

CHAPTER III

RESEARCH METHOD

This chapter discusses the methodology employed for this investigation. The research technique includes the research design, population and sample, instrument, data collecting, and data analysis.

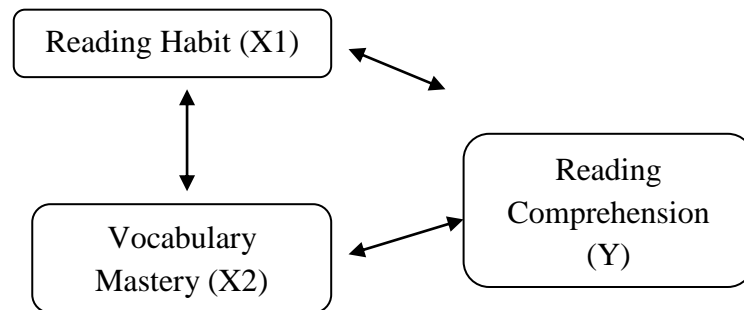
A. Research Design

The research design is a critical component of every study. A suitable study design will assist the researcher in collecting accurate data and interpreting the results more effectively. A quantitative technique is used as a study method based on the context. For this study, a Pearson Product moment correlation is used to find out how important a relationship is between two variables. Regression Linear is used to find out how important a relationship is between three variables (Multiple Correlation). Correlation design is a statistical test that determines the tendency for two (or more) variables or two sets of data to change regularly (Cresswell, 2012).

Based on quantitative coefficient correlation statistics, the researchers chose this type of study to find out how much three variables are related to each other. In this study, there are three kinds of variables. Reading Habits (X1) and Vocabulary Mastery (X2) are the independent variables in this study. Reading Comprehension is the dependent variable (Y).

3.1

Figure Table of Variable

**B. Population and Sample**

Before collecting data, the researcher must identify the research population and sample, as knowledge of the research issue is essential for analysis. The sample was chosen using stratified cluster sampling. A population is a big group about which a generalization is drawn (Ary, 2010). A population is a collection of things or subjects with particular attributes and characteristics, which are studied by researchers and drawn to conclusions (Sugiyono, 2016). This study's population consists of students in the tenth grade at SMAN 4 Kediri. This grade has eleven classes separated into two programs: scientific class, and social class. There are 393 students for the tenth grade of SMAN 4 Kota Kediri. Here is the table of population:

Table 3.2

Table of Population

Class	Total of Students
X MIPA 1	35
X MIPA 2	35

X MIPA 3	36
X MIPA 4	36
X MIPA 5	35
X IIS 1	36
X IIS 2	36
X IIS 3	36
X IIS 4	36
X IIS 5	36
X IIS 6	36
TOTAL	393

A sample is a subset of the target population that a researcher studies to learn more about the entire target population (Creswell, 142). Sample is a part of population which will to be analyzed. The sample is part of or representative of the population studied (Arikunto, *Prosedur Penelitian*, 2010, p. 109). Sampling for study according to Suharsimi (Arikunto, *Prosedur Penelitian*, 2010, p. 112), if the subject is less than 100 people should take all, if the object is large or more than 100 people can take 10-15% or 20-25% or more. In this study, the sample selected by the researcher was class X of the science study program. By those populations, it will take one class that is X MIPA 3 to be samples who give a tryout of the instrument to measure the validity and reliability of the test. While to collect the data from that population, researcher takes 35% of the population students' science class and social class, this is mean around 141 students from four science class as a sample.

Table 3.3**Table of Sample**

Class	Total of Students
X MIPA 1	35
X MIPA 2	35
X MIPA 4	36
X MIPA 5	35
TOTAL	141

C. Instrument of Study

The instrument is one of the significant steps in conducting this research. This research uses some tools for collecting relevant data. Some instruments are used in this study to acquire pertinent data. A device used to measure, observe, or record quantitative data is an instrument (Cresswell, 2012). The researcher employs a questioner and a test to collect data. We will use the exam to determine vocabulary competence and reading comprehension. At the same time, the questioner attempted to determine the kids' reading habits.

