

CHAPTER III

RESEARCH METHODOLOGY

In this chapter the writer describes the research methodology; it consists of research design, the population, sample and sampling, variable, instrument, data collecting method, treatment, validity and reliability testing, normality and homogeneity testing and technique of data analysis.

A. Research Design

In this research, the writer conducts quantitative research through quasi-experimental design with nonrandomized control group pretest-posttest design. The writer conducts quasi-experimental research because it is a good design of the research, although it is not true experiments, quasi-experimental designs are considered worthwhile because they permit researchers to reach reasonable conclusions even though full control is not possible (Ary: 2010: 316).

Quasi-experimental design focuses on treatment and outcome; hence the data was taken from pre-test and post-test in order to know whether or not word wall is effective in improving students' vocabulary mastery. In this research design, there are the experimental class which is taught by using word wall media and the controlled class which is taught without using word wall media in which the students just read the text book and taking note when the teacher explaining.

Table 3.1. The Nonrandomized Control Group Pretest-Posttest Design

Group	Pretest	Independent Variable	Posttest
E	Y₁	X	Y₂
F	Y₁	-	Y₂

B. The Population, Sample and sampling

Population is normally taken to mean a collection of human or at least animate that has some qualities and characteristics that are chosen to be studied by the researcher. In statistics, however the term population is used more generally to refer to any collection of entities, of whatever kind, that is the object of investigation (Butler:1985:1). In this research, the writer chooses the seventh grade students of MTsN Tunggagri in academic year 2016-2017 to be the population. The number of population are about 400 students consisted of ten classes which are class VII-A until VII-J.

Sample is a part of total and characteristics of the population. Whether sampling is a process of taking sample. The technique of sampling that is used by the writer is purposive sampling. Purposive sampling is used when the writer is unable to take a probability sampling but it is still able to select subjects to be typical, or representative, are chosen from the population on the basis of the writer's purpose. In this research, the writer took VII-E as the experimental class that has 40 students and VII-F as the controlled class that has 42 students. They are chosen as the sample because of the suggestion from the English Teacher. The experimental class was treated by ward wall media, while the other was not.

C. Variable

According to Ary (2010) variable is an attribute that is regarded as reflecting or expressing some concept or construct. Variable is something that may vary or differs. Related to the title of the research "The effectiveness of word wall media in improving students' vocabulary mastery of the seventh grade

students at MTsN Tunggangri in academic year 2016-2017”, there are two variables in this research:

1. Independent variable

Independent variable is the condition that we ourselves vary (Butler: 1985:11). The independent variables are the conditions or characteristics that the researcher manipulates in his or her attempt to ascertain their relationship to observed phenomena. In this research, the independent variable is the use of word wall media.

2. Dependent Variable

Dependent variable is those whose response we are measuring (Butler: 1985:11). It is the conditions or characteristics that appear, disappear, or change as the experimenter introduces, removes, or changes independent variables. The dependent variables are the measured changes in students’ performance to the influence of the independent variables. In this research, the dependent variable is students’ vocabulary mastery.

D. Instrument

In this study, the writer uses test as the instrument to know the effectiveness of word wall media to improve students’ vocabulary mastery. The test was conducted twice, these are pretest and posttest, and both of the test have same content and difficulty. The test is consisting of thirty items, twenty items are multiple choice and the ten items are translating the word into Bahasa Indonesia. The test is tried out on 16th November 2016 to the ten students of VII – D class which is not the class that is used as the sample of the research. The

instrumentation diagram to show the validity and reliability of the test can be seen in figure 3.1.

