CHAPTER III
RESEARCH METHOD

3.1 Research Method

Actually, there have two kinds of research; they are qualitative research and quantitative research. In this research the researcher used quantitative research that would apply descriptive quantitative correlations research. Descriptive quantitative correlation research is a non-experimental research, because in this research did not determine the effect of treatment. According to Arikunto (2010, P. 3-4) said that descriptive research is to investigate condition, situation or the other matter, whose results are presented in the form of report research, moreover, correlation research is a research conducted to determine level of correlation between two variables or manipulating the data.

According to Arikunto (2010, P. 159)Said that variable is as something that variation from one or to another case. These studies have two variables there are independent variable (X) and dependent variable (Y). Independent variable is learning style (X) and dependent variable reading comprehension (Y).

3.2Population, Sample and Sampling Technique

3.2.1 Population

Population in this research was all of the eleventh grade MAN 1 Lampung Utara.According to Arikunto (2010, p. 173) population was all the subjects off the research. Sugiyono (2016:80) states that populations are the generalizations

which have object or subject that have certain quality and characteristics set by the researcher to learn and take the conclusion. It means that population was all the object or subjects in the generalization which have the certain characteristic and quality. The data from the registration office that showed there have students

TABLE 2
THE POPULATION OF THE RESEARCH

No	Classes	Number
1.	XI MIA 1	32
2.	XI MIA 2	33
3.	XI MIA 3	34
4.	XI IIS 1	30
5.	XI IIS 2	32
6.	XI IIS 3	32
Total		**193**

Source : Staff off administration and Teacher off MANs 11 Lampungs Utara.

From table 2, the total numbers of the population were 193 students spread on six classes.

3.2.2 Sample

Sample was the part of population that will be observed. Arikunto (2010, P. 174) says that a sample was a smalls groups that is observed. In other words, samples is a parts off populations that is observed. Nanang (2011, P. 74) sample is part of population that have the characteristics or certain the condition that would be research. Based on theory, it can be concluded that sample was a limited number of elements from a proportion to represent population. As stated by Arikunto (2006, P. 134) said that if the sample less than 100 taken all but if the sample more than 100 it can be taken 10%-15% and 20%-25%.

From the statement above, the total of students in eleventh classes of MAN 1 Lampung Utara was 193. In this case, the researcher has taken 15% from each class that used sample of the research because the total of students in eleventh classes is more than 100. It means that 15% × 193 = 30 students.

3.2.3 Sampling Technique

In this research used proportional random sampling. According to Sugiyono (2017, p. 63) said that a method of taking samples from members of population using random method without paying attention strata. This technique used because all individuals in the population will have the same opportunity to be selected as research samples. The researcher has taken 15% out of each class taken to be used as a research sample. The research sample can be described in the table as follows:

TABLE 3
RESEARCH SAMPLE

No	Class	Sample	Up rounding
1	XI MIA 1	15% × 32	5
2	XI MIA 2	15% × 33	5
3	XI MIA 3	15% × 34	5
4	XI IIS 1	15% × 30	5
5	XI IIS 2	15% × 32	5
6	XI IIS 3	15% × 32	5
Total		**193**	**30**

The procedure of taking sample as follows:

a. The researcher writes down the names of eleventh grade students into pieces of papers.

b. The papers are rolled and can enter into a can.
c. Mixed and one of the papers dropped out from the can would be sample of the research.
d. The number which is needed should be appropriate with the sample of the research.

3.3 Research Instrument

According to Sugiyono (2017, p. 102) Said that research instrument is a tool to used measure phenomenon and observed naturals. This instrument used questionnaire and multiple choice test. Questionnaire used to learning style and multiple choice test used to reading comprehension.

Moreover, the researcher conducted a try out to test validity and reliability instrument before the instrument used in this research. The instruments have 50 statement of questionnaire learning style and 50 items of multiple choices test in reading comprehension. Try out conducted in MAN 2 Lampung Utara, the researcher assumed that MAN 2 Lampung Utara it has closely same characteristic with MAN 1 Lampung Utara.

