

BAB III

RESEARCH METHOD

The chapter discusses the research method consists of research design to research, population to the research, sample to the research, sampling, variable, research instrument, validity, and reliability testing, normality and homogeneity testing, data collecting method, and data analysis.

A. Research Design

In this research design, the researcher uses a quantitative approach with the Pre-Experimental design. The research involved one group to pre-test and post-test from the first grade at SMPN 9 Mesuji Raya Palembang. Cresswell (2014:32) tell about the definition of quantitative approach for testing objective theories by examining the relationship among variables. The Pre-Experimental is a simple design and without using a control group in this design this statement from David Nunan (1992:41).

Table 3.1 The diagram table to pre-test and post-test in one group pre-experimental.

Diagram of one group for (pre-test and post-test)		
Pre-test O1	Treatment X	Post-test O2

Note;

O1 : Pre-test

X: Treatment

O2 : Post-test

The procedures of using one group to pre-test and post-test:

1. Pre-test

In the pre-test as (O1), the researcher gave a pre-test in the group to know the achievement of students before being used by Memrise application toward students' vocabulary mastery of the first grade at SMPN 9 Mesuji Raya Palembang in the pandemic covid-19 of academic 2020/2021.

2. Treatment

Treatment as (X) is an has given to the student with the media after the pre-test. In this treatment, the researchers give to the students the Memrise application as the media toward students' vocabulary mastery of the first grade at SMPN 9 Mesuji Raya Palembang in the pandemic covid-19 of academic 2020/2021.

3. Post-test

The post-test as (O2), is a test to the students when they are have given the treatment with media. So, after students get the treatment with the media Memrise application the researcher given the post-test to the student of the first grade at SMPN 9 Mesuji Raya Palembang.

B. Population, Sample, and Sampling Technique

1) Population

The population is a group of people and has the same characteristics this statement (Jhon W. Cresswell, 2012: 142). The population in this research from the first grade at SMPN 9 Mesuji Raya Palembang in academic 2020/2021. Which has 2 class there are:

Table 3.2 The total population

Class	The number of students
VII 1	31
VII 2	31
Total	62

2) Sample

A sample is a group of people who can participate in this research. The sample is a part of the population in this research because the sample to take the data. The researchers took the sample only one class at VII 1 at SMPN 9 Mesuji Raya Palembang in academic 2020/2021 with a total of 31 students consisted of male 21 students and female 10 students.

Table 3.3 Sample of research

Sample from VII 1	
Male	Female
21	10
Total = 31	

3) Sampling

Sampling is called the technique to the took of the sample. In this research, the researchers used the purposive sampling. According Arikunto (2002 : 139) about purposive sampling that Purposive sampling is the technique which researchers do not consider strata, random or area when they handpick a subject. However, they consider the certain purpose.

The researcher used purposive sampling because the researcher found some characteristics of the sample. They were good attitude, active in the class, and almost have the same average ability. The classroom having those characteristics VII 1 Class. It was stated by English Teachers during the teaching and learning process that the students of VII 1 class participate actively and always pay attention on the teacher's explanation.

C. Variable

Variable in Sugiyono opinion (2017:8) are all those forms that researchers have determined to study to obtain information on the matter to conclude. Thompson (2006) also said if the variable focuses on the characteristics of completeness of a person or group that measured and scrutinized in their various learning and variety here point to students' scores which fall to a minimum of 2 exclusives in each's other categories. The variable from this research there are 2 variables:

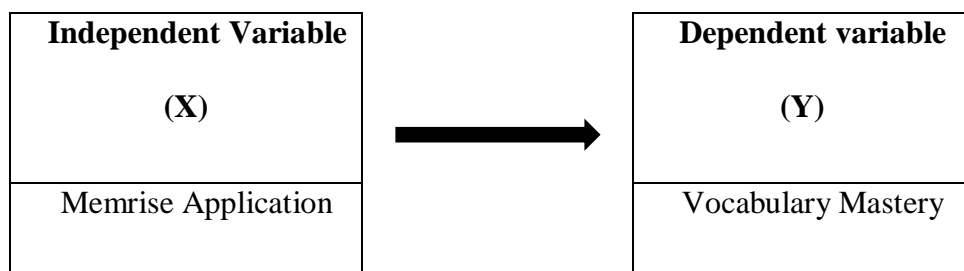
1. Independent Variable

An Independent variable as (X) is a variable that causes or changes the dependent variable. The independent variable of this study is using the Memrise application.

2. Dependent Variable

The dependent variable as (Y) is a variable whose value is influence or depends on the value of the other (independent variable). The dependent variable of this study is the students' vocabulary mastery.

3.3 Table diagram dependent variable



D. Instrument

The research instrument of the research to get the score data from students, the researchers would have to build an instrument, as it would measure process, analyze, and present data and be able to test the research hypothesis.