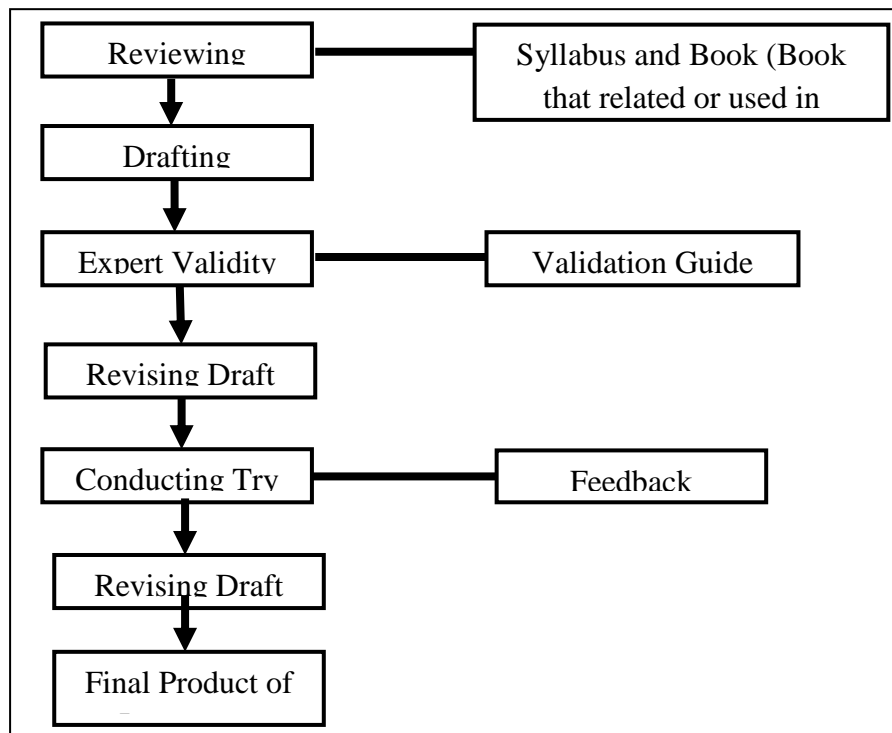


Figure 3.1 Instrumentation

Based on the picture above, The steps of Instrumentation are:

1. Review Literature

The first steps to get valid and reliable test is reviewing literature concerning with the vocabulary mastery especially that in Islamic Junior High School. Therefore, the researcher reviewed some literatures from syllabus and book used in Islamic Junior High School to get some important information as sources to drafting instrument that related with the materials of Islamic Junior High School.

2. Drafting Instrument

After get some information from reviewing literature, the researcher started to draft instrument that appropriate with the materials of Islamic Junior high school. Here, the researcher draft the instrument into thirty items, twenty items was multiple choices and the ten items was in the form of translating word into Bahasa Indonesia.

3. Expert Validating

After finishing the drafting instrument, the instrument should be validated by the expert like English teacher or lecturer where master materials. The purpose of the expert validating is to know how much valid the instrument is either related with its content validity, construct validity, and face validity. So, in this steps the researcher would get feedback and validation guide.

4. Revising Draft

In revising draft of the instrument, the researcher uses feedback collected from the expert validation to revise the instrument.

5. Conducting Try- Out

After revising the draft of the instrument, the researcher conducting try out to the seventh grade students of MTsN Tunggangri who share common characteristics with the subjects of this research. The result of try out which is analyzed using SPSS 20.0 Alpha Cronbach. It is used because the reliability and validity

of the instrument can be objectively computed by using the formula of SPSS 20.0 Alpha Cronbach.

6. Revising

In revising, it part to revising the instrument again based on the feedback to get the final draft instrument. So, I would revise the instrument to make the questions ideal or not, easy or too easy, difficult or too difficult.

7. Final Draft Instrument

The last step is final instrument, it has good or best quality where the instrument is appropriate.

E. Data Collecting Method

In this research, method that will be used to collect data is pretest and posttest. The questions of the test are 30. The test items of pretest are different with posttest but similar in their level. The forms of test are made in the following form:

- a. Multiple choice tests that consist of 20 items. The students must choose the correct answer. The score for each item is 1, so all scores are 20.
- b. Find the meaning tests that consist of 10 items. The students must translate the underlined word of the sentence to Indonesia. The scores for each item are 2, so all scores are 20. The formulation as follow:

Score =

$$\frac{(\text{right answer of multiple choice} \times 1) + (\text{right answer of find the meaning} \times 2)}{40} \times 100$$

$$\text{Score} = \frac{40}{40} \times 100 = 100$$

The test was conducted twice, pretest and posttest.

