CHAPTER III

RESEARCH METHOD

This part covers research design, variable of the study, population, sample and sampling, research instrument, validity and reliability of the test, data collection method, and data analysis.

A. Research Design

This study belonged to experimental research. Experimental research is a scientific investigation in which the researcher manipulates one or more independent variables, controls any other variables, and observes the effect of the manipulations on the dependent variable(s). The goal of experimental research is to determine whether a causal relationship exists between two or more variables. Experimental research is classified into: pre-experimental design, true experimental design and quasi experimental design.

This study employed pre-experimental research design in the form of pre-test and post-test design with quantitative approach. This study was classified as pre-experimental design because it had not a control variable. In this study, the researcher just put one group and used pre-test and post test to see the result of the test. There was no pretreatment and the subject was not randomized. According to Gay (2012:272) the pre-experimental static group comparison also can be used in such situations, but the counterbalanced design controls for several additional threats to validity.

Table 3.1 The Illustration of Research Design

Y1	X	Y2
Pre-test	Treatment	Post-test

X : K.I.M Strategy (Independent variable).

Y1: Students' contextualize vocabulary mastery before being taught by using K.I.M Strategy (Dependent variable).

Y2: Students' contextualize vocabulary mastery after being taught by using Vocabulary K.I.M Strategy (dependent variable).

The procedures of experimental research that use one group pre-test and post-test design applied in this study are:

1) Administering a pre-test to measure contextualize vocabulary mastery before being taught by using K.I.M Strategy at seventh grade students of SMPN 3 Kalidawir.
2) Giving treatment by using K.I.M Strategy.

   The steps of the treatment are:

   1. Introduce students about K.I.M Strategy; assign them a series of vocabulary words to fill out in the K.I.M graphic organizer.
   2. Identify the key terms that students need to use for the worksheet. Those words go in the left hand 'K' columns.
   3. Next, let students read about the term (descriptive text) from their text which is given by the teacher.

4. Then let them read the definition. Their information should be written in their own words.
5. The last, the students create their memory clue to go in the third column. Once students complete their graphic organizers and let students share their sheets with each other also review each other by stating the information on their sheet.

3) Administering a post-test to measure contextualize vocabulary mastery before being taught by using K.I.M Strategy at seventh grade students of SMPN 3 Kalidawir.
4) Comparing the scores of pre-test and post-test.

In this research, the researcher conducted pre-experimental research to measure if there were significant difference scores on vocabulary before and after the students were taught by using K.I.M Strategy.

B. Variable

Variable is the object of the research of the problem emphasized in a research. A variable is a characteristic or attribute of an individual or an organization that writers can measure or observe and varies among individuals or organizations studied (Creswell, 2012:112). In experimental research, there are two variables: independent variables and dependent variables.

Independent variable represents the output or effect, or it is tested to see if it is the effect. Dependent variable represents the input or causes,

or are tested to see if they are the cause. In this study, the independent variable is the treatment of using K.I.M Strategy at the seventh grade students of SMPN 3 Kalidawir in class B, while the dependent variable is the students' contextualize vocabulary mastery.

C. Population

The population is defined as all members of any well-defined class of people, events, or subject (Ary, 2010). The unit of population is whatever that is counted. In this study, the population was the seventh grade students of SMPN 3 Kalidawir in the academic year of 2019/2020.

The quantity of students in each class of the population is as follow:

Table 3.2 Population of the Research

Class	Number of Students
VII A	31
VII B	20
VII C	23
VII D	28
Total of Students	102

D. Sample

According to Ary (2010:149) the small group that is observed is called a sample and the larger group about which the generalization is made is called a population. To determine the sample of population the

researcher focuses on one class. The sample of this research was the seventh grade students of SMPN 3 Kalidawir in class B.

Table 3.3 Sample of Research

Sample of VII-B		Total
Male	Female	20
9	11	

E. Sampling

The researcher chose one kind of non-probability sampling that is purposive sampling to take the sample. According to Gay (2012:629) the process of selecting a sample that is believed to be representative of a given population also called judgment sampling. In purposive sampling, also referred to as judgment sampling, sample elements judged to be typical or representative are chosen from the population (Ary et al, 2010). The reason why researcher took the VII-B class is because of the recommendation of English teacher in SMPN 3 Kalidawir.