Inside the quantitative research, instruments are 2 kinds of test and non-test. In this research, the researchers use a test instrument to get data scores from students of VII 1 at SMPN 9 Mesuji Raya Palembang. The researchers also used Pre-test and Post-test to test obtain the required score of student's vocabulary mastery from students of VII 1 at SMPN 9 Mesuji Raya Palembang.

1) Pre-test

The Pre-test was given by researchers before treatment with the media Memrise application. The purpose was so that researchers could find out how high the level of knowledge the students of VII 1 at SMPN 9 Mesuji Raya Palembang toward vocabulary mastery. In the test for Pre-test, the format is multiple choice there are 20, 15 questions multiple choice and 5 fill in blank an essay.

2) Post-test

The Pos-test was given by researchers after given treatment with the media Memrise application. The purpose of researchers given a Post-test to obtain score vocabulary mastery from VII 1 at SMPN 9 Mesuji Raya Palembang. The question there are 20 questions, the

format of the question is 15 was Multiple choices and 5 was fill in the blank in an essay.

Table 3.4 criteria Scores of vocabulary

Score	Criteria
85-100	Excellent
75-80	Good
55-70	Average
35-50	Poor
0-30	Very poor

E. Validity and Reliability Testing

1) Validity Testing

The definition of validity from Charles. CM in 1995: 101 tells about the scores obtained from vocabulary or reading skills. But in its way the instruments made must be valid its outcome to be trusted. Validation is viewed as the most important concept in a study. To make a success of this research, researchers use tests from content validity, construct validity, and face validity.

a. Content Validity

The test is said to have a validity of content when measuring certain specific goals that parallel the material or the content of the lesson. Because of the materials taught in the curriculum. The validity of the content can be worked to achieve from the time of

composition by detailing curriculum or textbook materials. How to specify matters for the benefit of gaining an understanding of the content of a test want to discuss in greater depth when explaining how a test is done.

Table 3.5 of content validity

Indicator	Syllabus basic competence	Learning Material	Technique	Test Item
3. Memahami pengetahuan (faktual, konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata.	<p>3.1.1 Memahami vocabulary tentang ungkapan perkenalan diri, serta responnya.</p> <p>3.4.1 Memahami vocabulary tentang pemaparan jati diri</p> <p>3.5.1 Memahami tentang vocabulary jumlah, benda binatang.</p> <p>3.7.1 Memahami suatu vocabulary tentang pertanyaan yang menyatakan suatu sifat benda, binatang, serta orang.</p> <p>3.8.1 Memahami suatu vocabulary tentang tindakan (tingkah laku), instruksi serta peringatan.</p>	Vocabulary with the Memrise application	Written test	Pre-test and Post_test

b. Construct Validity

A test is said to have a validity of construction when the details governing the test measure each aspect of thinking as mentioned in the specific instructional purpose. In other words, if the details in question measure the thought aspect as well as the thought aspect that is the instructional purpose.

c. Face Validity

Face validity is the validity that shows whether the measuring device in terms of research seems to measure what it wants to measure, it refers more to the appearance and appearance of the instrument. According to Jamaluddin application of such dexterity is essential in measuring the individual's capabilities such as those of honesty, intelligence, talent, and skill. The researcher uses face validity in this research by consulting with English teachers of SMPN 9 Mesuji Raya Palembang, there were Mr. Andy, and Mrs. Susi. There were, give an opinion about the research in the instrument to take the test for the students. After that, the instrument would be valid to given the students.

2) Reliability Testing

Another characteristic from test a good is reliability and to be valid and must be a reliable meaning instrument. Reliability is called consistency from measured to test. The researcher used SPSS 16.0

version to know the reliability of the test. The research get the reliable data used try-out to given 31 students of VII 2 at SMPN 9 Mesuji Raya Palembang. The try-out was to know how the far of the result of the test. To get the two consistence score the researcher conducts Try out with Test-Retest method, the researcher administers try out instrument for students twice in different time.

The try out consists of 20 questions in form of multiple choice with 45 minutes time allocation. After doing this try out, the Researcher will get two consistence scores. The result was matched with the result of Cronbach's alpha to determine the reliable of the test. According to Triton in Sujianto (2009:97) the value of Cronbach's alpha can be interpreted as follows:

Table 3.6 Interpretation of Cronbach Alpha

Cronbach Alpha	Interpretation
0.00 – 0.20	Less Reliable
0.21 - 0.40	Rather Reliable
0.41 – 0.60	Quite Reliable
0.61 – 0.80	Reliable
0.81 – 1.00	Very Reliable

From the table, if the value of alpha > 0.81 the value is very reliable. If the alpha $0.61 - 0.80$ the value is reliable. If the alpha $0.41 - 0.60$ the value is quite reliable. If the alpha $0.21 - 0.40$ the value is rather reliable. If the value is $0.00 - 0.20$ the value is very low reliable.

