

CHAPTER III RESEARCH METHOD

A. Research Design

Research is a systematic effort, controlled and based on existing theory, reinforced by existing phenomena. This activity is accompanied by the principle of regulation, which is an effort to gather and discover relationships between carefully observed facts. Research begins when someone attempts to systematically solve a problem using specific methods and techniques, namely scientific ones. In a research endeavor, a researcher needs to have an understanding of the problems they are facing, how to address them, and obtain a clear picture of the steps to be taken, thus requiring an appropriate approach pattern.¹

In this research, the writer use a quantitative research because the writer wants to know the effectiveness of using flash card in teaching vocabulary. Quantitative research is a type of research that often requires the use of both deductive and inductive approaches, starting from a theoretical framework, ideas from experts or scholars, or the author's own understanding based on their experience in the field, which will then be developed into a problem along with its proposed solution aimed at obtaining empirical improvements in the field. This research emphasizes the presentation of data in numerical or qualitative form that is quantified (scored) using statistics. Statistics are scientific methods prepared to collect, organize, present, and analyze numerical data. This enhances the researcher's precision in testing hypotheses and drawing research conclusions.²

In this research the strategy is applied by pre-experimental method with one group pre-test and post-test design, this presented as follow:

Where:

¹ Sukardi, *Metodologi Penelitian Pendidikan Kompetensi dan Prakteknya*, (Jakarta: Bumi Aksara, 2003), 4.

² Tulus Winarsunu, *Statistik dalam Penelitian Psikologi dan Pendidikan*, (Malang: Universitas Muhammadiyah Malang Press, 2006), 2.

O_1 : Pre-Test
 X : Treatment
 O_2 : Post-Test

In this research methodology, the subjects undergo a pre-test assessment before any intervention. Following the initial assessment, the subjects are exposed to the designated treatment. Subsequently, a post-treatment assessment is administered to evaluate any changes or effects resulting from the intervention. This structured approach ensures a systematic examination of the impact of the treatment on the subjects, enhancing the scientific rigor of the study.

B. Research Setting

The location of this research takes place at MI Al-Manar Sedan at five grade. The duration of the research was about one month.

C. Population and Sample

Population is a collection of all possible people, objects and other sizes of objects of concern that have the same characteristics or characteristics. Population is a collection of objects regarding an issue as a whole or a group of individuals or overall characteristics to be studied.³ A population is the entire groups, or objects to which you would like to generalize your research results. A population is the entire group of interest, a population is an entire aggregate of elements. Population is a group of persons (or institutions, events, or other subject of study) that one wants to describe or about which one wants to generalize. A population is all of a particular type of individual. This may be limited by geographical location or one or more other characteristics. Population is all the components that are deemed to have one or more common characteristics and therefore constitute a group. The characteristics of this group are determined by the

³ M. Askari Zakariah and Vivi Afriani, *Analisis Statistik dengan SPSS Untuk Penelitian Kuantitatif*, (Kolaka: Yayasan Pondok Pesantren Al Mawaddah Warrahmah, 2021),58

researcher and may consist of people, artefacts, incidents or materials depending on the focus of the research. In health science research population commonly refer to people.⁴ The population in this study is the fifth-grade class of MI Al-Manar Sedan, consisting of a total of 30 students.

A sample is a subset of the total number and characteristics possessed by the population. Sampling involves a step to determine the size of the sample taken in conducting research on an object. The determination of sample size can be done through statistical methods or based on research estimates. The sampling process must be conducted in such a way that the obtained sample truly functions or accurately depicts the actual population, in other words, it must be representative or representative.

The second aspect that ensures sample representation of the population is the sampling method that considers the characteristics of the population under study. Determining the sampling technique is done after determining the sample size. An ideal sampling method possesses the following characteristics:⁵

- a It can produce a reliable representation of the entire population under study.
- b It can determine the precision of research results by establishing the standard deviation from the obtained estimates.
- c It is simple and easy to implement.
- d It can provide as much information as possible at the lowest cost.

The writer used saturation sampling technique. Sample of this research was the entire fifth grade, totaling 30 students.

D. Identification of Research Variables

Before collecting data and evaluation the data spesicified. Then the first identification of variables

⁴ I ketut Swarjana, *Populasi-Sampel, Teknik Sampling & Bias dalam Penelitian*, (Yogyakarta: Andi, 2022), 4-5.

