CHAPTER III
RESEARCH METHODOLOGY

A. Research Method
   1. The type of this research

   The type of this research is correlation research. According to Fraenkel et al., correlation research also known as associational research, studies the relationship between two or more variables without attempting to influence them.[1] Masrukhin also state that correlation research related to data collection to determine whether or not there is a relationship between two or more variables and how closely.[2] From the statements it means that correlation research is the collection of data to determine whether or not there is a relationship between two or more variables. The researcher chooses this type of research because she wants to know the strength of the relationship between two or more variables based on the correlation coefficient..

   2. The type of approach

   The type of approach in this research is the quantitative approach. Lodico said, All quantitative research methods provide numerical summaries of findings. However, the approaches differ in their goals and data collection procedures.[3] Basically, the education of quantitative approach is carried out in order to test the hypothesis will be obtained the correlation between the variables studied. Quantitative methods are referred to as positivistic methods because they are based on the philosophy of positivism. This research has two kinds of variables, independent variable and dependent variable.
      a. Independent Variable (X) is Students' English Learning Motivation

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[1] Fraenkel J. R., & Wallen N. E., "How to Design and Evaluate Research in Education," 4th ed (New York: McGraw-Hill, 2000), 331.

[2] Masrukhin, "Metodologi Penelitian Kuantitatif," 1st Ed (Kudus: Media Ilmu Press, 2014), 43.

[3] Marguerite G Lodico Et.al, "Method in Educational Research : From Theory to Practice" (San Fransisco: Jossey Bass A wiley Imprint, 2006), 12.

Students' English Learning Motivation is a strong urge or desire from within a student in order to achieve the goals in learning English. Motivation can be affected by various factors such as internal and external factors.

b. Dependent Variable (Y) is Students' Vocabulary Mastery

The students' vocabulary mastery is the students' ability to use knowledge of words when students are learning a foreign language and be able to identify, understand, spelling, pronouncing and produce the stock of words and their meaning.

B. Population and Samples

1. Population

According to Hanlon and Larget, a population is all the individuals or units of interest; typically, there is not available data for almost all individuals in a population.[4] It means that the population includes all of the objects to be studied. The population of this research is the seventh grade students at one of the Mts in Jepara in the academic year 2020/2021. The total number of the seventh grade students of Mts Mathali'ul huda Tempur is 26 students which consist of one class.

2. Sample

Sample is any part of a population of individuals on whom information is obtain. It may, for a variety of reason, be different from the sample originally selected.[5] Sample in this research is all of the seventh grade students at one of the Mts in Jepara in the academic year 2020/2021. The total sample is 26 students.

C. Research Participants

This research was carried out at one of the MTs In Jepara. This research was conducted in a month from Maret

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[4] Bret Hanlon and Bret Larget, "Samples and Populations" (Madison: University of Wisconsin, 2011), 7.

[5] Fraenkel J. R. & Wallen N. E., "How to Design and Evaluate Research and Education," 7th Ed (Singapore: McGraw-Hill, 2009), 105.

up to April 2021 Methods of sampling that is used in this research are saturation sampling, where the technique of determining samples when all members of the population are used as samples.[6]

D. Instruments and Data Collection Technique

The data in this study was collected using both test and non-test techniques. The technique used to obtain the data of students' motivation in learning English using questionnaire. Meanwhile, the test was used to collect vocabulary mastery data. Before analyzing the data, the researcher collected the data to carry out the research. The main components of the technique of collecting the data are follows:

1. Questionnaire

    Questionnaire is a technique of collecting data by giving a list of question in written form to be answered by the students, which consist of open or closed questions. The questionnaires are adapted from the attitude/motivation test battery (AMTB) by Gardner. The attitude/motivation test battery (AMTB) is a kind of technical report to know about students' motivation and attitude toward language learning. It is considered of many statements describing students' perception in learning a language. AMTB is made to assess non-linguistic aspects in language learning.[7] These are the components of indicators of students' motivation in learning English especially in COVID-19 pandemic situation used in this research:

    a) Self motivation
    b) COVID-19 Situation
    c) Teachers

    The researcher only used questionnaires about motivation that were relevant to this study and translated them into Indonesian. It is done to confirm whether or not motivated students truly have high motivation to learn English based on the results of questionnaires.