a. Pretest

Pretest is a test that is given to all of VII E and VII F students at MTsN Tunggangri to measure their ability before treatment process (teaching by using word wall). This test is given to know the basic competence for all students and to know their earlier knowledge before they get treatment. The pretest was conducted on 17th November 2016 for both class VII E and VII F.

b. Posttest

Posttest is a test that is given to all of VII E and VII F students at MTsN Tunggangri after they get treatment (teaching by using word wall). It is done to know the final score and to know the students' difference competence before and after they get treatment. The posttest for VII F was conducted on 26th November 2016, and the posttest for class VII E was conducted on 29th November 2016.

F. Treatment

In this research, the researcher conducted twice meeting for each classes. The control class was taught conventionally without word wall media in which the researcher explaining and the students taking note during listening the explanation. On the other hand, the experimental class was taught through word wall media. The steps of teaching experimental class through word wall media can be seen below.

1. The first meeting

The first meeting was conducted on 22th November 2016 at the 3-4 period (08.00 – 09.20 A.M) as follows:

- The researcher stick on the word wall on the white board.
- The researcher mentioned the names of public buildings on the word wall with the correct pronunciation and asked the students to follow the pronunciation (Drilling).
- The researcher guided the students to ask about the function of public buildings.
- The students read and listened of many examples about how to mention the names and the function of public building around them then compare with Bahasa Indonesia.
- The students communicated their difficulty with their friend.
- The students made the definition of the public building that they have chosen from word wall media then read it in front of the class one by one.

2. The second meeting was conducted on 24th November 2016 at the 1-2 period (06.30 – 08.00 A.M) as follows:

- The students stick on the word wall on the white board.
- The researcher mentioned the names of words that have correlation with the public buildings on the word wall with the correct pronunciation and asked the students to follow the pronunciation (Drilling).

- The researcher guided the students to ask about the words that have correlation of public buildings.
- The students read and listened of many examples about how to mention the words that have correlation of public building around them then compare with Bahasa Indonesia.
- The students communicated their difficulty with their friend.
- The students made the sentences using words that they have chosen from word wall media as much as possible then read it in front of the class one by one.

G. Validity and Reliability Testing

Two very important concepts in measuring instruments are validity and reliability.

1. Validity

Validity was defined as the extent to which an instrument measured what it claimed to measure. The focus of recent views of validity is not on the instrument itself but on the interpretation and meaning of the scores derived from the instrument (Ary: 2010: 225). Brown (2004: 22) explains that validity is the most complex criterion of an effective test and the most important principle of language testing. It is the extent to which inferences made from assessment result are appropriate, meaningful, and useful in terms of the purpose of the assessment. A test should test what the writer wants to test. There are four types of validity, but the researcher uses content validity in this study.

1) Content Validity

Content validity is a kind of validity which depends on careful analysis of the language being tested. A test is said to have content validity if its contents constitutes a representative sample of the language skills, structure, etc. being tested. In order to judge whether or not the test has content validity, we need a specification of the skills or structured being tested. A comparison of test specification and test content is the basic for judgement for content validity. In this study, the test has content validity because the items were taken from sources for the seventh grade students in MTsN Tunggangri.

Table 3.2. The Standard Competence

Standard Competence	Indicator
3.5 understanding the social function, text structure, and grammatical language in written and spoken text to ask about name and number of animals, things, and public buildings around us.	3.5.1 the students are able to identify the social function, text structure, and grammatical language in written and spoken text to ask about name and number of public buildings around us.

Based on the standard competence, the formulation for the vocabulary test as the table below.

