

## CHAPTER III RESEARCH METHODOLOGY

### A. Research Method

In conducting this research, the researcher is using a quantitative approach. Sugiyono states that the quantitative approach can be described as an approach based on the positivist philosophy, to investigate a certain population.<sup>1</sup> Then, Creswell mentions that a quantitative approach is an approach to determining the relationship between variables by using numbered data that can be analyzed using the statistical procedure.<sup>2</sup> So, the quantitative approach is an approach that analyzes the numeric data by statistical procedure and is associated with positivist philosophy.

Then, the research type is correlational research. According to Masrukhin, correlational research is a research that concerns gathering data to examine the correlation between two variables or more and the level of that correlation. If there is a correlation between those variables, it can be associated.<sup>3</sup> In correlational research, the correlation between two variables or more is stated by a correlation coefficient ( $r$ ) which also shows the strength and the direction of the correlation. The minimum amount of correlation coefficient is  $-1$  and the maximum is  $+1$ . The correlation direction is positive when the X variable increases then the Y variable also increases, and when the X variable decreases then the Y variable also decreases.<sup>4</sup> This research has two variables, there are the students' reading habits as the X variable and the students' mastery of simple past tense as the Y variable.

### B. Research Population and Sample

#### 1. Population

The population is the entire group, including of objects or subjects that have definite qualities and characteristics which are examined by researchers to be concluded.<sup>5</sup> The population in

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<sup>1</sup> Sugiyono, *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta, (2015):14

<sup>2</sup> Jhon W Creswell, *Research Design Fourth Edition*. California: Sage Publication Inc, (2014):48

<sup>3</sup> Masrukhin, *Metodologi Penelitian Kuantitatif*, Kudus: Media Ilmu Press (2014):48

<sup>4</sup> Fitri Yeni J, et.al, *Penelitian Pendidikan*, Jakarta: Prenadamedia Grup (2018):31

<sup>5</sup> Sugiyono, *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta, (2015):117

this study is all of the 10th grade students of MA Ihyaul Ulum Wedarijaksa Pati in the academic year 2022/2023. The 10<sup>th</sup> grade students of MA Ihyaul Ulum consist of three classes, namely X MIA 1 (33 students), X MIA 2 (34 students), and X IIS 1 (31 students). The total population is 98 students.

**2. Sample**

The sample is part of the number and characteristics of a population. Samples are taken from a population should accurately represent the population.<sup>6</sup> The sample of this research is chosen randomly by the researcher because the students are homogeneous. The researcher uses Solvin Formula to determine the number of the sample with an error level of 5%. So, the selected sample has 95% confidence level.<sup>7</sup> Then the calculation the number of sample in this research is:

$$n = \frac{N}{1 + N e^2}$$

$$n = \frac{98}{1 + 98 (0.05)^2} \quad n = 78.71 = 79$$

From the calculation above, the total sample required is 79 students. Then, the researcher rounded it up to 80 students. The samples consist of three classes, namely X MIA 1 (25 students), X MIA 2 (25 students), and X IIS 1 (30 students).

**C. Research Participant**

The research participants of this research are 80 students from three classes of the tenth grade of MA Ihyaul Ulum. Those are taken by simple random sampling, where the sample is taken randomly without considering to the population strata.<sup>8</sup> The researcher chose this sampling method because the members of the population were considered homogeneous.

**D. Instruments and Data Collecting Technique**

The instrument is needed to assess the value of the research variables. It can be a form of test and non-test instrument. The researcher uses to test and non-test techniques in gathering the data. The non-test technique is a questionnaire to measure the student's

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<sup>6</sup> Masrukhin, *Metodologi Penelitian Kuantitatif*, Kudus: Media Ilmu Press (2014):48

<sup>7</sup> Firdaus M, *Metodologi Penelitian Kuantitatif*, Riau: DOTPLUS Publisher (2021): 19

<sup>8</sup> Sugiyono, *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta, (2015):118

reading habits. And the test is for measuring the student's mastery of simple past tense.

### 1. Questionnaire

The questionnaire is a data-collecting technique that is done by providing a set of questions or written statements to be answered by research participants.<sup>9</sup> In this research, the questionnaire is used for knowing the level of students' reading habits of English texts. It is distributed directly in the class to the students. Then, the students answer the questionnaire based on their own experiences.

