CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The design of this research is correlation, using quantitative analysis techniques in data collection.[39] This research is aimed find out the correlation between self-esteem and reading comprehension at the second grade of SMAN 4 Parepare. This research is basically a field research since the data of this research was on the field.

Based on the title of this research, there were two variables of this research, namely, variable "X" and Variable "Y". Variable X of this research is students Self-esteem while variable Y is students reading comprehension

Where:

X: Students' Self-esteem

Y: Students' reading comprehension

B. Location and Duration of the Research

The location of this research at SMA Negeri 4 Parepare. It one of the senior high school located in Ujung, Parepare. The duration of this research will be one month.

[39]L. R. Gay, *Educational Research: Competencies for Analysis & Application.* (USA: Charles E Merill Publishing Company, 1976)

C. Population and Sample

1. Population

Population of this research was the whole students of the second grade of SMAN 4 Parepare, where the number of classes are nine classes. The number of population can be seen as the table follow:

Table 3.1 Population of the students

CLASS	NUMBER OF STUDENTS
XI IPA 1	34
XI IPA 2	34
XI IPA 3	30
XI IPA 4	30
XI IPA 5	34
XI IPS 1	30
XI IPS 2	32
XI IPS 3	30
XI IPS 4	30
Total	**284**

Source: Administration of SMAN 4 Parepare.

2 Sample

The sample is a part or representative of the population under study. Assessment against the sample basically intended to find the top generalizations population or population characteristics (parameters), so that it can be done inference (inference) about the universe.

As for the samples in this study were students who taken from each class using a random sample or random technique. Meanwhile, in determining the sample size using techniques slovin, with an error rate of 5 %.

Table 3.2 Sample of the students

CLASS	NUMBER OF STUDENTS
XI IPA 1	9
XI IPA 2	9
XI IPA 3	8
XI IPA 4	8
XI IPA 5	9
XI IPS 1	8
XI IPS 2	8
XI IPS 3	9
XI IPS 4	8
Total	**76**

Source: Administration of SMAN 4 Parepare.

D. Instrument of Collecting Data

1. Questionnaire

Questionnaire is a data collection technique that is done by giving a set of questions or written statement to the respondent to be answered. The questionnaire is an efficient data collection technique when researchers know with certainty the variables to be measured and know what can be expected from the respondents.[40]

[40]Sugiono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, R & D*. (Cet. 20, Bandung: Alfabeta, 2014)

The questionnaires use five alternative based on the Likert's Scale Types. Likert's Scale is used to measure attitude, opinion, perception based on the certain object or phenomena.[41] The indicators of the questionnaire were explained as follows:

1: Sangat setuju (Strongly Agree)

2: Setuju (agree)

3: Ragu-ragu (Doubtful)

4: Tidak Setuju (Disagree)

5: Sangat Tidak Seteju (Strongly Disagree)

The questionnaires were given to the students consist of many indicators. Indicators are taken from rosenberg about the self-esteem aspects, they are: high and low of self-esteem. The following table present the indicator use by the writer in the questionnaire.

Table 3.3 Self-esteem Indicators by Rosenberg

Dimension	Indicator	Items numbers	Total
High self-esteem	Responsibility	5, 12, 28	15
	Goal comitment	4, 14	
	Forgiving	2,3,21, 26	
	Self-improvement	18, 24	
	Positivy	1, 10, 11, 16	
Low self-esteem	Unhappy	13, 30	15
	Felling anxiety	22, 23, 25	
	Inferiority	15, 19, 20,	
	Impatience	8, 9	
	Negativy	6, 7, 27	
	Externally orientated goals	17, 29	
Total			30

[41]Syofian Siregar, *Statistik Parametrik untuk Penelitian Kuantitatif*, (Jakarta: PT Bumi Aksara, 2013), p. 50.

2. Reading Test

A test is a systematic procedure for observing one's behavior and it with the aid it with the aid of numerical or category system. A test is use to collect the data of students reading comprehension. The test of reading comprehension was an objective test in the form of multiple choice test consisting 20 items.

There were five options in each item (A, B, C, D, E). The writer took some of the questions that have significant correlation with the students compulsory book, such as Look Ahead (Published by Erlangga) and students work sheet (LKS – Lembar Kerja Siswa Sakti SMA XI, published by CV Arya Duta) and many other sources from the internet. The writer marked 1 for each item which is answered correctly and marked 0 for the wrong answer.