Table 3.7 The Result of Reliability from try-out

Case Processing Summary			
		N	%
Cases	Valid	31	100.0
	Excluded ^a	0	.0
	Total	31	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics	
Cronbach's Alpha	N of Items
.853	2

To know the items was reliable or not can seen in the result on the table test from Cronbach's Alpha score. The test scores from Cronbach's Alpha was = 0.853. so, it's means the instrument was very reliable.

F. Homogeneity and Normality Testing

1) Homogeneity Testing

Homogeneity tests were tested by researchers to see if the students were the same or homogeneity. The test to get the student's scores, the researcher then reduce the lowest to the highest and a range higher class is more heterogeneous. Discovering a standard deviation also helps researchers to find out the different classes, to reach this data the researchers used prevent test statistics to apply by rules of $\alpha = 0.05$.

- a. If the homogeneity test result $< \alpha = 0.05$ the data not homogeneous distributed and H_0 is rejected.

- b. If the homogeneity test result $> \alpha = 0.05$ the data is distributed homogeneous and H_0 is accepted.

2) Normality Testing

The normality test is a procedure that researchers use to determine if there is any discrepancy in data derived from normally distributed populations or in normal dissipation. Then normality testing is an important way before T-test the purpose to know the sample are normality distributed or no in this research the researchers to the analysis of normality test used Kolomogrov-Smirnov, and the rule is $\alpha = 0.05$:

- a. If the normality test result $< \alpha = 0.05$ the data not normally distributed and H_0 is rejected.
- b. If the normality test result $> \alpha = 0.05$ the data is distributed normally and H_0 is accepted.

G. Data Collecting Method

Data collecting is a way that researchers use to collect data. Researchers use two types of tests to get data.

1) Pre-test

The Pre-test was given by researchers before treatment with the media Memrise application via via offline. The purpose was so that researchers could find out how high the level of knowledge the students of VII 1 at SMPN 9 Mesuji Raya Palembang toward vocabulary

mastery in the pandemic. In the test for Pre-test, the format is multiple choice and essay. There are 20 questions, 15 questions multiple choices, and 5 questions essay fill in the blank.

2) Post-test

The Post-test was given by researchers after given treatment with the media Memrise application via offline. The purpose of researchers given a Post-test to obtain score vocabulary mastery from VII 1 at SMPN 9 Mesuji Raya Palembang in the pandemic. In the test Post-test, the format is multiple choice and essay. There are 20 questions of multiple choices.

Table schedule of researching collecting of the data about "The Effectiveness of Using Memrise Application Toward Students' Vocabulary Mastery of the First Grade at SMPN 9 Mesuji Raya Palembang"

Table 3.8 The schedule to get data

No	Date	Meeting	Activities	Time	Model
1	Thursday, 6 th May 2021	I	Introduction	45 minutes	Online
2	Friday, 7 th May 2021	II	Pre-test	60 minutes	Offline
3	Saturday, 8 th May 2021	III	Steps to download application	45 minutes	Online
4	Sunday, 9 th May 2021	IV	Treatment I Memrise Application level 1&2	45 minutes	Online
5	Monday, 10 th May 2021	V	Treatment II Memrise Application level 3&4	45 minutes	Online

6	Tuesday, 11 th May 2021	VI	Post-Test	60 minutes	Offline
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Treatment

1. Treatment I

Before beginning applied the vocabulary from the Memrise application, the researcher introduces what is vocabulary and the research asks the students about vocabulary and the meaning in the Whatsapp group class. After that the researcher to the students to prepare their smartphone and download the Memrise application. Next, the students must be log in by their account. After the application is ready to use, the researcher asks the student to open levels 1 and 2. After the students open the application, they must listen to a native speaker and the student read and speak after a native speaker. The students also can write the vocabulary in the book with the purpose they can read again in their house. The last activity question-answer via call and video call.

2. Treatment 2

In the second meeting to give treatment 2 same as in the Whatsapp group, the treatment from researchers was the same as the first meeting, the students' open levels 3 and 4. The activity same as meeting 1, listen to a native speaker, read and repeat after the native speaker this teaching via Whatsapp group class. The last activity question-answer via call and video call.

H. Data Analysis

This data obtained in this research from the result of students' VII 1 at SMPN 9 Mesuji Raya test and they were analyzed quantitatively. Quantitative analysis is done using statistics which is called statistical analysis. This research was used to find the significant difference in the students' VII 1 at SMPN 9 Mesuji Raya toward vocabulary mastery before and after being taught by using the Memrise application in Pandemic Covid-19 section. The researcher used SPSS 16.0 version to T-test. After the researchers get the data either from Pre-test and Post-test, the researchers analyzed the data by using the formula of the T-test.