# CHAPTER III

# RESEARCH METHODOLOGY

In this part the researcher discuss about Research Design, Subject of the research, Data Collection Technique and Instrumentation, and Data Analysis.

## A. Research Design

In this research, researcher use Classroom Action Research. Classroom Action Research is a method of finding out what works best in the classroom so as to improve student learning. There is a lot about good teaching in general, but each teaching situation is unique in terms of content, student ability levels and learning styles, teacher abilities and teaching styles, and many other factors. To maximize student learning, a teacher must figure out what works best in a given situation

According to Burn (2010:2) action is driving force in classroom. Teacher on the whole pratical people and tend to focus on what need to be done in the classroom to help their student learn. To date, the research design used in this research is CAR approach. This relates to the idea of reflective practice and the teacher as researcher. In this research the researcher help by English teacher as the collaborator.

Classroom action research generally aims to improve a certain skill in students where each teaching and learning process certainly has certain levels and steps in an effort to achieve targeted learning objectives, as stated by Creswell, J. W. and McTaggart cited in (Burn, 2010:7-9), Action Research usually has four main phases in the research cycle. The first cycle can be a spiral cycle that allows the research to continue, or be repeated, until the researcher achieves the targeted results. The researcher can repeat the cycle if the researcher feels that they have not obtained the targeted results and can stop if the desired results have been achieved.
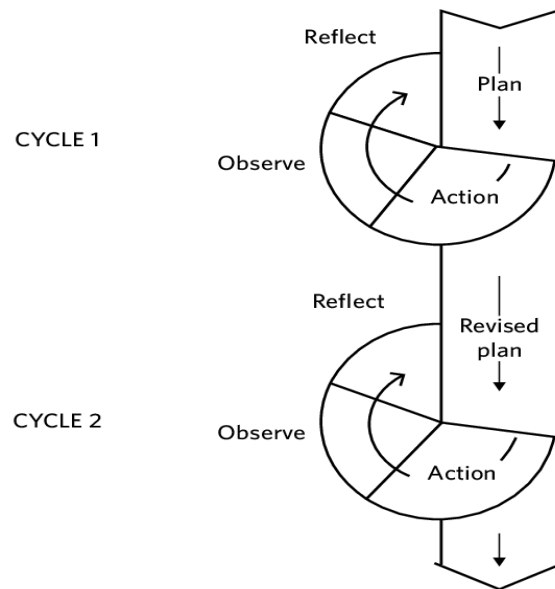
Adapted from Kemmis and McTaggaet in Burns (2010, p.9)

Figure 1. CAR Model

1. Planning

At this stage, the researcher has identified challenges or problems and created an action plan to improve certain aspects of the research context. At this stage, the researcher has looked ahead and examined what kind of research can be done given the conditions and limitations of the teaching environment, as well as what prospective changes are believed to be possible.

2. Action

This strategy was well thought out and required some planned adjustments to the researcher's teaching environment, which the researcher implemented over a scheduled period of time. The intervention was "critical" in that it challenged the researcher's preconceptions about the existing situation and devised a new and different approach.

3. Observation

During this stage, the researcher has systematically observed the outcome of the activity and recorded the situation, what is being done, and the point of view of the individuals concerned. This is the data collection stage where "open eyes" and "open mind" techniques are used to collect data about what is happening.

4. Reflection

To understand what has happened and to better understand the topic that has been researched, the researcher has reflected, assessed, and described the effects of the activities. As part of the researcher's professional development, the researcher has conducted additional AR cycles to make the situation better or to share the research "story" with others.

## B. Subject of the research

This research has been conducted on eighth grade students consisting of 31 students, 15 female students and 16 male students. With the research entitled "The Use of Crossword Games to Teach Vocabulary to Eighth Grade Students at SMPN 4 Sintang". The main purpose of this study was to improve students' vocabulary and participation in learning vocabulary with games. The researcher only focuses on class VIII C to limit data collection and obtain data based on problems that are difficult for students to solve. Researcher have used games as a technique to help and facilitate students to improve vocabulary.

## C. Data Collection Technique and Instrumentation

In this research, researcher used observation, interview, measurement and documentation for data collection technique meanwhile observation checklist, field note, interview guideline and students test for instrumentation.

1. Data Collection Technique

In qualitative research, the following data collection can be utilized: interview, observation, case studies, personal experiences, and documents. To obtain the data of this research, the researcher used observation, interview, and document review.

a. Observation

Observation is the process of gathering information directly. By observing people and situations at the research site. According to Louis(2018) observation is more than just looking. It is looking often systematically and nothing systematically students, events, behaviors, settings, and their routines.