The indicators of reading comprehension test were taken from Henry Guntur Taringan theory. The indicators are described below:

Table 3.4 Reading Comprehension Indicators

No.	Aspects	Items	Total
1	Finding Main Idea	2, 8, 14	3 Items
2	Finding Topic	1, 7, 13	3 Items
3	Finding Reference	4, 11, 16	3 Items
4	Finding Inference	6, 12, 19	3 Items
5	Finding Detailed Information In The Text	3, 9, 15, 17	4 Items
6	Understanding Vocabulary	5, 10, 18	3 Items
7			
Total			20 tems

E. The Validity Test and Reliability Test Research Instrument

1. The Validity Test

An instrument is valid when if it is able to measure what the researcher are going to measure.[42] There are two criteria to determine validity of test items, as follows:

a. If $r_{value} > r_{table}$ at the level significance of 5%, it means that the instrument is valid
b. If $r_{value} < r_{table}$ at the level significance of 5%, it means that the instrument is not valid

The calculating of validity test used correlation formula from Statistical Package for Social Science (SPSS). The result of the validity test items are consulted to r_{table} for N = 76 at the level of significance of 5 %. The result showed that the coefficient validity of self-estem and reading comprehension were valid.

Table 3.5 Results of the Validity Test (Variable X)

Number of Item	Correlation Coefficient		Information
	r_{hitung}	r_{tabel}	
Item No. 1	0,554	0,227	Valid
Item No. 2	0,664	0,227	Valid
Item No. 3	0,319	0,227	Valid
Item No. 4	0,603	0,227	Valid
Item No. 5	0,524	0,227	Valid
Item No. 6	0,392	0,227	Valid
Item No. 7	0,525	0,227	Valid
Item No. 8	0,605	0,227	Valid
Item No. 9	0,397	0,227	Valid
Item No. 10	0,201	0,227	Invalid
Item No. 11	0,550	0,227	Valid

[42] Syofian Siregar, *Statistik Parametrik untuk Penelitian Kuantitatif,*

Item No. 12	0,485	0,227	Valid
Item No. 13	0,200	0,227	Invalid
Item No. 14	0,502	0,227	Valid
Item No. 15	0,328	0,227	Valid
Item No. 16	0,465	0,227	Valid
Item No. 17	0,306	0,227	Valid
Item No. 18	0,321	0,227	Valid
Item No. 19	0,373	0,227	Valid
Item No. 20	0,391	0,227	Valid
Item No. 21	0,695	0,227	Valid
Item No. 22	0,556	0,227	Valid
Item No. 23	0,476	0,227	Valid
Item No. 24	0,076	0,227	Invalid
Item No. 25	0,420	0,227	Valid
Item No. 26	0,501	0,227	Valid
Item No. 27	0,591	0,227	Valid
Item No. 28	0,446	0,227	Valid
Item No. 29	0,762	0,227	Valid
Item No. 30	0,577	0,227	Valid

Source: Output Data of SPSS Statistic IBM 21

After testing the validity of variable X (Self-esteem) which consists of 30 statement items with r_{tabel} 0.227, it is known that of the 30 statement items, 3 items of statement are invalid and 27 items of valid statements. This is because the r_{xy} value obtained from the statement items is greater than the r value, so the statement items are said to be valid.

Table 3.6 Results of the (Variable Y)

Number of Item	Correlation Coefficient		Information
	r_{hitung}	r_{tabel}	
Item No. 1	0,555	0,227	Valid
Item No. 2	0,166	0,227	Invalid
Item No. 3	0,389	0,227	Valid
Item No. 4	0,376	0,227	Valid
Item No. 5	0,528	0,227	Valid
Item No. 6	0,333	0,227	Valid
Item No. 7	0,347	0,227	Valid
Item No. 8	0,362	0,227	Valid

Item No. 9	0,536	0,227	Valid
Item No. 10	0, 363	0,227	Valid
Item No. 11	0,598	0,227	Valid
Item No. 12	0,235	0,227	Valid
Item No. 13	0,569	0,227	Valid
Item No. 14	0,181	0,227	Invalid
Item No. 15	0,531	0,227	Valid
Item No. 16	0,517	0,227	Valid
Item No. 17	0,303	0,227	Valid
Item No. 18	0,530	0,227	Valid
Item No. 19	0,425	0,227	Valid
Item No. 20	0,125	0,227	Invalid

After testing the validity of variable Y (Reading comprehension) which consists of 20 statement items with r_{tabel} 0.227, it is known that of the 20 statement items, 3 items of statement are invalid and 17 items of valid statements. This is because the r_{xy} value obtained from the statement items is greater than the r value, so the statement items are said to be valid.

2. The Reliability Test

Instrument relibility test aims to determine the extent of the results measurements remain consistent, if two or more measurements are made againtst the same symptomss using the same measuring device the relibilty of the instument was carried out using the IBM Statistics SPPS application 21. The techniques used to measure the relibility of an instrument research is Alpha Cronbach technique.

