

CHAPTER III

RESEARCH METHODOLOGY

A. Methodology of Research

In this research, the researcher used Classroom Action Research (CAR) design. The researcher employed CAR because the researcher was interested in investigating the process of learning vocabulary by using the word search puzzle games in class to improve students' vocabulary. Gay *et al.* (2012, p. 508) explained that CAR in education is any systematic inquiry conducted by teachers, principals, school counsellors, or other stakeholders in the teaching–learning environment that involves gathering information about the ways in which their schools operate, the teachers teach, and the students learn. One of the important features of CAR is that the researcher undertakes the research in order to “bring about positive change and improvement in the participants' social situation” (Burns, 2015, p. 188). Burns (2015) also states that in CAR the researcher investigates a problematic area that needs improvement. In the current research, the researcher used CAR because the researcher intended to bring about positive changes and improvement in the students' vocabulary mastery by implementing the WSP games in class.

B. Procedures of Classroom Action Research (CAR)

Classroom Action Research typically involves cyclical phases. According to Kemmis and McTaggart as cited in Burns (2010, p. 7), "Classroom Action Research typically involves four broad phases in a cycle of research". The Kemmis's and McTaggart's cycling have four phases, namely planning, acting, observing, and reflecting. In this research, the researcher used the classroom action research model proposed by Kemmis and McTaggart as cited in Burns, (2010):

1. Planning

In this phase, the researcher identified a problem or issue that would be addressed in the research. This identification phase is

important to develop an action plan which is believed to bring about improvements in a specific problem of practice that is addressed in the research context. In this first phase, the researcher considers the kind of investigation that is possible within the realities and constraints of the teaching situation. The research also considers potential improvements that might be possible. In this phase, the researcher identified problems that occur in the classroom and developed ideas on how to create a good plan to solve the problems that occur in this first phase.

2. Acting

In this second phase, the researcher carefully considers the plan of some deliberate interventions into the teaching situation that the researcher puts into action over a certain period of time. These interventions provide critical information about the question that the research holds in the current situation as well as to have a new plan and alternative ways of doing interventions.

In this action phase, the researcher and collaborator did action in teaching and learning process by applying the Word Search Puzzle game to learning vocabulary. During this process, the classroom teacher who became the researcher's collaborator acted as an observer who observed the teaching and learning process. Meanwhile, the researcher played a role as a teacher who acted on teaching, that was teaching using (WSP) game.

3. Observing

In this phase, the researcher observed systematically the effects of action during the action phase and documented the context, actions and response of the students involved in the research. This observation phase is a data collection phase where the researcher uses 'open-eyed' and 'open-minded' instruments to collect information about what is happening during the action phase.

In this phase, the researcher and the collaborator observed class conditions, student and teacher activities during the teaching and

learning process in the class. Collaborator filled out observation checklists and field notes to obtain data from vocabulary teaching and learning activities using Word Search Puzzle game to find out the effects of implementing this game and what actions occurred in this research.

4. Reflecting

In this reflection phase, the researcher reflected on, evaluate and describe the effects of the action with the purpose of making sense of what has happened and to gain better understanding of the issue that is investigated in the research. In this phase, the researcher may have a decision whether or not the researcher needs to do further cycles of CAR to bring more improvements in the situation that is being investigated or to share the result of the research with others as part of the researcher' ongoing professional development.

In this last phase researcher evaluated the used of the Word Search Puzzle game in the learning process, on student activities and class conditions. The researcher also described everything that happened and was done during the action phase in class and the effects of the techniques that had been applied in more detail and clearly.

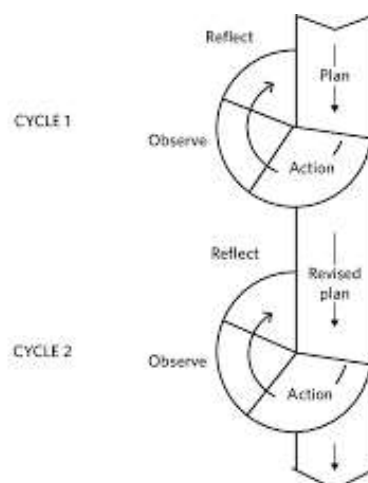


Figure 3.1: Cycling process of Classroom Action Research.

Adopted from Kemmis & McTaggart in Burns (2010, p. 9)

C. Subjects of the Research

The subjects of this research were the students in the eighth grade of SMP Borneo Bengkayang in the academic year 2022/2023. The students were involved in the investigation to find out how word search puzzle games improve their vocabulary mastery. The subjects of the research were involved by using a purposive sampling technique. The research subjects belonged to class A that consisted of 30 students, 16 male and 14 female students. The researcher met and asked permission from the school principal to do the research at the school and recruit the students to become subjects of the research. After being approved by the principal, the researcher then asked for permission and made an agreement with the English teacher at the school that the eighth grade would be recruited by researcher to participate in this research. The class was chosen with the since the students were identified to have some problems in vocabulary mastery. Collaborator in classroom action research are people who help collect data about the research being carried out together with researcher. Collaborator in this research is English teacher class VIII SMP Borneo Bengkayang, namely Dova Geovani, S. Pd, with the one my friend who takes learning documentation for each cycle. Meanwhile, someone who applying the learning using WSP games in this research is the researcher.