1. Questionnaire

The questionnaire is a method of data gathering that consists of distributing a series of written questions to respondents and collecting their responses (Sugiyono: p. 199). A reading Habit questionnaire is the instrument that is employed in this research to obtain the data that is required for the study. The reading habit scores of the students were the focus of the study that led to the

distribution of the questionnaires to the students. The researcher adopted the questionnaire developed by Samrotul Muawanah was selected as the tool by the researcher (2014). The researcher made the questionnaire available to the students in Indonesian so that they would have an easier time comprehending the meaning of the statement. The author conducted an investigation on the reliability of the questionnaire before distributing it to the students. There are a total of 30 surveys that need to be validated and tested, however the reading habit questionnaire only included 20 questions that were considered legitimate. The author employed a closed questionnaire to determine the grades provided to the students. In this questionnaire, the respondents checked the available replies that were offered by the author. The results of the validity and reliability tests are included in the appendix for your viewing pleasure.

Based on the Likert's Scale Types, the questionnaires had five options. Likert's scale is used to find out how people feel, what they think, and how they see something. The indicators of the questionnaire were explained as follows:

Table 3.4
Scores of Reading Habit Response Questionnaire

Indicators	Scores
Always (selalu)	5
Often (sering)	4
Sometimes (kadang-kadang)	3

Rarely (jarang)	2
Never (Tidak pernah)	1

Students were given a lengthy questionnaire with numerous questions. Students were given a lengthy questionnaire with numerous questions. According to theory Iftanti (2012), reading habits contain indicators such as the amount of reading practice, the length of time of having a reading habit, the types of texts to read, the number of books to be read, the purposes of reading English texts and motivation to read English. In this section, the researcher requested that students select one choice. It implies that their responses must reveal something about who they are or accurately reflect how frequently they read in English. Indicators utilized by the questionnaire author are displayed in the table below. The whole questionnaire can be seen in Appendix 1.

Table 3.5

Reading Habit Indicators

No	Indicators	Item Number
1	The amount of reading practice	1,2,3,4,5
2	The number of books to be read	6,7,8,9,10
3	The length of time of having reading habit & the types of texts to read	11,12,13,14,15
4	Motivation to read English,	16,17,18,19,20

2. Test

A test is a scheduled question or exercise, as well as other means of determining the intelligence, knowledge, talent, or skill of an individual or group (Arikunto, *Prosedur Penelitian*, 2010, p. 150). Students take a test to find out how well they know their vocabulary and how well they can read. A test is a way to measure a person's knowledge, skills, or performance in a certain area. (Brown H. D., 2004).

For this study, the researcher used the vocabulary mastery test and the reading comprehension test to get information from the sample. The writer utilized multiple-choice exams in this test. The researcher does a test tryout before doing the actual test on the sample. The researcher gives all of the exams to the students once the test has been conducted. This test shows how well students understand and solve problems about vocabulary and reading comprehension.

a. Vocabulary Test

A test gives to study participants to determine their proficiency in English Vocabularies. This test was made by the researcher by looking at the basic competencies of senior high school. In this study, the vocabulary focused on types of words (word classification, word meaning, and word formation). The question vocabulary test was adopted from the Educational and Cultural Ministry English book which has been checked and revised by the Educational and Cultural Ministry before being published. This test consists of 25 questions for validation and test and only 20 valid questions are

used for the vocabulary mastery test. Vocabulary knowledge is evaluated via multiple-choice tests with particular questions expressed in terms of operational ideas and four possible answers: A, B, C, and D. Students will receive a score of five for each question on the exam if they respond properly. If the students answer incorrectly, they will receive a 0. The maximum possible score on this exam is 100 points. The higher score on this test is 100 points. This is the formula to score students' vocabulary mastery.

$$\text{Students' Score} = \text{Students' correct score} \times 4$$

The blueprint of the Vocabulary Mastery test was also created by the researcher it puts in (Appendix 2). Indicators used by the author in the questionnaire are shown in the table below:

Table 3.6

Vocabulary Test Indicators

No	Indicators	Item Number
1	Word classification	1,2,3,4,5
2	Word meaning	6,7,8,9,10
3	Word Function	11,12,13,14,15
4	The students are able to use appropriate choice of word	16,17,18,19,20

