CHAPTER III

RESEARCH PROCEDURE

3.1 Research Method

This research is quantitative. The researcher used experimental research as a method. Creswell (2012) stated, "You use an experiment when you want to establish possible cause and effect between independent and dependent variables. This means that you attempt to control all variables that influence the outcome except for the independent variable" (p.295). This means that experimental research is used when the researcher wants to know the effect of a variable. Thus, the researcher experimented this case to examine the effect of a particular treatment, namely to see whether Rosetta Stone effect on students' vocabulary in one of the junior high schools in Tasikmalaya or not.

3.2 Research Variables

This research consists of variables related to determining the effect of Rosetta Stone on students' vocabulary. Creswell (2012) argued that variables are attribute or characteristics of individuals that researchers' study. The variables in this research include the Independent and Dependent variables, which are described as follows:

a. Independent Variable

   The independent variable of this research is the use of Rosetta Stone, symbolized by X.

b. Dependent Variable

The dependent variable of this research is the students' vocabulary, symbolized by Y.

3.3 Population and Sample

3.3.1 Population

The total population of the first grade students of this junior high school in Tasikmalaya is 120 students that are divided into four classes consisting of 30 students each who still require deeper vocabulary recognition. Corper, Donald, Schindler, and Pamela (2003) as cited in Sugiyono (2019) stated "Population is the total collection of elements about which we wish to make someone inference… A population element is the subject on which the measurement is being taken. It is the unit of study." (p.130).

3.3.2 Sample

The sample in this research was class 7-D, amounting to 30 students. Class 7-D was selected as the sample because of the results of the sampling technique process. Furthermore, random sampling is an objective procedure to reduce the participant's subjective selection by researchers. The sample selection was carried out using random sampling, namely the lottery. In this research, the class consists of class A-D which is a sample category. This raffle is done by writing the names of each A-D class on a piece of paper, and the paper is rolled up. Then each paper is put into a box, then shaken. Then one paper was taken, then the paper was the

sample in this research. Therefore, the sample in this research was one class of 7th-grade students.

This research used a random sampling technique that aims to produce a representative sample of population groups. According to Phakiti (2014), random sampling also applies in experimental research where there are larger populations that are difficult to recruit and include in experimental research (e.g. because of their willingness or availability to participate) (p. 63).

According to Best, Kahn and Jha (2016) random sample have an important application in research that is selecting a group of individuals for the observation that represents the population that the researcher wants to generalize. Thus, the method of measuring samples in this study used the lottery. The sample was used one class out of a total of four classes namely class A-D. The use of the lottery is done by placing four classes in each roll of paper put into the container and then drawn by removing one roll of paper so that it shows the class used as a sample.

3.4 Research Design

The researcher selected pre-experimental as a research design. Pre-experimental designs are more exploratory than confirmatory regarding making inferences about the relationship between an independent variable and a dependent variable. Usually, pre-experimental research is carried out in an intact or existing class (Phakiti, 2014, p.56).

The researcher used one group pretest and posttest design. According to Phakiti (2014) “the one-group pretest-posttest design is an

improvement on the above design. There is only one group of participants who will be exposed to a treatment" (p.57). This design provided for the effects of the treatment is judged by the difference between the pretest and the posttest scores. (Best, Khan, & Jha, 2014, p.161).

Their pre-test and post-test scores are compared to evaluate whether there is a significant gain. Meanwhile, the stages of research to be conducted:

a. First, students is tested using a pre-test to get an initial score of their vocabulary skill before treatment.
b. Furthermore, students is given treatment using Rosetta Stone to get the effect of treatment.
c. After students are treated using Rosetta Stone, students do a post-test to find out if there are significant benefits after treatment.

3.5 Techniques of Collecting Data

In this research, the researcher collected the data through a test to determine the effect of using Rosetta Stone on students' vocabulary consisting of two tests, namely pre-test and post-test. The researcher collected the data from the pre-test and post-test. A pre-test was carried out before being given treatment with 30 minutes and a total of 20 items. In addition, a post-test was conducted after given the treatment for several meetings used Rosetta Stone, with the number of questions 20 items and 30 minutes to do.

