

CHAPTER III RESEARCH METHODOLOGY

A. Research Design

Research design is a guide in conducting the research process, including in determining data collection instruments, sampling, data collection, and data analysis. The selection of the right research design is expected will be able to assist researchers in carrying out research properly. This research used approach. Creswell (2012) Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem.

The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data. The final written report has a flexible structure. In this study, researchers use the classroom action research design which aims to find a problem that exist in the clasroom, then examines a design that the researcher has planned to solve a problem that occurs in the classroom. classroom action research is a design use to find out what is best for the class, so that it can improve student learning.

B. Subject of Research

According to Aqib (2007) Classroom Action Research is very important for a teacher to increase students needs because classroom action research in a calm classroom atmosphere makes learning activities feel comfortable, which makes it easier for teachers when students ask question in class. The subjects in this study were class eight grade students of Junior High School.

The eighth grade junior high school students' English language skills have difficulty increasing vocabulary, almost all students during English class are afraid to pronounce words or speak because they stammer when pronouncing the vocabulary. they try to increase vocabulary by rote memorization. during the learning process students work more often in groups

than individual work. and students during the presentation only a few people came forward to explain the results of their work.

C. Technique of Data Collection

There are two ways techniques to collect the data, the first is observation technique and the second is measurement technique. The researcher the collect the data from quantitative and qualitative data.

1. Observation checklist

Researchers used an observation checklist to determine student behavior in class. According to Ary et al (2010; 217), states that "it presents a list of behaviors to be observed". In this research, researchers used an observation checklist as a tool to observe student activities during the teaching and learning process. The observation list consists of student activities in the teaching and learning process steps using the Duolingo application. This can be used to see students' difficulties, problems and understanding of the material provided.

In descriptive analysis to analyze observation checklists which contain a list of objectives in teaching activities or structured observations and observation checklists used by English teachers when researchers apply guessing games in the teaching and learning process. There are four categories or responses to see student activities during the learning process, starting from student performance and activities, researcher performance, and classroom environment. The categories are 1 poor (1 poor), 2 fair (2 fair), 3 good (3 good), 4 very good (4 very good). Observers must check these statements against actual circumstances.

Classification of Score
Table 3.1

Categories	Range
Very Good	4
Good	3
Fair	2
Poor	1

D. Tools Of Data Collection

The tools for collecting data in this study were vocabulary test, observation checklist and field notes. Explanation of data collection tools used in this study are :

1. Try Out

In this step, the researcher distributed the test to eight grade class part of pre-research activity. Then, the used test was be the source of analyzing the readability of the test.

2. Validity Data

Validity is a measurement instrument which shows whether the instruments are valid or not (Zuhriyah, 2016). It means that validity is one of the crucial conditions in implementing a research including Classroom Action Research (CAR). By using data validity, there should be no irrelevant points or misleading in reflecting the data. To get the validity of the data the researcher uses triangulation. Triangulation technique is a data validation technique by comparing the data. In this case the researcher compares the result of the test with the result of observation. To know the outcomes of validity, the researcher compares the test outcomes of cycle 1 and cycle 2. Next, in the process of validity the researcher analyzes the result of observation to know whether there are some problems that need to be solved in the next cycle or not.

Table 3.2 *Validity Result*

Item	R	r-tabel	Criteria
1	0,0784465	0,6319	Invalid
2	0,0000	0,6319	Valid
3	0,6805	0,6319	Invalid
4	0,5883	0,6319	Valid
5	0,3852	0,6319	Valid
6	0,706135	0,6319	Invalid

7	0,68641	0,6319	Invalid
8	0,0490	0,6319	Valid
9	0,1712	0,6319	Valid
10	0,2782	0,6319	Valid
11	0,5638	0,6319	Valid
12	0,3852	0,6319	Valid
13	0,6205	0,6319	Valid
14	0,19612	0,6319	Valid
15	0,0000	0,6319	Valid
16	0,0000	0,6319	Valid
17	0,1201	0,6319	Valid
18	0,1716	0,6319	Valid
19	0,2942	0,6319	Valid
20	0,0428	0,6319	Valid

3. Reliability Data

Reliability come from the word reliability which means the extent to which the result of a measurement can be trusted (Lockyer 2013). A measurement result can be trusted if several times carrying out measurements on the same group of subjects, relatively, similar masurements result are obtained, as long as the aspect being measured in the subject has not changed.