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[6] Masrukhin, "Metodologi Penelitian Kuantitatif," 1st Ed (Kudus: Media Ilmu Press, 2014), 83.

[7] R. C Gardner, "The Attitude/Motivation Test Battery: International AMTB Research Project" (The University of Western Ontario, 2004).

The type of the questionnaire is closed-type questionnaire. They are five alternatives is based on the Likert Scale type. Reasons are used 5 alternative answers to avoid answers that tend to be in the middle value. Then, the students had to answer the question given by gave checklist in answer column. Students will choose one of them based on their actual experiences.

Table 3. 1 Scoring Rubric of Questionnaire

No	Option	Statement	
		Positive	Negative
1	Sangat setuju	5	1
2	Setuju	4	2
3	Kurang setuju	3	3
4	Tidak setuju	2	4
5	Sangat tidak setuju	1	5

2. Test

Brown state that, a test as a method of measuring a person's ability, knowledge, or performance in a given domain. As a method, a set of techniques, procedures, or items requires performance on the part of the test taker.[8] He explains that those characteristics of an object such as skills, knowledge, ability, and individual or group interest. This study will employ a test to collect data on students' vocabulary mastery. The test of vocabulary mastery that will be used in this research is a multiple choice test which has 4 alternatives (A, B, C, and D) to determine the students' vocabulary mastery. The test consists of 25 questions. The number of correct answers determines a test's score.

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[8] Brown H. Douglas, "Language Assesment: Principles and Classroom Practice" (San Francisco State University: Longman, 2004), 3.

Students receive one point for each correct answer and zero points for each incorrect answer. How to score students' vocabulary mastery:

> Total correct answer X 4

If the students correctly answer all of the questions, they will receive a high score of 100.

E. Validity and Reliability of Instrument.

1. The Validity of the Instrument

Validity test is used to measure whether or not the questionnaire is valid. The questionnaire is said to be valid if the question on the questionnaire is able to reveal something to be measured.[9] The Product Moment Formula was used by the researcher to measure the validity of English learning motivation and vocabulary mastery. The formula is as follows:

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

Information:

: The coefficient of correlation between X and Y

N : The number of the students

x : The sum of the scores of each item

y : The sum of the scores of each student

The criteria of validity test is that the test is valid if r obtained is higher ($>$) than r table with $\alpha = 0,05$, and it is invalid if r obtained is lower ($<$) than r table.

2. The reliability of the instrument

In reliability test is actually a tool to measure a questionnaire that is an indicator of variables or constructs.[10] A questionnaire is said to be reliable, if a person is against a consistent or stable reality over time.

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[9] Masrukhin, "Metodologi Penelitian Kuantitatif" (Kudus: Media Ilmu Press, 2014), 100.

[10] Masrukhin, "Metodologi Penelitian Kuantitatif" (Kudus: Media Ilmu Press, 2014), 97.

The researcher used Alpha Cronbach to assess the reliability of the instrument. The researcher uses SPSS 15.0 for windows in obtaining Alpha Cronbach.

The criteria of reliability measured using the comparison between the values of the test process using the statistic test Cronbach Alpha. If the value obtained in the test process using the statistic test Cronbach Alpha > 0.60, it means that the instrument is reliable, while if the Cronbach Alpha found a smaller coefficient number (<0.60), it can be concluded that the instrument is not reliable.[11]

Reliability testing of this instrument using Cronbach's alpha coefficient (α) is as follows:

$$r = \left(\frac{k}{k-1}\right)\left(\frac{\sum \sigma i^2}{\sigma^2}\right)$$

Information:

r : reliability instrument

.$\sum \sigma i^2$: the sum of the item variance

K : the number of question

σ^2 : the sum of the total variance

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[11] Masrukhin, "Statistik Inferensial" (Kudus: Media Ilmu Press, 2008), 15.