The researcher conducted a tryout before distributing the real test. It uses to assess the test's validity and reliability. The tryout gave to the students of X MIPA 3 which it is one of the populations itself. After providing the

tryout, the data is analyzed by using SPSS version 26 to know which items are valid or not. It found that items number 6, 7, 15, 21 and 22 are not valid. Those items are not valid because the r-result is lower than r-table (0.344, N=33), the score of every r-result the researcher put in (Appendix). So by the validity check there are 5 items are not valid and 20 items are valid, that were valid are items number 1,2,3,4, 5, 8,9,10, 11,12, 13,14, 16, 17, 18, 19, 20, 23, 24 and 25.

b. Reading Comprehension Test

This test is given to see how well the students understand and can answer questions about what they have read. In this part of the study, the researcher also used a test with multiple choices. This test has 25 questions for validation and reliability, but only 20 of the correct questions are used for the vocabulary mastery test. Each question has five possible answers: A, B, C, D, and E. The procedure for the test is scored is as follows: if students answer each question correctly, they will get a score of 5 for each question. If the students get the questions wrong, they will get a 0. On this test, 100 points are the best score.

$$\text{Students' Score} = \text{Students' correct score} \times 4$$

This is how you figure out how well a student knows words: You can see what a reading comprehension test looks like in (Appendix). The researcher also came up with the plan for the reading comprehension test

(Appendix 3). Indicators used by the author in the questionnaire are shown in the table below:

Table 3.7
Reading Comprehension Test Indicators

No	Indicators	Item Number
1	Main Idea	2,4,10,14
2	Purpose	9,15,18,20
3	Factual Information	3,5,6
4	Meaning of Vocabulary	8,11,16
5	Inference	1,13,19
6	Reference	7,12,17

The researcher conducted a tryout before distributing the real test. It uses to assess the test's validity and reliability. The tryout gave to the students of X MIPA 3 which it is one of the populations itself. After providing the tryout, the data is analyzed by using SPSS version 26 to know which items are valid or not. It found that items number 1, 2, 6, 9, and 11 are not valid. Those items are not valid because the r-result is lower than r-table (0.344, N=33), the score of every r-result the researcher put in (Appendix). So by the validity check there are 5 items are not valid and 20 items are valid, that were valid are items number 3,4,5,7,8,10,12,13,14, 15,16, 17, 18, 19, 20,21,22, 23, 24 and 25.

D. Validity

It is a valid instrument if it can measure what the researchers want to measure. (Arikunto, *Prosedur Penelitian*, 2010, p. 168). Validity is a measure of how well, accurately, meaningfully, and usefully of the specific conclusions made by the researcher are referred to as validity (Fraenkel et al, 2012:147). According to that reasoning, the researcher states that validity is required in the research since it is essential in examining the correctness of the instrument used to collect data. The researcher uses IBM SPSS 26.0 to get the Pearson Product Moment for the reading habits questionnaire, the vocabulary mastery test, and the reading comprehension test. If the r-result is higher than the r-table, the test is called valid. If the r-result is lower than the r-table, the test is not valid.

Table 3.8

Validity Result of Reading Habit

No.	R hitung	R Tabel	Keterangan
1	0,398	0,344	VALID
2	0,543	0,344	VALID
3	0,615	0,344	VALID
4	0,390	0,344	VALID
5	0,475	0,344	VALID
6	0,600	0,344	VALID
7	0,680	0,344	VALID
8	0,600	0,344	VALID
9	0,190	0,344	INVALID
10	0,356	0,344	VALID

11	0,423	0,344	VALID
12	0,428	0,344	VALID
13	0,569	0,344	VALID
14	0,689	0,344	VALID
15	0,156	0,344	INVALID
16	0,566	0,344	VALID
17	0,628	0,344	VALID
18	0,768	0,344	VALID
19	0,415	0,344	VALID
20	0,518	0,344	VALID
21	0,599	0,344	VALID
22	0,632	0,344	VALID
23	0,767	0,344	VALID
24	0,355	0,344	VALID
25	0,384	0,344	VALID
26	0,732	0,344	VALID
27	0,289	0,344	INVALID
28	0,306	0,344	INVALID
29	0,666	0,344	VALID
30	0,609	0,344	VALID

Based on the table above, the researcher concluded that 30 items are valid at the level of significance $\alpha = 0,05$ for $N = 33$ is 0.344, 26 items are valid because because $r_{\text{value}} > r_{\text{table}}$, 4 items are invalid because $r_{\text{value}} < r_{\text{table}}$.