F. Research Instrument

Instrument is a tool or device which is used by the researcher in collecting data (Oxford: 231). The instrument that is used in this research is a test. According to Ary et al (2010:201) test is a set of stimuli presented

to an individual in order to elicit responses on the basis of which a numerical score can be assigned. The students will get two kinds of tests that are pre-test and post-test. In arranging the test, it should be considered with the core and basic competence of the curriculum. In this study, the researcher decided to take a topic based on the curriculum that was descriptive text. The test was applied for both pre-test and post-test with the different questions. In this case, the writer gave a vocabulary test to get the data or information. In this research, the writer used multiple choices tests, because they were the most commonly used types of items in the objective test. The questions consisted of 20 multiple choice item tests. Before, the pretest and posttest is tested on the sample, the test was tried out on 23 students of Students in VII C to know the validity of the instrument. The scoring techniques of pretest and posttest were the same. There was only one correct answer for each item because the form of the test is an objective test. The score processes that will be given if the student answers correctly they will get 5 then the score will be 20 x 5 = 100, and if the study's answer is incorrect they will get 0. Every right answer got five values. The formulations of scores as follows:

Table 3.4 The Formula of Score Result

Score = Σ correct answer x 5

G. Validity and Reliability Testing

1. Validity

Validity is used to know whether the instrument is valid or not. According to Gay et al (2012:165) validity was measure what to be measured; a measurement showed levels of research instrument validity. The results of research are valid if there are similarities between the data collected and the data actually occurring on the object under the study. Valid instrument means that the measuring instrument used to obtain the data (measure) is valid.

Before conducting the research, the researcher will make sure that the instrument had three kinds of validity as follows:

a. Content Validity

For instruments in the form of tests, testing content validity can be done by comparing the contents of the instrument with the subject matter being taught. Content validity is the degree to which a test measures an intended content area; it is determined by expert judgment and requires both item validity and sampling validity (Gay et al 2012:624). Technically the content validity can be helped by using an instrument grid, or instrument development matrix. The instrument of this research was designed based on standard and basic competence in K13 since the school implements K13 curriculum.

Table 3.5 Main Competence and Basic Competence in Curriculum 2013

Main Competence	Basic Competence
4. Mencoba, mengolah dan menyaji dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori	4.12Menangkap makna dalam teks deskriptif lisan dan tulis, sangat pendek dan sederhana. 4.13 Menyusun teks deskriptif lisan dan tulis, sangat pendek dan sederhana, terkait orang, binatang, dan benda, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan, secara benar dan sesuai konteks.

Table 3.6 Content Validity of Test

Competence Indicators	Test item	
	Pre-Test	Post-Test
Understanding the language features of descriptive text about people, animals and place with the appropriate vocabulary	Multiple choice	Multiple choice

b. Construct Validity

The construct validity of the test is measuring certain specific characteristic in accordance with a theory of language behaviour and learning. According to Gay et al (2012:624) Construct validity is the degree to which a test measures an intended hypothetical construct or no observable trait that explains behavior. The correct definition of construct will lead to the correct selection of the task, which will result in correct data, which has strong validity. It means that the task should be matched between the purposes of the assessment. In this study, the researcher will asked the students to answer the question about descriptive text based on the text to measure students' contextualize vocabulary mastery in the form of multiple-choices. The students should answer the questions from the selection answer. To measure the construct validity, the researcher made a blueprint, it can be seen in the appendices (*appendix 2*).

c. Face Validity

The researcher used face validity by consulting with the advisor and English teacher to make sure that the test measures what must be measured. According to Brown (2004: 26), a test called having face validity is a test look like, such as the look which can be seen and measured by senses. By those theories, it

could be grasped whether the face validity which was found in this study was, the materials which were used to the instruments were appropriate to students' level. The researcher used face validity by consulting with the advisor and English teacher who handles seventh grade of junior high school. In this test, there are some aspects that are considered from this test to make a good test based on validity.

1) The instruction must be clear and understandable for the students
2) Time allocation must be given clearly.