Observations are used to explain every process that occurs in the research area. where researcher observe attitudes, behavior, actions and problems that exist in the research area. Observation can be used as a method for collecting data

Observations are made so that researcher can get information that aims to be able to understand a problem in the object of research. Researcher made direct observations in the field to be able to see the behavior and responses of students when carrying out the teaching and learning process in class.

b. Interview

Hochscilid 2009 (cited in Louis 2018) notes that the interview can do what surveys can not ,which is to explore issues in depth, to see how the ways that the students do. Interview is a conversation activity which is usually carried out between two people according to in this conversation activity where one of them becomes the questioner or interviewer and the other answers or provides responses to the questions given for a particular purpose.

According to Creswell (2012:217) interview is technique to collect the data carried out face-to-face or through electronic devices such as From the statement above the researcher used interview in this research, the researcher asked some students about the use of crossword puzzle game in the process of learning vocabulary and how they feel about learning vocabulary by crossword puzzle game and then the researcher asked how the progress and improvement of vocabulary mastery by using crossword puzzle game. Interview guidline will help researcher to more easily ask interviewers.

c. Measurement

To take measurements, researcher gave tests to students to see changes and improvements in vocabulary mastery. According to Creswell (2012:151) measurement is to assess an ability of someone. In addition, measurement can help the researcher to know the level of student ability in learning. It can be concluded that the measurement has several special characteristics such as, the results of a data collection process in the form of numbers.

Measurement is always done with the help of several measuring instruments and cannot be done without the help of measuring instruments, this aims to facilitate the process of collecting data in order to get results. Measurement is also part of the research procedure, this has become a step in a data collection process scoring rubric and assessment indicators. To search students' vocabulary,  the researcher assessed from the four aspects, and they are quantity, meaning, spelling and pronunciation.

Table 1. Scoring Rubric For Vocabulary.

| Aspect | Score | Description | Actual Score |
|---|---|---|---|
| **Quantity (30%)** | 4 | The student can memorize 12-15 words | **X 7,5** |
| | 3 | The student can memorize 8-11 words | |
| | 2 | The student can memorize 4-7 words | |
| | 1 | The student can memorize 1-3 words | |
| **Meaning (30%)** | 4 | The students can interpret 11-15 words | **X 7,5** |
| | 3 | The students can interpret 8-11 words | |
| | 2 | The students can interpret 4-7 words | |
| | 1 | The students can interpret 1-3 words | |
| **Spelling (20%)** | 4 | The student can spell the word properly | **X 5** |
| | 3 | The students can spell the word but not properly | |
| | 2 | The students can spell the word but not used English spell technique | |
| | 1 | The students can not spell the word | |
| | 4 | The student can pronounce the vocabulary properly | **X5** |
| | 3 | The students can pronounce the word but | |

| | | not properly | |
|---|---|---|---|
| **Pronunciation (20%)** | 2 | The students can pronounce the vocabulary but not used English pronounce technique | |
| | 1 | The students cannot pronounce the vocabulary | |

Adapted in from Stevents & Levi (2005:5-6)

This is the formula to calculate the students' score:

$$\text{Total Score} = (A X \Omega) + (B X \Omega) + (C X \Omega) + (D X \Omega)$$

A = obtain score from aspect quantity

B = obtain score from aspect quantity

C = obtain score from aspect spelling

D = obtain score from aspect pronunciation

$\Omega$ = actual score for each aspect

Table 2. The Classification of Students' Mean Score

| TOTAL SCORE | QUALIFICATION |
|---|---|
| 80-100 | Good to excellent |
| 69-79 | Average to good |
| 50-64 | Poor to good |
| 0-49 | Poor |

Adapted from Patria et al. (2020)

d. Documentation

In this research the document research is a tool to getting and to save the data. Based on the Creswell (2012:223) documentation can be used as additional

information data in the research. The instruments used in the technical documents are audio visual materials. In this technique the researcher took several documents as additional information data such as photos, sound recordings, lesson plan and field note in the learning process. To take the data, the researcher is helped by a collaborator.

2. Instrumentation

The tools that have been used by researcher in this study are observation checklists, field notes, interview guidelines, tests, and documentation.

   a. Observation checklist

   This type of observation involves the use of a coding system or checklist thatprepare before starting the lesson. conforming to Burn (2010:62) Observation checklist is a worksheet whose role is to observe and measure the level of success of learning in teaching and learning activities in the classroom.

   b. Field Note

   Generally Field note is one of the instrumentations that use in observation activity. Besides, the result of this instrument is also used as additional information in order to emphasize the data result from the observation checklist. Field notes are written by collaborator that aim to directly record classroom activities during the learning process.

   c. Interview guideline

   An interview guide is a note listing each question that the interviewer must have to make it easier for the interviewer to remember what questions will be asked and what topics will be discussed during the interview. Kitwood 1977( cited in Louis 2018) contrasts there is conceptions of an interview. That is

means of pure information transfer. It also helps the interviewer to know what to ask next. In short, this interview guide makes it easy for the interviewer to know what to ask after the subject has answered the question.

d. Students Test

Tests have been given to students to compare their learning outcomes before and after using this technique. This is an important way to see how far students' abilities have improved. According to Creswell (2012:151) participants will take test to measure their achievement. The students took a test to measure their achievement in vocabulary. The researcher used an oral test to find out the students' vocabulary, whether there was an improvement or not after using the crossword game.

e. Documentation

In this research the Audiovisual Material is used by researcher to record various processes that take place in a research. Creswell (2012:224) stated that in this case the camera is used as a tool to record various information about interactional behaviour data that occurs in a research Cameras can be used as evidence for research that lasts from the beginning to the end of the research. Research evidence can be in the form of audio and pictures. Based on the explanation above, for documentation in this research the researcher also used syllabus, lesson plan, field note, audio recording  and photo.