The learning process was carried out during six meetings as explained in *Rencana Pelaksanaan Pembelajaran* (enclosure 5). The first

meeting was an introduction to the learning objectives using the Rosetta Stone application and application usage exercises. Next, the second meeting up to the fifth meeting was learning to use the application / giving treatment. At the fifth and the last meeting, the students practice in developing their vocabulary as they have learned.

Table 3.1

Data Collection Activities

Meeting	Activity
1	Giving an introduction, preparing to do the test, and doing the pre-test to find out the extent of students' ability to understand vocabulary.
2-7	Conducting treatment through teaching-learning activities by using the Rosetta Stone application in accordance with the lessons plan, those are observing the image and the content, asking questions about what students do not understand, gather information during the learning obtained from the teacher, associating between teachers and students practice combining words and communicating the materials that students get regarding the topics. 1. About basic words with the words eating, drinking, running, reading, cooking, swimming, and writing. 2. About family member with the words family, daughter, sister, son, mother, father, husband, wife, parents, baby, and children. 3. About work and school with the words working, playing, school, hospital, park, restaurant, doctor, teacher, inside, and outside. 4. About building with the words a post office, a hotel, a bank, a

	library, and a home. 5. About home with the words fence, garden, swimming pool, behind, house, beside, and flowers. 6. About professions and hobbies with the words basketball, ice hockey, golf, football, tennis, artist, actress, and actor.
8	Giving post-test to see the results of students' vocabulary mastery.

3.6 Research Instrument

Type of questions for pre-test and post-test are multiple choice type consisting of 20 items for pre-test and 20 items for the post-test. The items consist of language basics, greetings and introductions, work and school, travel, home and health, and profession and hobbies.

Validity of the Test Item

The validity test of the questions was carried out to show the level of accuracy of the questions in measuring the target to be measured, with the aim that the question instrument can be used if it meets the predetermined validity. The probability value Sig. (2-tailed) the results of the correlation of each score with the total score must be $\alpha = <0.05$, therefore the questions can be said to be valid. Test the validity of the items used the Statistical Package for Social Sciences (SPSS 16).

In this research, the filling in of the exercises was carried out and then carried out the validity test of 60 questions, and later 40 questions were taken as pre-test and post-test. From a total of 60 questions that were tested for validity, the results obtained 34 valid questions.

Furthermore, the researcher returned 20 questions and carried out the exercises again for the students. After that, the validity test was carried out to meet the number of deficient questions. As a result, from a total of 20 questions, 6 questions were valid so that the target questions were 40 questions. The 40 valid questions are used as pre-test as many as 20 questions and for the post-test as many as 20 questions. The following is data on the results of the validity test of the pre-test and post-test questions:

Table 3.2

Results of Validity Test

No	Validity Coefficient		Interpretation
	Pre-test	Post-test	
1	0.004	0.001	Valid
2	0.038	0.001	Valid
3	0.003	0.004	Valid
4	0.01	0.037	Valid
5	0.001	0.013	Valid
6	0.007	0.001	Valid
7	0.000	0.036	Valid
8	0.004	0.008	Valid
9	0.01	0.004	Valid
10	0.002	0.000	Valid
11	0.002	0.006	Valid
12	0.016	0.000	Valid
13	0.017	0.001	Valid
14	0.009	0.008	Valid
15	0.016	0.047	Valid
16	0.005	0.048	Valid
17	0.016	0.000	Valid
18	0.04	0.000	Valid
19	0.016	0.001	Valid
20	0.007	0.016	Valid

Reliability of the Test Item

The reliability test of the questions was carried out to show that the questions in this study were reliable and revealed the truth in the field, so that with the hope that the question instrument can be trusted in the field to be used. The reliability value can be said to be sufficient if *r hitung* is greater than *r tabel*. Test the reliability of the questions using the Statistical Package for Social Sciences (SPSS 16).

In this research, it has been carried out in the first exercise with a total of 60 questions with the reliability result $\alpha = 0.703 > 0.361$, which means that the reliability value is sufficient. Furthermore, the researcher conducted a second reliability test with 20 different questions from the previous questions. The reliability result is $\alpha = 0.559 > 0.361$ which means that the reliability value is sufficient.