Table 3.3. The Formulation for The Vocabulary Test

Material	Indicator	Sub indicator
Vocabulary related to	The students are able	1.Students are able to answer

the public building around us	to use various vocabulary related to the public buildings around us	<p>the multiple choice and translate the word in verb related to the public buildings around us</p> <p>2. Students are able to answer the multiple choice and translate the word in noun related to public buildings around us</p> <p>3. Students are able to answer the multiple choice and translate the word in adjective related to public buildings around us</p> <p>4. Students are able to answer the multiple choice and translate the word in adverb related to public buildings around us.</p>
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2) Construct Validity

A test is said to have construct validity if it can be demonstrated that it measures just the ability which is supposed to measure. The word construct refers to any underlying ability which is hypothesized in a theory of language ability. The form of the test must be suitable to test vocabulary not the other skills or

components of language. Here, the researcher makes 30 questions to measure students' vocabulary mastery.

Table 3.4. Construct Validity

No.	Standard Competence	Test Items	Percentages
1.	The students are able to answer the multiple choices	1-20	50%
2.	The students are able to translate the underlined words	1-10	50%
	Total	30	100%

3) Face validity

A test is said to have face validity if it looks as if it measures what it is supposed to measure. Face validity is hardly a scientific concept, yet it is very important.

2. Reliability

Reliability indicates how consistently a test measures whatever it does measure. Reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. This quality is essential in any kind of measurement (Ary:2010: 225). The reliability of the test can be measured by SPSS 20 for windows. We can click analyze > scale > reliability > analysis, then enter all of variable x to items (alpha model) and click ok.

The criteria of reliability instrument can be divided into 5 classess as follows (Riduwan : 2004), those are:

1. If the *alpha cronbach* score 0.00-0.20: less reliable
2. If the *alpha cronbach* score 0.211-0.40: rather variable
3. If the *alpha cronbach* score 0.41-0.60: enough reliable
4. If the *alpha cronbach* score 0.61-0.8: reliable
5. If the *alpha cronbach* score 0.81-1.00: very reliable

The result of reliability testing can be seen from the table:

Table 3.5. The Result of Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.645	30

To know the items is reliable or not it can be seen from Alpha Cronbach's column. The Alpha Cronbach's score of Table 3.5 is 0.645 it means that the test is reliable.

H. Normality and Homogeneity Testing

1. Normality Testing

Normality testing is conducted to know whether the gotten data is normal or not. The normality testing in this research using statistic computation SPSS Statistics 20.0 One-Sample Kolmogrov-Smirnov test by the value of significance (α) = 0.05. Testing of data normality is conducted by the rules as follow:

- If the value of significance > 0.05 , so the distribution data is normal.

- If the value of significance < 0.05 , so the distribution data is not normal.

If the data is distributed normal, so the researcher can continue to the homogeneity testing.

2. Homogeneity Testing

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. The homogeneity testing in this research using statistic computation SPSS Statistics 20.0 that is Levene Statistic test by the value of significance (α) = 0.05. The samples can be categorized as homogeneity if value of significance > 0.05 , so it means that the data of sample has same variance.

I. Data Analysis

The data obtained from research result is the results of students' test that will be analyzed quantitatively. Quantitative analysis was done using statistics which is called statistical analysis or inferential statistics. Data analysis is a time consuming and difficult process, because typically the researcher faces massive amounts of field notes, interview transcripts, reflections, and information from documents to examine and interpret (Ary, 2002:465).

The quantitative data of this research is analyzed using statistical computation. The best known and most widely used statistical package for data analysis in educational research is SPSS. It can import data from most spreadsheet software and from databases. SPSS provides descriptive and inferential statistics

and graphical presentations of data as well as more sophisticated statistical procedures (Ary et al., 2010: 141).

The researcher uses by SPSS 20.0 After getting the data either from pretest or posttest, the researcher analyzes the data by using formula of t-test by to know the significant difference of students' vocabulary mastery between students who are taught through ward wall media and students who are taught with traditional method.

The writer's assumption of those hypotheses are as follows:

1. If $t_o > t_{table}$, the Null Hypothesis (H_0) is rejected and alternative hypothesis (H_1) is accepted. It means there is a significant difference of students' vocabulary mastery between students who are taught through ward wall media and students who are taught without using word wall media.
2. If $t_o < t_{table}$, the Null hypothesis (H_0) is accepted and alternative hypothesis (H_1) is rejected. It means there is no a significant difference of students' vocabulary mastery between students who are taught through word wall media and students who are taught without using word wall media.