⁵ Wagiran, *Metodologi Penelitian Pendidikan: Teori dan Implementasi*, (Yogyakarta: Budi Utama, 2013), 183.

specified. In social and psychological research may not only relate to one variable only but also always mutually influenced by some other variables. Definition of variable is constructs that its properties have been given numbers (quantitative) or can also be interpreted variable is a concept that has a variety of values, in the form quantitative or qualitative value can fluctuate.

Therefore, researchers need to identify the research variable. That are independent variable and dependent variable. According to Jonathan Sarwono independent variable is a stimulus variable or variable that affect other variables. The independent variable is the variable that it variable is measured, manipulated, or selected by the researcher to determine its relationship with a symptom was observed.⁶

While dependent variable is a variable that gives the reaction/response if connected with the independent variable. Dependent variable is the variable that it variable observed and measured to determine the effect caused by the independent variable. Dependent variable is variable that is "influenced" by the independent variables.⁷

Based on the theories and hypotheses, the researcher formulate some research variables, are:

1. Independent Variable (X): Using Flash Cards. According Robert Lado, Flash Cards are sets of cards with a word of phrase on one side and its meaning – usually in translation- on the other. which is a teaching method applied in the experimental class. The flash card is a type of reminder card or card that is briefly shown to students. Flash card media has indicators:
 - a. Flash card media in the form of graphic techniques that provide a universal key.
 - b. Applied in learning in the experimental class.
2. Dependent Variable (Y) : Students' Vocabulary Mastery at MI Al-Manar Sedan. Vocabulary mastery is the ability that exists within a person to be able to

⁶ Jonathan Sarwono, *Metode Penelitian Kuantitatif dan Kualitatif*, (Jogjakarta: Graha Ilmu, 2006), 54.

⁷ Jonathan Sarwono, *Metode Penelitian Kuantitatif dan Kualitatif*,

explore and understand a word contained in English. Vocabulary mastery has indicators:

- a. In the cognitive domain
- b. Dimension of value (numeric).
- c. Taken from formative test results in both experimental and control classes.

E. Data Source

Based on the source, research data can be grouped into two types, namely primary data and secondary data.⁸

1. Primary data is data obtained or collected by researchers directly from the data source. Primary data is also known as original data or new data that is up to date. To get primary data, researchers must collect it directly. Primary data sources in this study are school principals, teachers, students and related parties.
2. Secondary data is data obtained or collected by researchers from various existing sources (researchers as second hand). In this case the existing literature books and documents.

F. Instrument of The Research

The research instrument is a tool used by researchers in collecting data. The research instrument is a very important component in collecting data in a study. The research instrument aims to facilitate researchers in obtaining data. In this study, the researcher used tests and documentation.

The test instrument is a number of questions, exercises or other that are used to measure the knowledge, skills, abilities, talents possessed by a person or several people.⁹

⁸ Sandu Siyoto, *Dasar Metodologi Penelitian*, (Yogyakarta: Literasi Media Publishing, 2015), 67.

⁹ Raihan, *Metodologi Penelitian*, (Jakarta: Universitas Islam Jakarta, 2017), 104.

G. Technique of Data Collecting

Data collection techniques are the most important step in research, because the main purpose of research is to get data. Data collection techniques in this study are as follows:

1. Test Method

The test is a list of questions that ask a person's abilities both cognitive, personality, attitude and so on. The data collection tool is a test.¹⁰ By using this test researchers can see how far the students' absorption of the material provided. For this reason, researchers used two kinds of tests, namely the pre-test which was used to determine student learning outcomes before and after learning was carried out.

The questions used in the research consist of 20 pretest and 20 posttest multiple-choice questions. These questions are formulated based on the basic competency of students being able to accurately, smoothly, and acceptably respond to the meaning contained in very simple functional short texts related to their immediate environment. The questions are structured according to the following indicators:

- a. Interpreting words within the text and dialogue
- b. Guessing words based on presented images
- c. Completing blank words in a paragraph
- d. Classifying words into the noun group
- e. Classifying words into the adjective group
- f. Classifying words into the verb group

2. Observation

Observation or observation is a way of collecting data by going directly or seeing directly the field, of the object under study.¹¹ According to Nana Sudjana, observation is the systematic observation and recording of phenomena under investigation.¹²

¹⁰ Muhammad Ali Gunawan, *Statistik Penelitian Bidang Pendidikan, Psikologi dan Sosial*, (Yogyakarta: Parama Publishing, 2015).

¹¹ Muhammad Ali Gunawan, *Statistik Penelitian Bidang Pendidikan, Psikologi dan Sosial*, (Yogyakarta: Parama Publishing, 2015).

