CHAPTER III
RESEARCH METODOLOGY

A. Research Design

a. Classroom Action Research (CAR)

This research will use CAR (Classroom Action Research) as research design. Meesuk *et al* (2020) state that Classroom action research defined as the teaching and learning process by emphasizing that the research process has two related parts which are the research process and the research result. Therefore, the classroom action research based instruction can be both the use of the research processes and/or research results in teaching and learning. According to Ary *et al* (2018) Classroom Action Research is teachers carrying out research in their classroom with the object of improving classroom practice or improving practice in the school.

Classroom Action Research collects data to answer the questions by paying attention to aspects obtained from a lot of research data so that it can describe a condition. Creswell (2012) state that the main characteristics of qualitative research are describing a research problem through a description of trends or a need for an explanation of the relationship among variables. Meanwhile Queirós *et al* (2017) state that qualitative research is therefore concerned with aspects of reality that cannot be quantified, focusing on the understanding and explanation of the dynamics of social relations. When qualitative and quantitative methods are mixed in a single study, one method is usually given priority over the other. In such cases, the aim of the study, the rationale for employing mixed methods, and the weighting of each method determine whether, and how, the empirical findings will be integrated (Östlund *et al* 2011).

b. Procedure of Classroom Action Research

In every research, procedure is very important because it is how to know the steps in conducting research. In this research, researcher use Classroom Action Research. Implementation of Classroom Action Research includes several steps. This research uses the model development by Kemmis and McTaggart cited in Burns (2009: 8). Classroom action research can be seen in the illustration below:
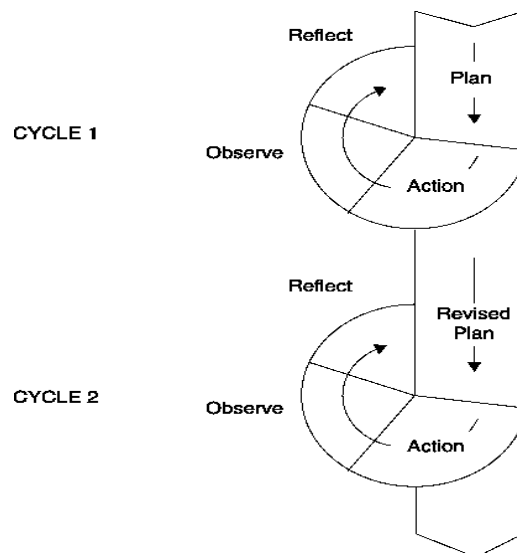
FIGURE 3. 1 Cycling process of Classroom Action Research (CAR) Kemmis and McTaggart in Burns (2009: 9)

Based on the figure above, the procedures of classroom action research are explained below:

Cycle 1:

a). plan

Plan is first step of research. In this step, researcher will identify the problems and develop an action and plan to bring about improvements in specific areas of the research context. The researcher will investigate what might be done in reality and the constraints of the teaching situation that the researcher will do and the potential improvements that the researcher thinks might be made.

The first cycle was held on (Tuesday, September 6th, 2022). Before implementing flashcards in the teaching and learning process, the researcher prepared a lesson plan which contained procedures for implementing learning. The researcher prepares an observation checklist that will be used by collaborators to observe learning activities and prepares field notes to record all activities during the research. The last stage is the researcher prepares a test to measure student achievement. In this study, the researcher was observed by the English teacher as a collaborator

b). Action

Action is application of the plan that researcher has been prepared. This plan is thoughtfully considered and involves intervention into the learning situation that the researcher will carry out during the agreed period. At this stage, the researcher explains

and implements anagram to students and how the learning process uses good and correct anagram, and after that the researcher will explain the anagram test procedures to students and after that give test questions to students as a form of testing understanding of anagram. An action refers to the activities carried out by the researcher in the classroom related to the applying anagram in students' vocabulary mastery.

In the first cycle, the first meeting was held on (Tuesday, September 6th, 2022). The researcher introduced the application of anagram to students and the procedure for using anagram to teach vocabulary mastery. The second cycle was held on (Tuesday, September 13th, 2022) at this second meeting, the researcher explained how the new vocabulary was used to teach vocabulary mastery through anagram.

c). Observation

Observation conduce the researcher systematically observing the effects of the actions and also documenting the context, action, and opinions of those involved. In this stage, the researcher collect the data, consist of 'open' and 'open minded' tools to collect information about what happened. Activities in observation step will be carry out by collaborators with an observation checklist and field note when the researcher teaches students vocabulary in class through anagram.

In the first cycle which was held on (Tuesday, September 6th, 2022) researchers and collaborators observed the entire process and tried to identify students' strengths and weaknesses. Observation results; students pay attention to the teacher's explanation but students are less active and do not understand the teacher's explanation of the learning material.

d). reflection

Reflection is the last step in classroom action research. Reflection mean researcher reflects, evaluate, and describe the effect of the action to realize what happened and to figure out the problem that the researcher has explored more clearly.