Table 3.9**Validity Result of Vocabulary Mastery**

No.	R hitung	R Tabel	Keterangan
1	0,268	0,344	INVALID
2	0,239	0,344	INVALID
3	0,410	0,344	VALID
4	0,662	0,344	VALID
5	0,414	0,344	VALID
6	0,213	0,344	INVALID
7	0,432	0,344	VALID
8	0,368	0,344	VALID
9	0,187	0,344	INVALID
10	0,454	0,344	VALID
11	0,149	0,344	INVALID
12	0,350	0,344	VALID
13	0,502	0,344	VALID
14	0,504	0,344	VALID
15	0,389	0,344	VALID
16	0,531	0,344	VALID
17	0,420	0,344	VALID
18	0,510	0,344	VALID
19	0,658	0,344	VALID
20	0,534	0,344	VALID
21	0,546	0,344	VALID
22	0,403	0,344	VALID
23	0,429	0,344	VALID
24	0,542	0,344	VALID
25	0,595	0,344	VALID

Based on the table above, the researcher concluded that 25 questions are valid at the level of significance $\alpha = 0,05$ for $N = 33$ is 0.344. There are 20 items are valid because $r_{\text{value}} > r_{\text{table}}$. There are 5 items are invalid because $r_{\text{value}} < r_{\text{table}}$.

Table 3.10

Validity Result of Reading Comprehension

No.	R hitung	R Tabel	Keterangan
1	-0.060	0,344	INVALID
2	0,081	0,344	INVALID
3	0,502	0,344	VALID
4	0,503	0,344	VALID
5	0,503	0,344	VALID
6	-0.072	0,344	INVALID
7	0,503	0,344	VALID
8	0,503	0,344	VALID
9	0,225	0,344	INVALID
10	0,568	0,344	VALID
11	0,209	0,344	INVALID
12	0,503	0,344	VALID
13	0,503	0,344	VALID
14	0,471	0,344	VALID
15	0,503	0,344	VALID
16	0,503	0,344	VALID
17	0,424	0,344	VALID
18	0,408	0,344	VALID
19	0,604	0,344	VALID
20	0,503	0,344	VALID
21	0,417	0,344	VALID

22	0,621	0,344	VALID
23	0,614	0,344	VALID
24	0,537	0,344	VALID
25	0,621	0,344	VALID

Based on the table above, the researcher concluded that 25 questions are valid at the level of significance $\alpha = 0,05$ for $N = 33$ is 0.344. There are 20 items are valid because $r_{\text{value}} > r_{\text{table}}$. There are 5 items are invalid because $r_{\text{value}} < r_{\text{table}}$.

E. Reliability

Validity and reliability are two things that can not be separated. According to (Fraenkel et al., 2012:154), dependability is about how consistent the scores are from one use of an instrument to the next and from one set of items to the next for each person. It indicates that the score should be substantially identical when the researcher administers the instrument numerous times and at different times. A trustworthy instrument will process credible data and may be relied on as a tool for data collection. Although some of the text and questions were adopted from the Educational and Cultural Ministry English book which has been checked and revised by the Educational and Cultural Ministry before being published, the researcher will conduct a reliability test using SPSS for Windows ver. 26.0 to know the suitability of the test. If r -obtained is greater than r -table, the test is said to be reliable. (Arikunto 2019, p.276), says that the reliability coefficient is based on:

Table 3.11**The Coefficient of Reliability**

Coefficient Interval	Levels of Reliability
0.80 < 1.00	Very high reliability
0.60 < 0.80	High reliability
0.40 < 0.60	Fair reliability
0.20 < 0.40	Low reliability
0.00 < 0.20	Very low reliability

The researcher used the Alpha Cronbach Formula and SPSS 26.0 to figure out how reliable Reading Habit was. In the table below, you can see the results of the reliability test:

Table 3.12**Reliability Table of Reading Habits**

Reliability Statistics	
Cronbach's Alpha	N of Items
0.908	30

Based on the data above, the result of the reliability of students' reading habits is acquired the reliability coefficient= 0.908 in rtable = 0.344 at the level of significance 0.05 for the number of students is 33 students. It means that all of the items in the reading habits questionnaire are very highly reliable and can be used for the next test.