D. Technique of Data Collection

In this research, the researcher used observation and measurement technique in collecting the data. The observation technique was used to collect data that were related to the situation of teaching and learning process, while the measurement technique was used to collect the data that were related to the students' score after giving the vocabulary test. Thus, the data that were obtained using observation technique were in form of qualitative data, while the data collected using measurement technique were in form of quantitative data.

1. Observation Technique

In this research, the researcher used observation technique as the main technique in collecting the data in classroom action research. According to Hamed Taherdoost (2021, p. 23). “Observation is an appropriate technique to evaluate teaching methods in the classes”. The qualitative data of this research would be taken from the information in term of what happened when the Word Search Puzzle game in teaching and learning process is implemented.

2. Measurement Technique

In this research, the researcher used a measurement technique to collected quantitative data. According to Stevens in Ary *et al.* (2010, p. 101), “measurement is the assignment of numerical to objects or events according to rules”. The quantitative data of this research were taken from the results of the vocabulary test scores that the researcher gave to students. The achievement is stated in scores ranging from 0 to 100.

E. Tools of Data Collection

In this research, there are three kinds of tools of data collection that were used, namely observation checklist, field note, and vocabulary test.

a. Observation Checklist

An observation checklist is an observation guide that features a list or set of questions that assists an observer in focusing on specific aspects of what they are observed. This tool is a list of things that an observer is going to look at when observing a class. According to Ningrum (2017), observation checklist involves lists of aspects or factors that are being observed, and these aspects are made and arrange systematically before the researcher doing the teaching and learning process. In this research, the observation checklist was used to observe the students’ and teachers’ performance when the teaching and learning process of learning vocabulary by

using Word Search Puzzle Games. The observer marked the observation checklist based on the students and teacher activities by giving mark (✓) in column 1, 2, 3, 4, or 5, and more detailed observational data were obtained using Field Note.

b. Field Note

Field notes are used to obtain the information related to the learning process in detail. This tool is used to record the fact related to the implementation of Word Search Puzzle game during observed the teaching and learning vocabulary. According to Lodico *et al.* (2010, p. 118), “most qualitative researchers write down their observations in the form of field notes, which are written descriptions of what the researcher observes in the field and his or her reactions and feelings”. The researcher used field notes to observe the setting, reaction, interpersonal relationships, and feelings or impression during the observations. The observer noted all the things which happened during observing the teaching and learning process.

For this research, the researcher adapted the observational protocol/note that is designed by Creswell and Poth (2018). As seen in the appendix 18, this observational note involves descriptive notes for recording a description of activities that can be used to summarize the flow of activities in chronological order. The observational note also involves reflective notes for recording about the process, reflecting on activities, and summarizing the conclusion about the classroom activities.

c. Vocabulary Test

In this research, the researcher used vocabulary test in order to measure student’s achievement in their vocabulary learning. Vocabulary test in this research is a tool that is used

to get data about the students' vocabulary mastery. According to Ary *et al.* (2010, p. 201), tests are valuable measuring instrument for educational research. A 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. Furthermore, Cohen (2007, p. 414) stated that in tests "researchers have at their disposal a powerful method of data collection, an impressive array of tests for gathering data of a numerical rather than verbal kind."

F. Technique of Data Analysis

The researcher employed qualitative and quantitative methods in the data analysis. In analysing the qualitative data, the researcher used thematic analysis to understand the data based on the field notes when conducting the observation. The researcher used thematic analysis by Braun and Clarke (2006). This technique of data analysis consists of six phases of analysis, namely familiarizing with the data, generating initial codes, looking for themes, reviewing the themes, defining and naming the themes, and producing the report (Braun and Clarke, 2006). Meanwhile, in quantitative data, the researcher used descriptive statistic which are used to find out individual score and mean score of students' vocabulary test.

Individual Score

After giving the test, the researcher used this formula to calculate the students' individual score in their vocabulary test. Here is the formula to measure of individual score:

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

Where:

X = an individual score

A = the students' right answer

N = the number of test items

Adopted from Cohen *et al.* (2007: p.

Mean Score

After calculating the individual score of students, then the researcher analysed the mean score following formula:

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

Where:

- M = The students' mean score
- $\sum X$ = The total score of students
- N = The total number of students

Adopted from Singh (2006: p.286)

Percentage Score

After the score of each student has been calculated into mean score, the researcher tried to categorize the students' score into some categorize namely, excellent, good, adequate, inadequate, and failing. It would be made in table below and the formula used Suherman and Sukjaya as cited in Malik (2018, p. 88):

$$P = \frac{F}{N} \times 100$$

- P = The percentage of class
- F = The frequency of each categories
- N = The number of students

Table 3.1
Score Qualifications

Range Score	Classification
90 – 100	Excellent
80 – 89	Good
70 – 79	Adequate
60 – 69	Inadequate
Bellow 60	Failing

Adopted from Brown (2004, p. 287)

