CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the approach used to test the relationship between academic vocabulary mastery and reading habits among English Language Education department students at IAIN Kediri.

A. Research Design

This study uses a quantitative correlation approach to test the relationship between reading habits and academic vocabulary mastery. Ary et al. (2010) define correlation research as a method for assessing and measuring patterns of reciprocal relationships and relationships between two or more variables in a group of subjects. Researchers can obtain numerical indices that show the direction and intensity of the relationship between variables by using correlation analysis. As a result, this approach allows researchers to understand the extent to which variations in one variable can be estimated from variations in other variables.

Correlation research is a technique to measure and characterize the level of relationship between two or more quantitative variables, according to Rasyid (2022). Finding important correlation patterns between these variables is the main goal of this study to better understand a phenomenon. Therefore, correlation research allows academics to develop stronger hypotheses and explore more deeply the complexity of a topic.

B. Population and Sample

According to Ary et al (2010), the population in a study refers to the entire large group that is the target of generalization of research results by researchers. This population includes all members of a particular class, be it individuals, events, or objects that have been clearly defined. In the context of this study, the focus population is all students enrolled in the English Language Education department at IAIN Kediri.

Meanwhile, the sample according to Ary et al (2010) is a group that was specifically selected to be observed or analyzed in the study. This sample was taken so that researchers could obtain representative data without having to research all members of the population. In this study, from all English Education students at IAIN Kediri, the researcher managed to collect data from second and fourth semester students, with a total of 126 students.

To determine the sample, the researcher used a convenience sampling technique. According to Rasyid (2022), convenience sampling is a sampling method based on the ease of access and availability of research subjects. This means that the selected subjects are those who are most accessible to researchers at the time of the study. Therefore, a total of 126 students consisting of second and fourth semester students were selected as a sample because they were an accessible and willing group to participate in this study. Thus, this technique allows researchers to obtain data efficiently despite time and resource limitations.

C. Data Collection

Data on students' reading habits and academic vocabulary knowledge were collected for this study using questionnaires and vocabulary tests. Google Forms is used to send questionnaires and vocabulary test online.

1. Questionnaire

Ary et al. (2010) state that questionnaires are research instruments intended to collect data by letting participants write responses to a series of questions or choose responses that most accurately reflect their opinions or experiences. The questionnaire was created with validity, reliability, and clarity in mind. The following sections make up this document:

a. Demographics Information

Respondents were asked to provide basic background information in this section, including their name, student’s ID number, and email address.

b. Reading Habits Questionnaire

The Reading Habits Questionnaire was used in this study as a tool to collect the required data. Students were given a questionnaire because the focus of this study was on their reading habits. The Gaona and González (2010) questionnaire was modified to include questions about students' reading habits.

To make each statement easier for children to understand, a questionnaire was prepared in Indonesian. Students were given a choice of responses to the closed-ended questionnaire used by the researchers. Various variables were discussed in the questions,

including motivation from family and academic environment, frequency of reading, number of books read, attitudes toward reading, and amount of time spent reading academic and non-academic literature. Blueprint for the reading habits questionnaire is shown in the table below.

Table 3. 1 Blueprint of Reading Habits Questionnaire

No.	Indicator	Item Number	Total Item
1	Attitude toward reading	1, 2, 3, 4, 5, 6	6
2	Reading amount of books	7, 8	2
3	Academic reading	9	1
4	Non-academic reading	10	1
5	Reading frequency	11, 12, 13	3
6	Reading motivation in the academic environment	14, 15, 16, 17	4
7	Reading motivation in the family environment	18, 19, 20	3
Total			20

Students' reading frequency was measured by researchers. Likert scale to measure answers. The measurement instrument known as the Likert scale consists of a list of statements with five possible responses to each statement. According to Ary et al. (2010), this scale is made by collecting several statements about a particular subject, of which about half state a positive point of view and the other half negative. "Always" received the highest score of five, followed by "Often" with four, "Sometimes" with three, "Rarely" with two, and "Never" with one. Range score of statements for the reading habits questionnaire is shown in the table below.

Table 3. 2 Range Score of Statements

Likert's Scale Type	Score
Always	5
Often	4
Sometimes	3
Rarely	2
Never	1

2. Academic Vocabulary Test

Tests taken from the University of Victoria Wellington were adopted in this study to measure students' understanding of academic vocabulary. Three components make up the test, which is intended to assess a student's knowledge of the Academic Word List (AWL). The first part of the test, compiled by Andrea Flavel and edited by Paul Nation, introduces the meaning of words in AWL. John Read created the second and third sections, which assess students' understanding of related and readable AWL words. The Academic Word List (AWL), compiled by Coxhead (2000), is the source of all the vocabulary used in this exam. This is a list of academic terms that are often used in academic and scientific writing. The researcher conducted an academic vocabulary test consisting of 50 items. Blueprint for the academic vocabulary test is shown in the table below.