¹² Nana Sudjana, *Penelitian dan Penilaian* (Bandung: Sinar Baru, 1989), 84.

Observation techniques involve systematically observing and recording the phenomena being investigated. In a broader sense, observation is not limited solely to direct or indirect observations.

According to Sutrisno Hadi, observation method is defined as the systematic observation and recording of phenomena under investigation. Observation (observasi) is a data collection method in which researchers or collaborators record information as they witness it during the research. From the above definition, the observation method can be understood as a way of data collection through direct observation of situations or events in the field.¹³

Observations were made by researchers to determine the characteristics of class VI MI Al-Manar Sedan students.

3. Interview

Interview is a data collection technique through a one-way oral question and answer process, meaning questions come from the interviewer and answers are provided by the interviewee. According to Hopkins, an interview is a way to understand a specific situation within a classroom from a different perspective. An interview is a form of direct communication between the researcher and the respondent. Communication takes place in the form of question-and-answer in a face-to-face relationship, so the respondent's gestures and facial expressions complement verbal communication patterns. The interview technique, or interview, is a method used to obtain data by conducting direct interviews with informants. An interview involves questioning or confirming with the researcher's sample systematically (structured). An interview is defined as a way of gathering information through oral question-and-answer, unilaterally, face-to-face, and with a predetermined purpose.¹⁴

¹³ Sutrisno Hadi, *Metodologi Research* (Yogyakarta: Andi Offset, 2002), 136.

¹⁴ Sutrisno Hadi, *Metodologi Research*, 157.

Interviews are conducted directly to the various parties involved, especially to competent sources related to this research.¹⁵ Interviews were conducted with school principals and teaching teachers in grade VI. Some questions point about school profiles, learning activities carried out, and how student learning outcomes are.

H. Technique of Data Analysis

Data analysis is an activity of grouping data based on variables and types of respondents, presenting data for each variable studied, performing calculations to answer problems, and performing calculations to test the hypotheses that have been proposed. Data analysis techniques in quantitative research use statistics.

1. Instrument Test
 - a. Validity Test

The validity test is conducted by using Pearson product-moment correlation with the decision-making criteria as follows: a. If the calculated $r >$ the tabulated r , then the questionnaire item is considered valid. b. If the calculated $r <$ the tabulated r , then the questionnaire item is considered not valid.

- b. Reliability Test

Reliability testing was conducted by administering the instrument once, followed by an analysis using specific techniques. The analysis results can be employed to predict the instrument's reliability. The decision-making criteria for this assessment involve examining the Cronbach's alpha value, with a threshold set at above 0.6, categorizing the instrument as reliable.¹⁶

¹⁵ Ajat Rukajat, *Pendekatan Penelitian Kuantitatif*, (Yogyakarta: Budi Utama, 2018), 39.

¹⁶ Ajat Rukajat, *Pendekatan Penelitian Kuantitatif*, (Yogyakarta: Budi Utama, 2018), 9.

2. Classical Assumptiot Test

a. Normality Test

The normality test is conducted to assess the distribution of residuals from the regression analysis. Data is considered satisfactory if the residuals from the regression analysis follow a normal distribution. Data follows a normal distribution when the Sig. value from the normality test is greater than or equal to 0.05. There are two types of normality tests that can be chosen: Kolmogorov-Smirnov and Shapiro-Wilk.¹⁷

b. Homogeneity Test

Homogeneity test is conducted to analyze whether two variables have the same variance. If they have the same variance, then comparison can be performed; however, if they have different variances, comparison cannot be conducted.¹⁸

3. Hypothesis Test

The technique of data analysis used the t-test formula that is adapted from Suharsimi Arikunto.¹⁹ The t-test is used to compare the score in pre-test and posttest. After getting the score from pre-test and post-test, the writer analyzes it by using statistic calculation of t-test formula with the degree of significance 5%.

If $t\text{-test} < t\text{-table}$ in significant degree of 0,05 (5%), it means that H_a is rejected and H_0 is accepted. In other word, the using Flash Card is not effective in teaching vocabulary in the fifth grade of MI Al-Manar Sedan.

¹⁷ Joko Subando, *Teknik Analisis Data Kuantitatif Teori dan Aplikasi dengan SPSS*, (Klaten: Lakeisha, 2021), 28.

¹⁸ Joko Subando, *Teknik Analisis Data Kuantitatif Teori dan Aplikasi dengan SPSS*, 36.

¹⁹ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, (Jakarta: Asdi Mahasatya, 2006), 311.

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