{n-1} \quad \frac{S^2-\Sigma pq}{S^2}$

Where:

N: Number of items in the instrument

P:Proportion of subjects who answered the item correctly

Q: Proportion of subjects who answered the item with the wrong

Σpq : The multiplication result between p and q

S^2 : Total variance

H. Technique of Data Analysis

1. Normality Test

Before analyzing the data by using regression linear formula, the researcher had to find out the normality test of the data. The normality test of the data was analyzed by using Kolmogorov-Smirnove technique with SPSS 17 version.

Analysis:

H_a : population with normal distribution

H_0 : population with not normal distribution

If the probability > 0.05 H_a was accepted

If the probability < 0.05 H_a was rejected

2. Linearity Test

Linearity test is used to determine two variables which show linear relationship or not. When the significance in linearity < 0.05 it means there is a linear relationship between the two variables.

3. Data Analysis

In analyzing the data of students' ability in listening comprehension by using audiovisual media, the researcher used the category standard as follow:[12]

Score	Categories
80-100	**Very Good**
66-79	**Good**
56-65	**Enough**
40-55	**Less**
0-39	**Bad**

To get the students' score, the following formula is used:

$$S = \frac{R}{N} x\ 100$$

Where:

S = Individual score

R = Right answer

N = Number of items

In this research, the data were analyzed by using statistical method. The writer used SPSS 17.00 Version. The writer used linier

[12] Suharsimi Arikunto, *Dasar-dasar Evaluasi Pendidikan*, Jakarta: Rineka Cipta, 2006, p. 246

regression to determine whether the result of this research was statistically significant. The formula is:

$\dot{Y} = a + bx$

Where:

$\dot{Y}$ = variable y

a = variable a

b = variable b

x = variable x[13]

In deciding which hypotheses were accepted, the simple linear regression coefficient found after the calculation by using SPSS 17 was compared to 0,005. Statistically it could be described as follows:

$H_a : F_{cal} > 0.005$

$H_o : F_{cal} \leq 0.005$

1. H_o will be accepted if $F_{cal} \leq 0.005$ or there is no significant contribution of using media audiovisual media toward students' listening comprehension
2. H_o will be rejected if $F_{cal} > 0.05$ or there is a significant contribution of using audiovisual media toward students' listening comprehension

[13] Sugiyono, *Statistik untuk Penelitian*, Bandung: Alfabeta, 2012, p 261