The following is data on the results of the reliability test of the pre-test and post-test questions:

Table 3.3

Results of Reliability Test

No	Reliability Coefficient	Interpretation
1	0.703	Valid
2	0.559	Valid

3.7 Techniques of Data Analysis

The data was obtained, then the data must be processed and analyzed. Then, the researcher categorized the data as quantitative data.

Quantitative data analysis techniques are performed using statistical techniques. The data analysis technique used in this research is using SPSS 16. Shafiri, Azizifar, Jamalinesar and Gowhary (2014) indicate "the Statistical Package for Social Sciences' software program (SPSS 16) was used to analyze the data" (p.261). This is the ways of how to data processing using SPSS 16, as follows:

a. Validity Test of The Items:
    1) Open the SPSS program.
    2) Click the variable view, fill in the name of the variable and other conditions as the guidelines below:
        a) Name: write the item 1-60 and write the total score
        b) Width: select 8
        c) Decimal: select 0
    3) Then click the data view, fill in the data that correct answers and wrong with the correct code is 1 and wrong is 0, and make a total score for each variable.
    4) Click Analyze -> Correlate -> Bivariate
    5) Enter all variable items into the variable column and select Pearson.
    6) Click OK.

b. Reliability Test of The Items:
    1) Open the SPSS program.
    2) Click the variable view, fill in the name of the variable and other conditions as the guidelines below:

a) Name: write the item 1-60 and write the total score

b) Width: select 8

c) Decimal: select 0

3) Click Analyze -> Scale -> Reliability Analysis.

4) Enter all item variables into the items column.

5) Make sure it's a split-half model. Split-half was chosen because the number of respondents was 30, which means even.

6) Click OK.

c. Descriptive Statistical Analysis.

1) Open the SPSS program.

2) Click the variable view, fill in the name of the variable and other conditions as the guidelines below:

a) Name: write the pre-test and post-test

b) Width: select 8

c) Decimal: select 0

3) Click analyze -> descriptive statistics -> descriptive

4) Enter the entire menu file for the variables (s) column.

5) Click OK.

d. Data Normality Test

1) Open the SPSS program.

2) Click the variable view, fill in the name of the variable and other conditions as the guidelines below:

a) Name: write the item 1-20

b) Width: select 8

c) Decimal: select 0

3) Next, click on the data view then enter the average value of learning outcomes to students above the results column.
4) The first step, conduct a normality test, click Analyze - Descriptive Statistics – Explore.
5) The "Explore" dialog box will appear, then enter the Learning Outcomes [Results] variable into the Dependent List box, then click Plots.
6) Then, appears the dialog box "Explore: Plots", put a checkmark (v) on Normality Plot with tests, then click continue and OK.
7) Pay attention to the "Test of Normality" output.

e. Wilcoxon Test (Non Parametric Statistics)

1) Open the SPSS program.
2) Click the variable view, fill in the name of the variable and other conditions as the guidelines below:
   a) Name: write the pre and post
   b) Width: select 8
   c) Decimal: select 0
   d) Label: Pre Test and Post Test
3) Next, click on the data view then enter the average value of learning outcomes to students above the results column.
4) Click Analyze -> Non Parametric test -> Legacy Dialogs -> 2 Related Samples

5) Enter the pre-test into variable column 1 and post-test into variable 2.
6) Test type on the Wilcoxon test.
7) Click OK.

3.8 Time and Place of Research

3.8.1 Time of Research

This research was conducted in September 2020 within 30 days.

3.8.2 Place of Research

The research location was conducted in one of the junior high schools in Tasikmalaya.

Table 3.4

Description	**Nov 2019**	**Dec 2019**	**Jan 2020**	**Feb 2020**	**March 2020**	**April 2020**	**July 2020**	**August 2020**	**Sept 2020**	**Oct 2020**	**Jan 2021**
Tentative Consultation											
Research Approval											
Making the Introduction											
Constructing The Literature Review											
Deciding The Methodology											
Research Proposal Examination											
Collecting The Data											
Analyzing The Data											
Making Conclusions											

and Report The Data											
Final Thesis Examination											

Research Schedule