The researcher chooses a closed-type questionnaire with Likert Scale. In Likert Scale, the variable assessed is interpreted into variable indicators. Then these indicators are used as a starting point for organizing the instrument items which can be statements or questions.<sup>10</sup> In conducting the questionnaire the researcher uses five indicators as follows:

- a) Reading Frequency (often or not)
- b) Reading Strategy (how to read)
- c) Type of Reading Materials (variety)<sup>11</sup>
- d) Reading Interest
- e) Environment<sup>12</sup>

According to Azwar, in scoring questionnaire the highest score for favorable item is in option 'strongly agree'. And the highest score for unfavorable item is in option 'strongly disagree'. Five alternative answers can be scored in the table below.<sup>13</sup>

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<sup>9</sup> Sugiyono, 142

<sup>10</sup> Sugiyono, Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif dan R&D. Bandung: Alfabeta, (2015):166

<sup>11</sup> Akmal Fauzan and Bayu Insanisty, Dampak Model Pembelajaran dan Kebiasaan Membaca Terhadap Kemahiran Menulis Bahasa Inggris, *Jurnal Ilmiah Teknologi Pendidikan* vol. 10 no. 2 (2020): 180

<sup>12</sup> Afifah Zulfa Destiyanti, "Korelasi Kebiasaan Membaca Dengan Kemampuan Membaca Pemahaman Pada Mata Pelajaran Bahasa Indonesia Siswa Kelas V Mi Ismaria Al-Qur'anniyah Bandar Lampung" *Naturalistic: Jurnal Kajian Penelitian dan Pendidikan dan Pembelajaran* Vol.4, No.1 (2019): 432

<sup>13</sup> Syaifuddin Azwar, *Metode Penelitian*, Yogyakarta: Pustaka Pelajar, (2001):

**Table 3.1 Questionnaire Scoring**

No	Option	Score	
		Favorable	Unfavorable
1	Strongly Disagree	1	5
2	Disagree	2	4
3	Neutral	3	3
4	Agree	4	2
5	Strongly Agree	5	1

## 2. Test

Besides questionnaire the researcher also uses the test as an instrument to collect data. The test is used to assess the student's mastery of simple past tense. It is a multiple-choice test with four alternative answers (A, B, C, D). And the test consists of 20 questions, in which one number with the correct answer gets one point, and an incorrect answer or unfilled number gets zero points.

Then, to ensure that the test represents the variables, the indicators are needed to compile the test. The researcher uses three indicators in arranging the test.

- a. The ability to use past verbs (regular and irregular verbs) in the verbal sentence.
- b. The ability to use to be in the nominal sentence.
- c. The ability to arrange the correct structure of simple past tense in affirmative, negative, or interrogative sentences.<sup>14</sup>

## E. Validity and Reliability Instrument

A research instrument is a tool for measuring the knowledge, skills, feelings, intelligence, or attitudes of individuals and groups, in the form of tests, interviews, questionnaires, etc. A good instrument is presenting data that are valid and reliable.<sup>15</sup> So the research instrument must be tested for its validity and reliability.

### 1. The Validity of the Instrument

Validity is an essential quality for each instrument. Validity means the precision and accuracy of an instrument as a measuring tool.<sup>16</sup> The instrument is valid for certain purposes

<sup>14</sup> Sri Meutia Sari, "A Correlation Between Simple Past Tense Mastery and Writing Spooof Text AbilitY", *English Education*, vol.01 no. 01 2014):106

<sup>15</sup> Masrukhin, *Metodologi Penelitian Kuantitatif*, Kudus: Media Ilmu Press (2014):114

<sup>16</sup> Masrukhin, 114

and groups, not for any measurement. Before the instrument is distributed, it must be tested for validity.

Measure the validity can be carried out by correlating the score of the question items with the total score construct or variable. The significant test is carried out for each item in the instrument by comparing the *r-value* with the *r-table*, and degree of freedom (df) = n-k, where n = amount of sample and k = number of constructs.

The item of the instrument is valid when the *r-value* > *r-table* and *r-value* is positive with  $\alpha = 0.05$ . And it is invalid when *r-value* < *r-table*.<sup>17</sup> The researcher uses the Pearson Product Moment formula by SPSS 22.0 to test the validity of simple past tense mastery and reading habits instruments.

## 2. The Reliability of Instrument

The instrument also must be tested for its reliability. It is important because reliability is the degree to which an instrument is consistent. The reliability of the instrument starts from its consistency in measure. If the answers of a person to the questions on the instrument are consistent or steady over time, the instrument is said to be reliable.

Measuring reliability can be done by assessing the correlation between the answers to questions. In this study, the researcher uses Cronbach Alpha statistical test by SPSS 22.0 program. The instrument is reliable when the coefficient value of the Cronbach Alpha is higher than 0.60 ( $\alpha > 0.60$ ). Conversely, the instrument is unreliable when the coefficient of Cronbach's Alpha is lower than 0.60 ( $\alpha < 0.60$ ).<sup>18</sup>

## F. Data Analysis Technique

### 1. Preliminary analysis

After collecting data on students' reading habits of English texts and simple past mastery from the questionnaire and test, the researcher analyzes the data. Preliminary analysis is carried out to convert the obtained data to quantitative data. Then, to determine the level of student's reading habits of English text and student's mastery of simple past tense, the researcher takes the following steps:

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<sup>17</sup> Masrukhin, *Metodologi Penelitian Kuantitatif*, Kudus: Media Ilmu Press (2014):100

<sup>18</sup> Masrukhin, 125

- a. Assessing the questionnaire and test that have been answered by students.
- b. Arrange the frequency distribution data of reading habits and simple past tense mastery score.
- c. Determine the mean value of reading habits and simple past tense mastery.
- d. Determine the interval value of reading habits and simple past tense mastery. To determine each level of variables.