2. Reliability

Reliability refers to the consistency of the scores resulted from the instrument. Ary et al (2010) stated that reliability is concerned with the effect of such random errors of measurement on the consistency of scores. To measure the reliability of the score obtained from pre-test and post-test, the researcher calculated by using IBM SPSS 16.0 version using the formula Alpha Cronbach. This formula is used because required test scoring is one correct answer was given one point, while incorrect answer was given zero point.

Reliability test instruments can be done by using Cronbach's Alpha. The instrument has a high degree of reliability if the value of Cronbach's Alpha obtained as follows.

Table 3.7 Cronbach's Alpha Interpretation

Cronbach's 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

In this research, the researcher conducted the tryout in different class to see that the test is reliable. The purpose of the tryout itself was to know the clear instruction of the test and to achieve the reliable score. The researcher conducts the tryout both pre-test on 19th March 2020 and post-test on 21st March 2020 to the students in the same grade that is VII C before giving the test and treatment of the sample to find out the reliability test.

The result of reliability testing by using SPSS 16.0 can be seen from the table:

Table 3.8 Reliability of Pre-test from Tryout Score

Reliability Statistics

Cronbach's Alpha	N of Items
.712	20

From the table above, the value of Cronbach's Alpha was 0.712. It means that the test is reliable.

Table 3.9 Reliability of Post-test from Tryout Score

Reliability Statistics

Cronbach's Alpha	N of Items
.751	20

From the table above, the value of Cronbach's Alpha was 0.751. It means that the test is reliable.

H. Data Collection Method

Data collection method is the way used by researcher to collect the data. Collecting data means identifying and selecting individuals for a

study, obtaining their permission on the study them and gathering information by asking people questions or observing their behavior (Creswell, 2012:9). There are some methods in collecting the data to complete the researcher design. In this study the researcher uses a test as the instrument; the test which is given is vocabulary test using descriptive text to measure students' contextualize vocabulary mastery in the form of pre-test and post-test. The pre-test is given to the students before the researcher does a treatment. While post-test is given to the students after the researcher does the treatment. The treatment is taught vocabulary to the student by using K.I.M Strategy. The procedure of collecting data in this research as follows:

1) Pre-test

Pre-test is given to students to know the students' contextualize vocabulary mastery. Specifically, it was conducted to know how far the students score in contextualize vocabulary mastery of descriptive text before being taught by using K.I.M Strategy. In pre-test, the researcher gives 20 questions in the form of multiple-choices. If the students answer all questions correctly, they will get a score of 100. The pre-test was administered on Tuesday, 5th May 2020.

2) Post-test

After conducting treatment, the researcher gave post-test to investigate and measure the students' achievements in contextualize vocabulary mastery after being taught by using K.I.M Strategy. In post-test, the researcher gives 20 questions in the form of multiple-choices. The scoring rubric for the post-test is the same with the pre-test. Then, the researcher compared the result of both pre-test and post-test. If there were any differences in score, it showed that treatment was successful and if there was no difference in score, it showed that treatment was not successful. The post-test was administered on Thursday, 14th May 2020.

I. Data Analysis

Data analysis is used by researcher to analyze the collected data. The data is taken from students' score in pre-test and post-test. In this study, the researcher used a quantitative data analysis technique using statistical methods. This technique was used to find the significant difference on the students' contextualize vocabulary mastery before and after being taught using K.I.M Strategy (pre-test and post-test). The score gather from the one group of pre-experimental class. If the result of a post-test score is higher than pre-test score, it means teaching vocabulary using K.I.M (Key Word, Information, and Memory Clue) Strategy is effective.

To get the achievement of vocabulary mastery test, the researcher gave the student a test after got treatment by using K.I.M (Key Word, Information, and Memory Clue) Strategy. In this research, the researcher used statistical analysis because the result of the data was numerical form and used Paired sample T-test since the data were normal. The researcher used analysis compare means-paired sample T-test by SPSS 16.0 because the researcher used one group experiment using two tests, there are pre-test (without treatment) and post-test (using treatment). After that, the researcher compared the mean from the result of pre-test and post-test. All the data collected were accounted by using SPSS 16.0 for windows.