While for measured the reliability of Vocabulary Mastery test, it also has been checked by using SPSS and the reliability test can be seen in the following table:

3.13

Reliability Table of Vocabulary Mastery

Reliability Statistics	
Cronbach's Alpha	N of Items
0.810	25

Based on the data above, the result of the reliability of students' reading habits is acquired the reliability coefficient = 0.810 in $r_{table} = 0.344$ at the level of significance 0.05 for the number of students is 33 students. It means that all of the items in the vocabulary test are very highly reliable and can be used for the next test.

While for measured the reliability of Reading Comprehension test, it also has been checked by using SPSS and the reliability test can be seen in the table below:

3.14

Reliability Table of Reading Comprehension

Reliability Statistics	
Cronbach's Alpha	N of Items
0.747	25

Based on the data above, the result of the reliability of students' reading habits

is acquired the reliability coefficient = 0.747 in $r_{table} = 0.344$ at the level of significance 0.05 for the number of students is 33 students. It means that all of the items in reading comprehension test are highly reliable and can be used for the next test.

F. Data Collection

The ways for collecting the data is asking the students together in a time and place, so the researcher will give time to the student for answering the questionnaire and test. Instrument of the test will be distributed through test to collect data on Vocabulary Mastery and Reading Comprehension, and a questionnaire to collect data on Reading Habit. The researcher uses all the samples which took the test. There are 141 students as sample from 4 classes.

The researcher took specific actions to carry out this study. Before beginning the investigation, the researcher obtains authorization from SMAN 4 Kota Kediri. Following consent from the school, the researcher carried out various procedures to collect data.

The first stage is for the researcher to administer the reading habit questionnaire. It consists of 20 item closed-type surveys and takes 10 minutes to complete. The researcher then helps the vocabulary mastery exam in the second stage. This test consists of 20 multiple-choice questions and lasts 15 minutes. Finally, the researcher administers a reading comprehension exam. It consists of 20 multiple-choice questions and lasts 25 minutes. To process the data in this investigation, the

researcher utilizes SPSS software version 26.00 for the window to analyze the correlation of all the data.

G. Data Analysis

The researcher used a quantitative analysis to figure out how to look at the data. According to (Cresswell, 2012), a research topic may be described using quantitative research by identifying patterns or a desire to explain the connection between variables. To do this, instruments with predetermined questions and responses are used to gather numerical data from a large number of participants. At this point, the data will be analyzed, and the analysis will make use of scoring procedures as well as the Pearson product-moment calculation to investigate the nature of the connections between all of the variables. This project will collect three different types of data: data on students' reading habits, data on students' vocabulary proficiency, and data on students' understanding of what they read. The Pearson Moment Product is used by the researcher in order to determine the level of correlation that exists between two variables and to ascertain whether or not the data are normal.

The degree of correlation that exists between three different variables may be determined by using a technique called multiple correlation. The researcher will utilize Microsoft Excel to learn more about each variable by calculating the mean of each scoring component that makes up each variable. Then, the researcher will compare the mean scores to determine which scoring component the students are lacking. The data is made up of four parts. The first one are about the relationship between how much students read and how well they know words. The second is

about the relationship between how often you read and how well you understand what you read, and the third is about the relationship between how well you know words and how well you understand what you read. The last link between how much students read, how well they know words, and how well they understand what they read. In analyzing correlation of all the data, researcher uses SPSS software ver.26.00 for windows, and the researcher applied the Spearman Rank Correlation Coefficient (rs).

Spearman correlation coefficient can take a range of value from -1 to 1. When two variables has a value approaches +1,00 means that both of those variables are highly related in positive way. If the value of the correlation approaches -1,00 , it means that those variables are related in negative way. While if the value is near with 0, means that there is a little relation between those variables (Ary et. al., 2006). The other interpretation of correlation scale also determined by Spearman's Rank Scale as follow:

Table 3.15

The Interpretation Table of Spearman's Rank Formula Correlation Coefficient

Coefficient Correlation(CC)	Category
0,00- 0,25	Very Low Correlation
0,26 -0,50	Low Correlation
0,51 - 0,75	AverageModerate Correlation
0,76 - 0,99	High Correlation
1,00	Very High Correlation

To determine the significant hypothesis based on the value of coefficient correlation were formulated as follows:

$\text{Sig} < 0.05$ H_0 is rejected, H_a is accepted. It means there is the correlation

$\text{Sig} > 0.05$ H_0 cannot be rejected, H_a is accepted. It means there is no correlation