3.3.1 Conceptual Definition of Learning Style

Learning style to identity and understanding the information through approaches various and accepted the goad to make learning strategy and the effect students leaning outcomes.

3.3.2 Operational Definition of Learning Style

Operational definition of learning style is score obtained from learning style test. The form of test is questionnaire test consist of 50 statements. Students must choice one of the most choices which is in accordance with their condition. In this questionnaire there is no wrong or right answer, so students feels free to answers. Meanwhile, questionnaire used to found students learning style and to measure their leaning style. In this research, the researcher used four alternatives from indicator of learning style.

Questionnaire was distributed to the students to get the data of learning style. Characteristic of questionnaire based on the learning process there are visual, auditory and kinestetic. The researcher written questionnaire in Bahasa because the researcher assumed that students will be easy to answers the questions. There are four alternatives based on Linkert scale there are Strongly Agree (Strongly Agree, SS), Agree (Setuju, S), Disagree (Tidak Setuju, TS), and Strongly Disagree (Sangat Tidak Setuju, STS).

3.3.3 Specification Learning Style

Based on the conceptual and operational learning style, the specification of learning style instrument can be seen in the following table 4.

TABLE 4
THE SPECIFICATION INSTRUMENT OF LEARNING STYLE

No	Variable	Aspect	Indicators	Declaration		Total Items
				Positive	Negative	
1	Learning Style	Visual	Focus of Image	1,2,4,5,6,7,9 ,10,11,13,14,16, 21,23	3,8,12, 17	18
2		Auditory	Focus of listening	18,19,20,22 ,23, 28,30,25	15,26,29, 31, 32,	13
3		Kinesthetich	Kinesthetic gesture	34,35,36,37 ,40,41,42,43 ,45,47 ,49	27, 33, 38, 39, 44, 46, 48, 50	19
Total				**50**		**50**

Source: Adopted from (Joy M. Reid in Nisa, 2016, P. 28)

Moreover, in this research used try out questionnaire of learning style. The aim in this analysed was to found proper or not for this instruments. Meanwhile, the linked scale of questionnaire students learning style presented on the table below:

TABLE 5
QUESTIONNAIRE ITEM SCORING

Number	Scale	Score
1	Strongly Agree	4
2	Agree	3
3	Disagree	2
4	Strongly Disagree	1

3.3.4 Conceptual Definition of Reading Comprehension

Reading comprehension is the process of making meanings of the text. Hence, the goal is to gain a thorough understanding of what is described in the text rather than to derive meanings from an isolated word or sentence.

3.3.5 Operational Definition of Reading Comprehension

Operationally, to get the score in reading comprehension, researcher conducted a test. The form of test is multiple choice test, the students must choose

one of the answers as the choice. The researcher gave multiple choice that consist of 50 items with 5 options A, B, C, D and E to measure the students' reading comprehension items. If students answer correctly they got score 1 and if they answer incorrectly they got score 0. Then, number of correct answers were divided by maximum score and times 100. Question in reading comprehension tests were usually about : gaining the word meaning, identifyingsequence, making inference, and identifying the characterization.

3.3.6 Specification Reading Comprehension

Based on the conceptual and operational reading comprehension above, the specification of reading instrument can be seen in the following table 6.

TABLE 6
THE SPECIFICATION INSTRUMENT OF READING COMPREHENSION

No	Variable	Aspect	Indicators	Item number
1	Reading Comprehension	Inference Making	The student determine the meaning not explicitly of the text	1,6,11,14,19,25,30,31,37,45, 48
2		Literal Comprehension	The students identify the explicit information	3,7,12,15,20,21,26,29,33,40, 46,47, 49
3		Understanding Text Structure	The students are able to determine structure of the text	2,5,9,10,16, 17,18,23,24,35 ,38,39,41,
4		vocabulary and knowledge of word meaning	The students are able to determine use the correct vocabulary	4,8,13,22,27,28,32,36,42, 43,44,50
Total				**50**

Adopted from Mcnamara and Nation

3.4 Validity and Reliability Instrument

A research instrument was device of test that has quality. The tests consist of questionnaire and multiple choice test. Questionnaire consist of 50 items, moreover multiple choice test divided by 50 items. After being held try out instruments, the next step was analysis the try out instrument. The try out was covering validity and reliability instrument. Instruments were valid and reliable was an absolute requirement to get the research result was valid and reliable stated by Sugiyono (2016, p. 122).