## D.  Data Analysis

This Classroom Action Research uses qualitative and quantitative data. According to Mackey & Susan (1998:268) Classroom Action Research basically a way of reflecting on your teaching  by systematically collecting data on your everyday practice and analyzing it in order to come to some decisions about what your future

practice should be. Analysis with qualitative descriptive techniques was carried out to obtain results from qualitative data in the form of observations and interviews. The data in this study were obtained through direct observation to the school to be able to know and see what techniques are suitable for use during the research. This observation was carried out every time the learning process took place. According to Pelton, R.P. (2010:77) Some common methods for data analysis include organizing your data into piles and using sticky notes or highlighters (manual or word processing) to code important snippets of information. You may also want to organize your data into tables, graphs, matrices, charts, or graphic organizers.

The main function of observation is to find out whether the Crossword puzzle game can improve students' vocabulary mastery. Researcher also conducted interviews which were used to collect data for qualitative data analysis. Qualitative data is used to present everything that happens in the classroom. Qualitative data also use to describe the results of applying the crossword puzzle game, about how students responded, about the extent to which the Crossword puzzle game could improve student learning activities in the classroom.

Whereas for quantitative data, researcher used descriptive statistics to analyze the quantitative data. Quantitative data is in the form of scores or numbers on the results of student vocabulary mastery tests in each cycle. Researcher used tests to obtain data as a quantitative data collection technique in this study. The information obtained was discussed and reviewed together between researcher and students. Quantitative data is used to present or show the improvement of students' scores. Descriptive statistical method was used to analyze quantitative data. This was done to compare students' vocabulary mastery before and after the action was taken by

dividing the number of students' scores by the number of students' scores before and after doing the research.

1. Qualitative Data

Qualitative data was collected from interviews and documentation. Data analysis is the process of systematically searching for and organizing interview transcripts, field notes, and other materials you collect to improve your understanding of them and enable you to present what you have found to others. The procedure of data analysis qualitative research was taken from Burns, (2010:104) argues "that consist of five stages there are assembling the data, coding the data, comparing the data, building interpretations, and reporting outcomes".

a. Data Assembly

   The first step that researcher take from the field. Researcher collect data before researcher make observations of problems in the field, after collecting data researcher conduct research. In this data collection stage, researcher has collected the data needed for research. After collecting data, researcher conducted research on this research problem.

b. Data encoding

   At this stage the data is carried out, after the first step has been carried out by the researcher. The second step is data coding. In this step, after reviewing the data as a whole, categories or codes can be developed to identify more specific patterns. After knowing the data, the researcher prepares the next step to find out the problem in this study.

c. Comparing data

   This third step is comparing data. In this step, researcher compared each data that has been obtained. Researcher compared the data between collecting data and

coding data with pre-observation data. The goal is to see if there is an increase in student ability.

d. Building meaning and interpretation

In this step, the researcher moves beyond describing, categorizing, coding, and comparing to understand the meaning of the data. The researcher interprets the coding and compares the data after the researcher has collected the data.

e. Reporting the results

This is the final stage of the research that involves the researcher presenting the research report to other parties. The researcher presents the research results. This is the end of the research.

2. Quantitative Data

In quantitative action research is one of the important components inpresent findings. According to Burn (2010:118) Quantitative data is to present data in the form of numbers. In short quantitative is the researcher's way to get a brief numerical description of the problem. The form of presentation of quantitative data is in the form observations and numbers. This is done so that researcher can see and compare the abilities of students who use the crossword puzzle game with tests in cycle 1 and cycle 2.

Researcher can found that there is an increase in students' vocabulary mastery which is mark by an increase in student scores. Researcher analyzed student scores from the test, to obtain quantitative data. After the test. The students' vocabulary mastery level is obtained from the students' overall average score after conducting the learning process.

Based on the explanation above the researcher provide the criteria of success in this research are described in the table below:

Table 3. Criteria of success in learning process

| No | Criteria of success | Instrumentation |
|----|---------------------|-----------------|
| 1 | 70% students get score at least 70 the rest of the students could improve their score | Test |
| 2 | 80% students are actively involved in the learning process | Observation sheet Field note |
| 3 | 80% students respond positively to the implementation crossword puzzle game | Recorder |