In the first cycle, researchers and collaborators discussed the activities that occurred when applying anagram during the learning process. This is done to prepare for the next cycle. Researcher and collaborator discussed what should be done to continue to the second cycle so that in the second cycle the implementation of vocabulary learning using anagram could be successful. Therefore researcher and collaborator discuss and record the causes of the inefficient learning process in the first

cycle and find solutions so that in the next cycle this method can be successful. Researcher and collaborators revised the procedures for anagram, because anagram procedures in the first cycle were the cause of the less efficient process of implementing anagram in the first cycle.

Cycle 2:

a) Revised Plan

Re-planning in the second cycle because looking back at the problems in the first cycle, namely the criteria have not been achieved due to several inhibiting factors. The solution to the problems in the first cycle will be sought and planned again in the second cycle. The second cycle was held on (Tuesday, September 13th, 2022) the researcher continued to the second cycle, while the things that the researcher needed to prepare were such as lesson plan, observation sheet, field note and measurement test. This second cycle was carried out to revise the weaknesses in the first cycle. The researcher will make several revisions and improvements from the first cycle learning process.

b) Action

In carrying out this second cycle of learning, the researcher can adjust the initial actions with the strategies developed in the second cycle. The first meeting in the second cycle was held on (Tuesday, September 13th, 2022). The researcher taught the same subject by using anagram to teach vocabulary. The difference between this second cycle and the first cycle is that students are asked to look for new vocabulary from existing vocabulary in flashcards but in groups. The teacher and students provide feedback about what they have learned together, and then students work on the test questions given by the teacher.

c) Observation

This stage involves the researcher observing the effects of the actions and documenting the actions, opinions and context of the students involved in a systematic manner. This phase is data collection where researcher uses openness and open-mindedness to collect information about what is seen and what happened. This observation stage was carried out by collaborator with observation checklist and field note when the researcher taught vocabulary to students through anagram. In the first cycle on (Tuesday, September 6th, 2022) researcher and collaborator observed the entire process and identified student strengths and weaknesses during the learning process.

The result of observation; students listen to the teacher's explanation and understand the instructions well, students look enthusiastic about the learning process so that the learning process goes well.

d) Reflection

Reflection in this second cycle, aims to assess which criteria have not been achieved and the causes of not achieving these criteria. Criteria that have not been met and the causal factors will be input for the next cycle.

In the second cycle, researchers and collaborators discussed activities that occurred when researchers applied anagram during the learning process. In the second cycle there was a significant increase when compared to the first cycle so the researcher stopped the cycle.

B. Subject of Research

The subjects of this research are XI IPS 3 grade students of SMAN 2 Sintang academic year 2022/2023. This class consists of 34 students. The researcher took XI IPS 3 grade as the sample because of the recommendation of an English teacher at SMAN 2 Sintang. Also, based on the researcher's pre-observation, during when researcher's internship at SMA Negeri 2 Sintang. During the pre-observation, the researcher taught vocabulary in the class and saw the student had lack of vocabulary knowledge. So the researcher is interest to find out the solution to mastering vocabulary by applying anagram.

C. Techniques and Tools of Data Collection

1. Techniques of Data Collection

To completing the data, researcher will use qualitative and quantitative data. Qualitative data consist of observation, while quantitative data consist of measurements tests.

a. Observation Technique.

The researcher will use the observation technique to get data. Observation is a data collection technique in which researcher record the information researcher witness during the research. Which means, researcher collect data through direct observation of situations or events that exist in the field. Observation is used in the social sciences as a method for collecting data about people, processes, and cultures. Observation, particularly participant observation, has been the hallmark of much of the research

conducted in anthropological and sociological studies and is a typical methodological approach of ethnography (Kawulich, 2012).

b. Measurement Technique.

In this research, researcher will use a measurement technique to collect quantitative data. According to Kizlik (2012) Measurement, refers to the set of procedures and the principles for how to use the procedures in educational tests and assessments. Some of the basic principles of measurement in educational evaluations would be raw scores, percentile ranks, derived scores, standard scores. With this measurement technique, the researcher wants to find out about students' vocabulary mastery using a test that will find out how well students' vocabulary mastery will improve.