3.4.1 Validity Instrument

According to Arikunto (2010, p. 211) said that the valid instrument must have high validity, it is mean that if deficient validity instrument was said invalid instrument. To measure validity instrument the researcher used contents validity. Contents validity was designed based on students learning style who own the indicator. Moreover, before the learning style test instrument gave to students' first, content validity is going to consult with the expert they are Mrs. Elis Susanti, S.Pd., M.Pd and Mrs. Dewi Sartipa, S.Pd., M.Pd.BI. The researcher asked from the experts to validate the instrument. The validity of an item can be known by doing item analysis. It is counted using product – moment correlation formula:

$$r_{xy} = \frac{n\sum xy - (\sum x . \sum y)}{\sqrt{[n\sum x^2 - (\sum x^2)][n\sum y^2 - (\sum y^2)]}}$$

Descriptions:

r_{xy} : Correlation coefficient X and Y

Σxy : quantity times X and Y

ΣX : Quantity X Scores

ΣY : Quantity Y Scores

ΣX^2 : Quantity X quadrate

ΣY^2 : Quantity X quadrate

N :Respondents

Sugiyono (2012, p. 125) said that the item have correlation positive with the score total, and correlation high showed that the item have high validity, usually the terms minimum to be considered qualified if $r_{observed} \geq 0{,}3$. According to Arikunto (2010:319), the value of table 7 interpretation $r_{observed}$ interpreted as follows:

TABLE 7
INTERPRETATION OF r SCORE

$r_{observed}$	Interpretation
0,000 – 0,200	Very Low
0,200 – 0,400	Low
0,400 – 0,600	Low moderate
0,600 – 0,800	Moderate
0,800 – 1,00	High

3.4.2. Reliability Instrument

3.4.2.1 Reliability Learning Style

Reliability was something that can be said to be quite reliable if the instrument can be used as a tool to measure and collect data from different places and times and still show results that are not much different. For the reliability test of the questionnaire, the reliability of instrument questionnaire of students' reading interest by using Alpha formula Arikunto (2006:196):

$$r_{11} = \left(\frac{k}{(k-1)}\right)\left(1 - \frac{\sum \sigma_{b^2}}{\sigma_t^2}\right)$$

Description:

r_{11} = reliability scores

k = quantity items

$\sum \sigma_{b^2}$ = number of items variance

σ_{t^2} = total variance

3.4.2.2 Reliability Reading Comprehension

According Arikunto (2010, p. 221) reliability means that an instrument has been good and although the data is taken many times the result will be similar consistent.

To measure the reliability instrument the researcher use KR 20 (Kuder Richardson) formula as follows:

$$r_i = \frac{k}{(k-1)}\left\{\frac{s_t^2 - \sum p_i q_i}{s_t^2}\right\}$$

Description :

r_i : reliability

k : item test

p_i : correct responses

q_i : = incorrect responses

s_t^2 : variants

The testing criteria for the instrument to be said reliable was if $r_{observed} > r_{table.}$

3.5 Data Collecting Technique

To get the data in this research based on the suitable variable, the researcher used questionnaire and test technique, in addition, questionnaire have 50 statements that used to get the data on students learning style. Questionnaire arrange by Linkert scale with four alternative there are Strongly Agree (Sangat Setuju), Agree (Setuju), Disagree (Tidak setuju), Strongly Disagree(sangat tidak setuju).

In addition, in test technique the researcher used 50 items multiple choice test consist of 50 questions with five alternative answer there are A, B, C, D and E. If students answers correctly they got score 1 and if they answer incorrectly they got score 0.