Reliability table based on Alpha values
Table 3. 2 Reliability table

Alpha	Classification
$0.00 - 0,20$	Very Low Reliability
$> 0,20 - 0,40$	Low Reliability
$> 0,40 - 0,60$	Medium Reliability
$> 0,60 - 0,80$	High Reliability
$> 0,80 - 1,00$	Very High Reliability

F. Data Analysis Technique

After collecting the data, the next step is analyzing data. In this research, the researcher used some techniques of analyzing data, as follows:

1. Introduction

    Preliminary analysis is the stage of quantifying qualitative data by assessing the questionnaires that have been answered by respondents. The step is to provide the number criteria as follows:

    a. For alternative answers a with a score of 5 (for favorable questions) and a score of 1 (for unfavorable questions)

    b. For alternative answers b with a score of 4 (for favorable questions) and a score of 2 (for unfavorable questions)

    c. For alternative answers c with a score of 3 (for favorable questions) and a score of 3 (for unfavorable questions)

    d. For alternative answers d with a score of 2 (for favorable questions) and a score of 4 (for unfavorable questions)

    e. For alternative answers e with a score of 1 (for favorable questions) and a score of 5 (for unfavorable questions)

2. Prerequisite test
   a. Normality test

   The Normality Test aims to test what in the regression model, dependent variables and independent variables both have normal or no *distributions. A good regression model is to have* normal or near -normal data distribution.[12]

   To test the normality of data, the researcher used the Kolmogorov Smirnov (KS-Z) formula in SPSS 15.0 for Windows. The normality can be seen from p (significance) on Kolmogorov Smirnov value. If p (significance) value greater than 0,05 (p>0,05), it tells that the distribution of the data is normal.

   b. Linearity test

   Linearity testing is used to determine whether two variables that have been correlated using statistical analysis have a linear relationship or not. Linearity is a state where the relationship between dependent variables and independent variables is linear (straight line) and a certain range of independent variables. Linearity test can be addressed with scatter plot as used for data outler detection, by providing additional regression lines.[13] The criteria for linearity test are:
      1) If the graph points to the upper right, the data is in the linear category.
      2) If the graph does not point to the top right, the data is not linear..

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[12] Masrukhin, "Metode Penelitian Pendidikan Kuantitatif" (Kudus: Media Ilmu Press & Mibarda Publishing, 2015), 106.

[13] Masrukhin, "Metodologi Penelitian Kuantitatif" (Kudus: Media Ilmu Press, 2018), 111.

3. Hypothesis testing

After testing the prerequisite test, the researcher tested the hypothesis. To test hypothesis whether there is positive correlation or not, the researcher used Pearson Product Moment through SPSS.

$$r_{xy} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{\{n \sum X^2 - (\sum X)^2\}\{N \sum Y^2 - (\sum Y)^2\}}}$$

Where:

rxy: the coefficient of the correlation between variable X and Y

X : the independent variable

Y : the dependent variable

n : the number of the sample

The value of rxy, then is compared with product moment formula table (rt) at significance of 5%, and N = the number of the students. With the interpretation stated as follows:

a. If rxy is greater that rt (rxy>rt), it means that Ho is rejected and Ha is accepted, it means that there is a correlation between English learning motivation and vocabulary mastery during COVID-19 pandemic situation.

b. If rxy is smaller that rt (rxy<rt), it means that Ho is accepted and Ha rejected, it means that there is no correlation between English learning motivation and vocabulary mastery during COVID-19 pandemic situation.

G. Research Ethical Consideration

Ethical considerations are one of the most important aspects of the research. Ethical norms are so pervasive that it's easy to dismiss them as common sense. According to Nilesh B Gajjar stated that There are several reasons why it is important to adhere to ethical norms in research are follows[14]:

1. First, norms advance research goals such as knowledge, truth, and error avoidance.

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[14] Nilesh B. Gajjar, "Ethical Consideration in Research," *International Journal for Research in Education* 2, no. 7 (2013): 8.

2. Second, because research frequently requires a great deal of collaboration and coordination among numerous people from various disciplines and institutions, ethical standards promote values essential to collaborative work, such as trust, accountability, mutual respect, and fairness.
3. Third, certain ethical guidelines make it possible for researchers to be kept accountable to the public.
4. Fourth, ethical norms in research help to increase public support for research.

From the statement above it can be concluded that, in conducting a research, research ethical consideration is important to ensure ethical research practice that shows the researchers serious to take into account how the research may affect participants.