The instrument reliability test was carried out using the *IBM SPSS* application *Statistic 21 for Windows* with criteria if the alpha coefficient value > 0.6 then the instrument is *reliable,* whereas if the alpha coefficient value <0.6 then the instrument is not *reliable* .

Table 3.7 Reliability Variable X

Reliability Statistics

Cronbach's Alpha	N of Items
,860	27

Source: Output Data of SPSS Statistic IMB 21

Based on the table above, it can be seen that the reliability of the variable X instrument (Self-esteem) has a *Cronbach's Alpha* value of 0.860, so the statement instrument is declared *reliable* because r = 0.860 ≥ 0.6. In other words, 27 statement items that have been reliable can be used for data measurement in the context of data collection..

Table 3.8 Reliability Variable Y

Reliability Statistics

Cronbach's Alpha	N of Items
,752	17

Source: Output Data of SPSS Statistic IBM 21

Based on the table above, it can be seen that the reliability of the variable X instrument (Reading comprehension) has a *Cronbach's Alpha* value of 0.752, so the statement instrument is declared *reliable* because r = 0.752 ≥ 0.6. In other words, 17 statement items that have been reliable can be used for data measurement in the context of data collection..

F. Procedure of Collecting Data

The procedure use in collecting data include non test form of reading Self-esteem questionnaires and reading comprehension tests in the form of multiple choice tests.

Self-esteem questionnaires were given to the students in order to determine their Self-esteem score, and multiple choice of reading comprehension tests were use

to measure reading comprehension score of the students of second grade of SMAN 4 Parepare.

G. Technique of Data Analysis

The technique data analysis in this research will use descriptive statistical techniques and inferential statistics to facilitate the analysis of the research data, the researcher will use SPSS. The writer calculated the perquisite testing requirement analysis such as validity, reliability, linearity, and normality test before calculating the statistical testing Pearson Product Moment Correlation. The technique data analysis of the research as follows:

1. Descriptive Statistic

Data analysis used descriptive statistic, which describes the existing data to obtain fact from respondents, hence more easily to understand. The analysis used with descriptive statistic was done by collecting, compiling, presenting, and analyzing all data of all variables in terms of percentage, frequency distribution, histogram, diagram, graph, mean, mode, median, and standard deviation.

2. Test Requirements Analysis

Test requirements analysis is needed to determine whether data analysis for hypothesis testing can be continued or not. This section is discussed various test requirements analysis, such as test data normality, homogeneity, and linearity.

a. Data Normality Test

The purpose of conducting a normality test on a series of data is to know whether the data population is normally distributed or not. When data normally

distributed, it can be used a parametric type statistical test. Meanwhile, if the data is not normally distributed, then a statistical test is used nonparametric.

The normality test was carried out by the Kolmogorov-Smirnov test on SPSS Statistic 21 for Windows. With the following test rules

If Probability (sig) > 0.05, then the data is normally distributed

If Probability (sig) <0.05 then the data is not normally distributed

b. Data Linearity Test

The purpose of the linearity test is to determine whether between dependent variable (Y) and independent variable (X) have a linear relationship. Test this usually used as a prerequisite in applying the linear regression method.

Linearity test using the IMB SPSS statistic 21 for Windows with the test criteria, namely If the probability value> 0.05, then the relationship between variables X and Y is linear. If the probability value <0.05, then the relationship between variables X and Y is not linear.

c. Statistical Hypotesis

The calculating of the correlation coefficient of the result of both of test was analyzed by applying the formula of product moment correlation as follow:

$$rxy = \frac{N\sum xy - \sum x.\sum y}{\sqrt{(N\sum x^2 - \sum x^2)^2(N\sum y^2 - \sum y^2)^2}}$$

Where

r_{xy} : Correlation Coefficient

N :The number of students/subjects participating in the test

$\sum_x$:The sum of score in reading habit

$\sum_y$:The sum of score in reading comprehension and analytical exposition text[43].

To find out the correlation between X and Y, significant or not, used the definition of the refuse or accept hypothesis as follows:

Ho = refuse if R-value ≤ r-table

Ha = accept if R-value ≥ r-table

Table 3.5 Guidelines for interpretation of correlation coefficients[44]

Coefficient Interval	Level relationship
0, 00 – 0, 199	Very low
0, 20 – 0, 399	Low
0, 40 – 0, 599	Medium
0, 60 – 0, 799	Strong
0, 80 – 1, 000	Very strong

[43]Suharsimi Arikunto, *Prosedur Penelitian* (Jakarta: RinekaCipta 2002)

[44]Sugiono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, R & D*.