To calculate the result of the reliability, reseacherused the formula as below:

$$r_{11} = \left(\frac{k}{k-1} \right) \left(\frac{s^2 - \sum pq}{s^2} \right)$$

r11 = Reliability instrument

k = Number Question

S2 = Stsndard deviation

P = The proportion of subjects who answered the item correctly

Q = Proportion of subjects who answered the item incorrectly

Σpq = The sum of the products between p and q

Table 3.3 *KR 20 Statistics*

Kuder-Richardson	N of Item
.730	20

The scores for KR-20 range from 0 to 1, where 0 is no reliability and 1 is perfect reliability. The closer the score is to 1, the more reliable the test. Constitutes an “acceptable” KR-20 score depends on the type of test. In general, a score of above .5 is usually reasonable.

4. Field Notes

Field note is a note which that is constructed by the researcher when its technique is applied to the students. In accordance with to Mellon in Westbrook (1994:246) field notes are a data collection tool that contain everything the investigator saw, experienced, and remembered as well as notes on emotions and analytic comments.

In the field notes, the researcher noted on what everything happens in the classroom or when teaching learning process. The researcher as the teacher did this work after teaching learning process has finished. In this study, researchers will work with collaborators namely, subject teachers to conduct field notes.

Triangulation refers to the use of multiple methods or data sources in qualitative research to develop a comprehensive understanding of a phenomenon (Patton, 1999). Triangulation is also seen as a qualitative research strategy to test validity through the convergence of information from various sources.

5. Vocabulary Test

Vocabulary test is a test used to measure a person's ability to understand and use vocabulary. Tests will be given to students every second meeting of each cycle that is held. Cohen *et al.*, (2007:p. 414) stated that “ In the tests, researcher has at their disposal a powerful method of data collection, an impressive array of tests for gathering data of a numerical rather than verbal kind.”

The researcher gave test in multiple choices. Total number of this test is 20 number, where 20 number multiple choice (consist of four option; A, B, C, and D). The students did the test, then, the students' answer graded. From the result, the researcher able to know whether or not the students' ability is improved successfully.

BLUE PRINT OF THE TEST

Table 3.3

Indicators	Number Item	Total Item
Meaning	1,3,4,5,6,7,10,15,16,17,18,19	11
Word Use	2,5,8,9,11,12,13,14,20	9

E. Technique of Data Analysis

Data analysis techniques are a systematic data collection process to create makes it easier for researchers to draw conclusions. Data analysis is a process search and compile systematic data obtained from interviews, field notes and documentation, by organizing data into categories, is broken down into units, synthesizing, arranging into patterns, choosing what is important and what will be studied, and draw conclusions so that they are easy to understand yourself and others (Sugiyono, 2018).

In this research, there were two kinds of data, namely qualitative and quantitative one. the qualitative data collected through observation checklist, field notes and vocabulary test.

1. Qualitative Data

- a. Analysis of the observation checklist

The researcher observed the attention, interest and enthusiasm of the students during the learning process the activeness of students during discussion and individual and group work was also observed by the researcher. Based on in the criteria on the observation sheet, when students do or don't the criteria on the observation sheet list, the collaborators give a tick.

b. Analysis of the Field notes

Making the field notes is a method of data collection by making record on whatever happens in the field. the gained data from observations were then written into field notes.

2. Quantitative Data Analysis

Doing the quantitative analysis, to know students improvement in teaching learning process that got from the test, the researcher used individual score and mean score to analyze the data from the test. Individual score and mean score will be analyzed with this following formula:

a. Individual Score

After gave the test, researcher will use following formula to analyze the individual score:

$$x = \frac{A}{N} \times 100$$

Where:

X = Individual Score

A = The students' accurate response

N = Total of test items

Adopted from (Cohen et al., 2007)

b. Mean Score

After calculate the individual score of students, and then the researcher analyzes the mean score with the following formula:

$$M = \frac{\sum X}{N}$$

Where:

M = the average of students' score

$\sum X$ = Total score

N = The Number of students

Adopted from (Heaton, 1988)

Criteria of Mean Score

Table 3.4

Categories	Classification
90-100	Good to Excellent
60-79	Avarage to Good
50-59	Poor to Avarage
0-49	Poor

(Adopted from Heaton, 1988: 145)