3.6 Data Analysis Technique

The data gotten from independent variable (learning style) and dependent (reading comprehension) at the tent grade of MAN 1 Lampung Utara. Data analysis technique was a test the required the data normality test, homogeneity test and hypothesis test.

3.6.1 Normality

Normality test used to shown that the data has distribution normal or not. Normality test also used to find out the normal of distribution, according to Sudjana (2005, p. 466) normality test was used the statistical of *Lilliefor's*, the test criteria are:

H_0 is accepted if $L_{observed} < L_{table}$ (distribution of the data is normal)

H_0 is accepted if $L_{observed} > L_{table}$ (the distribution the data is not normal)

And the steps were:

a. Determined the standard number using thee formulas

$$z_i = \frac{x_i - \bar{x}}{s}$$

Descriptions :

z_i = Standard number

x_i = Score which are gotten

$\bar{x}$ = average

s = Standard Deviation

b. Determined the proportion using the formula

F (Z_i) = P(Z≤ Z_i)

c. Determined the proportions using the formula

$SZ_i = \frac{Number Z_i, Z_2, Z_3 \ldots\ldots Z_n, that \leq Z_i}{n}$

d. Calculated the absolute number using the formula

F (Z_i) - S(Z_i)

e. Determined the largest absolute value which is called $L_{observed}$, and then compares the $L_{observed}$ with L_{table}. The normal criteria is ; H_0 is accepted if $L_{observed} < L_{table}$

3.6.2 Homogeneity

Homogeneity test was used to test whether the data of test was homogenous or not. To test the homogeneity of two groups it uses similar test of two variance. Two variance of common test are used to determine whether both data are homogeneous. The requirement for homogeneous test is that both data have normal distribution. The researcher used F-test. According to Sugiyono (2010:140) the formula to calculate homogeneity is as follow:

$$F = \frac{the\ highest\ variance}{the\ lowest\ variance}$$

The test criteria are:

a. if $F_{observed} \leq F_{table}$, Ho is accepted (the variances of the data are homogeneous)
b. if $F_{observed} > F_{tabel}$, Ha is rejected (the variances of the data are not homogeneous)

3.6.3 Hypothesis Test

In this research used hypothesis test in analyzing is correlation analysis. Product moment correlation is if the data is normally distributed and homogeneous then the statistical technique uses parametric statistic. In addition, to find out the correlation between two variables using the Product Moment correlation formula as follows (Arikunto, 2010, p. 213).

$$r_{xy} = \frac{n\sum xy - (\sum x . \sum y)}{\sqrt{[n\sum x^2 - (\sum x^2)][n\sum y^2 - (\sum y^2)]}}$$

Descriptions:

r_{xy} : Correlation coefficient X and Y

Σxy : Quantity times X and Y

ΣX : Quantity X Scores

ΣY : Quantity Y Scores

ΣX^2 : Quantity X quadrate

ΣY^2 : Quantity X quadrate

N :Respondents

Thehypothesesthatshouldbeprovenwere:

$H_a$isacceptedif$r_{observed} > r_{table}$;itmeansthatthereiscorrelation betweenstudents'learning styleandreading comprehension.

H_0 is accepted if $r_{observed} \leq r_{table}$ itmeansthatthereisno correlationbetweenstudents'learning styleandreading comprehension.

Furthermore,thisisdonebyagreeingthesignificancecorrelationcoefficient by looking at the price of criticism at the 5% significant level. Theresultsofr_{xy}weretestedusingthet-testwiththeformulafromBudiyono(2015,p. 273)asfollows:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Descriptions:

t : observed

r : result correlation two variables

n : quantity of sample

The criteria are as follow.

If $t_{observed}$is greater than thet_{table}at thee significant levels off > 0.05, the correlation is correlation is significant. From on the formula of the hypothesis test, the hypothesis in this research as follows:

H_0 : There is no significant correlation between learning style and their reading comprehensions in eleventh grade of MAN 1 Lampung Utara in academics years 2022/2023.

H_a : There is significant correlation between learning styles and their reading comprehension in eleventh grade of MAN 1 Lampung Utara in academic year 2022/2023.