## 2. Prerequisite Test

Before carrying out statistical analysis, an assumption test or pre-requisite test must be done first. The pre-requisite test includes normality and linearity tests.

### a. Normality Test

The test of normality is done to know whether the distribution of the data obtained is normal or not. According to Masrukhin, a good data distribution is data that has a pattern like a normal distribution. It indicates that the distribution of the data does not have a squint or a sharp to the left or right.<sup>19</sup>

The researcher uses the Kolmogorov-Smirnov test by using SPSS 22.0. The criteria for the normality test are:

- 1) If the number of significance (SIG)  $> 0.05$ , then the data is normally distributed.
- 2) If the number of significance (SIG)  $< 0.05$ , then the data is not normally distributed.

### b. Linearity Test

The linearity test is a prerequisite test that is carried out before doing a correlation analysis. A good correlational research is when there is a relationship between the dependent and independent variables.<sup>20</sup> This test aims to find out whether there is a significant linear relationship between two variables or not.

The linearity test is carried out by using the SPSS 22.0 program. Two variables are linear when the significant value is higher than 0.05. And two variables are not linear when the significant value is lower than 0.05.

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<sup>19</sup> Masrukhin, *Metodologi Penelitian Kuantitatif*, Kudus: Media Ilmu Press (2014):114

<sup>20</sup> Masrukhin, *Metodologi Penelitian Kuantitatif*, Kudus: Media Ilmu Press (2014):135

**3. Hypothesis Test**

The hypothesis test is the main statistical analysis to determine the correlation between two variables. The hypothesis of this research is expressed as follows:

$H_0$ : There is no correlation between students' reading habits of English texts and students' mastery of simple past tense.

$H_a$ : There is a correlation between students' reading habits of English texts and students' mastery of simple past tense.

The researcher uses Pearson Product Moment by using SPSS version 22.0 to assist in analyzing the data of this research. The data use a significance of 5% (0.05). And the assumption of the hypothesis is as follows:

- a. If  $Sig. > \alpha$ , then  $H_0$  is accepted and  $H_a$  is rejected. It means there is no correlation between students' reading habits of English texts and students' mastery of simple past tense.
- b. If  $Sig. < \alpha$ , then  $H_0$  is rejected and  $H_a$  is accepted. It means there is a correlation between students' reading habits of English texts and students' mastery of simple past tense.

In addition, the level of correlation can be shown from the coefficient correlation. Based on the table below.

**Table 3.2 The Level of Correlation**

Coefficient Correlation	Level of Correlation
0.00 – 0.10	Negligible Correlation
0.10 – 0.39	Weak Correlation
0.40 – 0.69	Moderate Correlation
0.70 – 0.89	Strong Correlation
0.90 – 1.00	Very Strong Correlation

**G. Research Ethical Consideration**

The research ethical consideration is essential in conducting the research. Ethical norms serve the aims or goals of research and apply to people who conduct scientific research or other scholarly or creative activities. It is to ensure ethical research practice that shows the researcher is serious in doing the research and considers how the research may affect participants.

Gajjar mentions five principles of research ethics:

- 1. *Discuss intellectual property frankly.*
- 2. *Be conscious of multiple rules.*
- 3. *Follow informed-consent rules.*
- 4. *Respect confidentiality and privacy.*

- a. *Discuss the limits of confidentiality.*
  - b. *Know federal and state law.*
  - c. *Take practical security measures.*
  - d. *Think about data sharing before research begins.*
  - e. *Understand the limits of the Internet.*
5. *Tap into ethics resources.*<sup>21</sup>

Gajjar adds some codes and policies for research such as; honesty, objectivity, integrity, carefulness, openness, respect for intellectual property, confidentiality, responsibility (publication, mentoring, social), respect for college, non-discrimination, competence, legality, and animal care.<sup>22</sup> *Quantitative-oriented research must fulfill the three pillars of research ethics; data access, production transparency, and analytical transparency.*<sup>23</sup>




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<sup>21</sup> Nielsh B Gajjar, "Ethical Consideration in Research", *International Journal for Research in Education*, Vol. 2 No 7 (2013): 12-15

<sup>22</sup> Nielsh B Gajjar, 9-10

<sup>23</sup> Arthur Lupia and Colin Elman, "Openness in Political Science: Data Access and Research Transparency" *Political Science*, (2014):21