2. *Tools of Data Collection*

Tools are important to collecting data because tools are instrument which is used to collect during the observation and measurement. The tools for observation and measurement are different, for observation technique, the tools are observation checklist and field note, and for measurement is vocabulary test.

a. Observation checklist

According to Mustakim *et al* (2018) Classroom observation checklist were summarized and compared in order to illustrate appropriate conclusions and interpretations. Checklists are used to facilitate observations and make observations more structured and also function as a contract of understanding with the teacher so that the results are clearer and can get feedback on aspects in the classroom that can be evaluated in the future. In this study, the researcher made a list of observations based on the teacher's performance when starting learning, the learning process, student performance during the learning process, and class conditions.

b. Field Note

When conducting research observation, field note is important for researcher as an intermediary tools that researcher see, hear, and feel in the context of collecting data. According to Phillippi & Lauderdale (2018) Field note are widely recommended in qualitative research as a means of documenting needed contextual information. With growing use of data sharing, secondary analysis, and met synthesis, field note ensure rich context persists beyond the original research team. Field note is useful to facilitate the preparation of data reports after research. Field

note should be descriptive and include the date and time, basic information such as where the information will be obtained, who was present, the information obtained and social interactions.

c. Vocabulary test

The test is a set of questions and exercises that are used to measure the achievements and abilities of individuals. The test in this research is post-test. In this research, multiple choices, arranging word, matching test and pronunciation tests will be carried out. Multiple choices consist of five questions, arranging word consist of five questions, matching test consist of five question, and pronounciation consist of five questions.

2. Techniques of Data Analysis

After the data is collected, the researcher will use qualitative and quantitative data. Qualitative data obtained from observation and field note while quantitative data obtained from anagram test.

a. **Qualitative Data**

Qualitative data is the type of data used to describe information in a narrative way. AlYahmady & Al Abri (2013) explained that Qualitative data is characterized by its subjectivity, richness, and comprehensive text-based information. Analyzing qualitative data is often a muddled, vague and time-consuming process. Qualitative data analysis is, the pursuing of the relationship between categories and themes of data seeking to increase the understanding of the phenomenon. In this research, there are three steps for qualitative data analysis according to Miles and Huberman (1994:10), as in figure 1.2 follows:
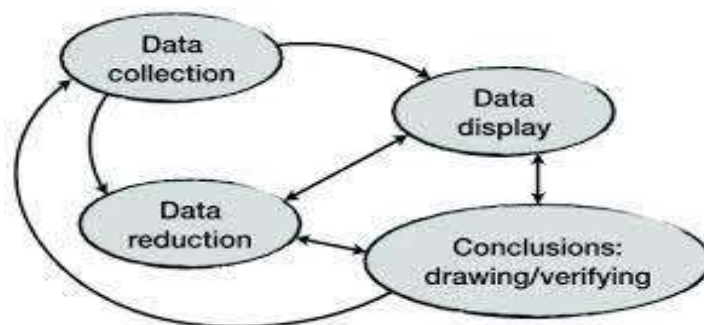

FIGURE 3. 2 : The Components of Qualitative Data Analysis Miles and Huberman (1994:10)

1. Data Collection

Data collection is the first step in analyzing data. Data collection means the process of gathering and analyzing information from all the relevant sources with the method of observation and measurement to find answers to the research problems.

2. Data Reduction

Data reduction is the second step in analysing qualitative data. Data reduction means selecting the main points that are important, looking for patterns and themes, and eliminating unnecessary data. Thus, the reduced data provides a clearer picture and makes it easier for researcher to continue and proceed to the next stage.

3. Data Display

After doing data reduction, the next step is data display. At this stage, the presentation of the data can be done in the form of a brief description or chart. By displaying the data, it will be easier to understand what is happening and plan the next steps. In research on data presentation, a brief description was prepared based on data reduction.

4. Conclusion

The last step in qualitative data is drawing conclusions. This initial conclusion is a temporary conclusion that can change if no strong evidence is found to support the next stage of data collection. But if this provisional conclusion supports and has strong and consistent evidence, then the conclusion can be stated as a credible conclusion. Conclusions are drawn based on data reduction and data display.

b. **Quantitative Data**

Quantitative data is data that can be calculated and measured directly. In quantitative data, the researcher uses two types of scoring, which are individual scores and mean scores will use to measure the students' vocabulary mastery through anagram. The researcher will analyse the data by using the following formula:

1. Individual Score

The individual score is used by the researcher to find out the individual students' vocabulary mastery through anagram. The formula individual score as follows:

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

Note:
X   : The individual's score

A   : The number of correct items

N   : The total number of test items

100   : Maximum score

<div align="right">**Taken from Cohen (2007: 423)**</div>

2. Mean Score

      After calculated the individual score for students', after that, the researcher calculated the students' mean scores using the following formula:

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

note:

M   = The mean score of the student's achievement in vocabulary ability

$\sum X$ = The sum of all score

N   = The number of subjects

3. Qualification

      To know well student's improvement in vocabulary mastery using anagram, researcher classified the dta base in table down below:

Table 3.1: The Table of Students Score Qualification in Mastering Vocabulary

Total Score	Representative Score in Symbol	Representative Score in Number	Qualification
80 - 100	A	4	Excellent
70 - 79	B	3	Good
60 - 69	C	2	Average
50 -59	D	1	Poor
< 50	E	0	Very Poor

Taken from Heaton (1988: 96