Table 3. 3 Blueprint of Academic Vocabulary Test

Category	Item Number	Total Item
Meaning of Word	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	15
Related Word	16, 17, 18, 19, 20, 21, 22, 23, 24, 25	10
Context Text	26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37,	25

Category	Item Number	Total Item
	38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50	
Total Item		50

The researcher reviews the students' responses to the vocabulary test and calculate their score by using formula:

$$S = \frac{n}{N} \times 126$$

Explanation:

S = students' score

n = Number of true answers

N = Total test items

D. Data Analysis

The study used the Pearson Product-Moment correlation approach for data analysis. Pearson's statistical test is used to assess the direction and strength of the relationship between two quantitative variables (Ary et al., 2010). This calculation can result in a correlation coefficient between -1 and +1. A perfect negative relationship is represented by a value of -1, a perfect positive relationship is represented by a value of +1, and no relationship is represented by a value of 0. The degree of relationship between the two variables will thus be clearly indicated by this correlation coefficient.

The study used a significance level of 0.05 to test the relevance of the relationship between variables. This suggests that there is a 95% chance that the analysis findings are not the result of chance. Because many studies use a 95% confidence threshold, the analysis findings are trustworthy.

1. Validity Test

The degree of accuracy and significance of the conclusions that researchers can make from the test results is known as the validity of the test (Ary et al., 2010). That is, validity shows how well the test captures what it wants to capture and how strong the empirical and theoretical foundation for that interpretation is. To ensure that decisions based on test findings are trustworthy, legitimate tests allow researchers to draw precise conclusions about the skills, knowledge, or nature of test participants.

The validity criteria for vocabulary mastery tests are valid if the value of r > r is a table and becomes invalid if the value of r < r is a table. The researcher will use the Product Moment formula from Pearson, as follows:

Figure 3. 1 Product Moment Formula

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

Explanation:

rxy = Correlation coefficient

N = Sample total

x = Item total score

y = Answer items total score

x^2 = Total square items score

y^2 = The sum of the total squares of answer scores

xy = Total multiplication score of an item's answer with a total score.

The researcher conducted a validity test on the reading habit questionnaire consisting of 20 items. This validity test aims to ensure that each item on the questionnaire can measure the aspects of reading habits to be studied. The validity test process was carried out by analyzing the correlation between the score of each item and the total score of the questionnaire.

The results of the statistical analysis that has been done, all questionnaire items are declared valid. This can be seen from the significance value (sig. 2-tailed) of the 20 items, none of which exceeds the 0.05 significance limit. Thus, all items on the reading habits questionnaire are reliable and feasible to use to measure the reading habits of respondents in this study.

The academic vocabulary test used in this study is the result of the development of experts in their fields in accordance with the Academic Word List (AWL) standard developed by Coxhead (2000) and has gone through a validation process by the experts who have made the test. This test has also been applied in various relevant situations, so that it can be ensured that the test used meets the applicable vocabulary standards. In this study, the determination of the vocabulary tested refers to AWL from Coxhead (2000). The selection of AWL as a reference is based on the lack of standard standards regarding academic vocabulary targeted for students of the English Language Education department at IAIN Kediri. Therefore, it is necessary to set standards so that the evaluation process can run objectively and in a directed manner. In this context, the researcher uses

Coxhead's AWL as the main reference in determining the vocabulary to be tested on students. Thus, the test used in this study fully refers to AWL, because the vocabulary tested is indeed compiled based on the list.

2. Reliability Test

Reliability is crucial when interpreting test findings, claims Ary et al. (2010). If a test produces consistent results when repeated measurements are taken on the same or comparable participants in the same situation, the test is considered reliable. In other words, dependency indicates the degree to which a test can be relied upon as an appropriate assessment instrument. Test results lose their dependency without reliability, and the interpretations that follow them lose their significance. For a test to produce accurate and reliable data, dependency is a must. The following is how the researcher applied the Alpha formula:

Figure 3. 2 Alpha Formula

$$r_{11} = \frac{k}{k-1} \; x \left\{1 - \frac{\sum S_i}{S_t}\right\}$$

Explanation:

r_{11} = Coefficient reliability

k = Number of items

S_i = Total score variants each item

S_t = Total score variance

The researcher conducted a reliability test on the reading habits questionnaire consisting of 20 items. The purpose of this test is to ensure that each item in the questionnaire can provide consistent results when

tested again on the same respondent or an equivalent group. Reliability for the reading habits questionnaire is shown in the table below.

Table 3. 4 Reading Habits Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0,918	20

The results of the reliability analysis using the Cronbach's Alpha method, obtained a value of 0.918. This value far exceeds the generally agreed minimum limit of reliability, which is 0.7. Thus, 20 items in the reading habit questionnaire have a very high level of reliability and are suitable for use in research, because they are able to provide consistent and reliable measurement results.

Based on the results of the validity test that has been carried out by researchers for academic vocabulary test. After analyzing the validity, the researcher then continued with the reliability test. Thus, the number of items used as the basis for the reliability test is 50 items. Reliability for the academic vocabulary test is shown in the table below.

Table 3. 5 Academic Vocabulary Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
0,842	50

The reliability test results show that the Cronbach's Alpha value obtained is 0,842. This value far exceeds the minimum standard generally used, which is 0.7. Thus, 50 question items are highly reliable and consistent in measuring the intended construct.

3. Normality Test

The purpose of the normality test, according to Machali (2021), is to ascertain whether the difference in data or residual values in a study corresponds to the normal distribution or not. The significance values obtained from the Kolmogorov-Smirnov test can be used to perform the normality test. Using the following criteria, these significance values help in determining whether the data can be considered statistically normal:

a. The data is considered normally distributed if the p-value is greater than 0.05;
b. The data is considered abnormally distributed if the p-value is less than 0.05.