# CHAPTER III

# RESEARCH METHOD

## 3.1 Research Design

The design used in this research was Classroom Action Research (CAR). Action research is any systematic inquiry conducted by teachers, researchers, principals, school counsellors, or other stakeholders in teaching/learning settings to gather information about how their schools operate, how they teach, and how well their students learn. This means that CAR is aimed at overcoming problems in the teaching and learning process in order to improve educational practice. According to Meesuk, Sramoon & Wongrungsa (2020), CAR-based learning is defined as a teaching and learning process by emphasizing that the research process has two interrelated parts, namely the research process and research results. Therefore, learning based on classroom action research can be in the form of using the research process or research results in teaching and learning. This study used Kemmis and Mc Taggart 's (1998) to find out whether teaching vocabulary by using *Duolingo*
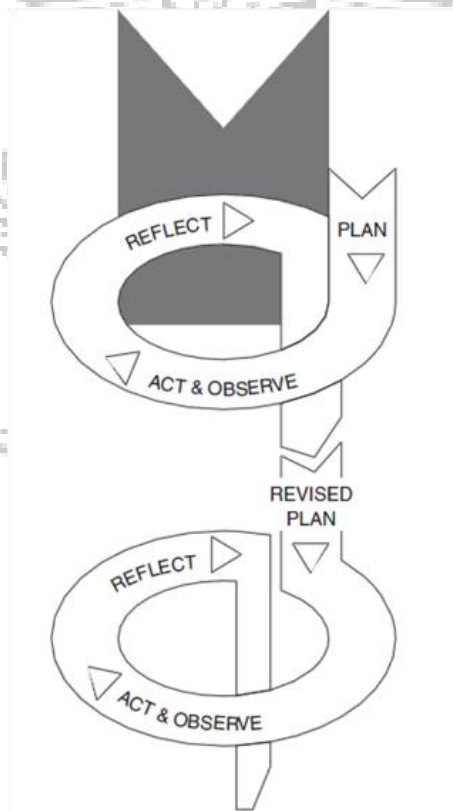
improves the students' vocabulary mastery. An overview of Kemmis and Mc Taggart 's (1998) suggested an action research model as follows.

Figure: Kemmis and Mc Taggart 's (1998)

## 3.2 Subjects

In this study, the subjects were the 7th grade students of SMP Muhammadiyah 1 Malang, with a total of 20 students. The researcher selected the school because it matched the required criteria that the researcher needed. The students had some problems in learning English, especially vocabulary. Based on a preliminary study, this happened because they feel bored with vocabulary learning due to ordinary learning methods which, in turn, made them easily forget the vocabulary they had learned. Also, the other reason was that Duolingo had never been used as the learning media in their learning process.

## 3.3 Research Procedure

In this research, the researcher used Classroom Action Research which consisted of four main steps, namely *planning, action, observation,* and *reflection*. The steps can be illustrated as follows.

Cycle 1

## A. Planning

The preparation of the plan was based on the results of the initial reflection assessment. In detail, planning included actions that were carried out to improve, build or modify desired behaviours and attitudes as a solution to solve the problem. Therefore, the researcher used Duolingo as learning media to overcome existing problems. The researcher developed lesson plans that included specific lesson objectives, learning materials and media, presentation procedures, and evaluation procedures. The evaluation and success criteria were determined to be conditioned on consent between the researcher and teacher in the class, namely: (1) 75% of the class students got the KKM standard score, or 75% of students achieved above

KKM. (2) Students were more interested when learning vocabulary and easily remembered the vocabulary they had learned in the class.

## B. Action

At this stage, the researcher played the role of a teacher and implemented the lesson plan that had been prepared previously. The classroom teacher acted as an observer to see all class activities during the teaching and learning process. The teaching and learning process was carried out in 2-3 meetings in each cycle.

## C. Observation

At this stage, the researcher in the role of the teacher and the school teacher in the role of the observer observed the teaching and learning process in the classroom. The aspects observed included the performance of the teacher, students' responses, class situations, and others. In addition, the researcher administered a vocabulary test to measure the students' skills in mastering vocabulary.

## D. Reflection

Reflection at this stage was aimed to reflect on the data and whether or not the given treatment was successful. The data were obtained from the results of observation and the success criteria. The minimum score (KKM) that students had to achieve was 75. If the results from the first cycle already meet the requirements or reach the success criteria, then there was no repetition of the cycle. But if the results of the treatment do not reach the success criteria, then a second cycle is needed.

## Cycle 2

Based on the results of the first reflection, if the results do not match or have not reached the success criteria, the second cycle was be carried out. In this cycle, the researcher did the same steps as the first cycle, but there were some changes in the planning. The researcher divided the students who initially worked individually into groups.

## 3.4 Data Collection

In this study, the researcher collected both qualitative and quantitative data. The qualitative data were concerned with the students' learning behavior during the implementation of Duolingo learning medium and quantitative data were concerned with the students' achievement before and after the treatment. Thus, in order to collect the research data, bot observation checklist and pre-test-post-test instruments were utilized.

## 1. Observation

The observation was conducted in order to collect the data concerning students' learning behaviour. In order to facilitate the observation activities, an observation checklist was used during the teaching and learning activities in the classroom.

## 2. Test

The vocabulary test, which was categorized into pre-test and post-test, was administered to measure the students' vocabulary mastery.

## a. Pre-test

Pretesting was usually performed before treatment or at the beginning of the learning process. This test was carried out to see the students' vocabulary mastery before being given the treatment. It was given in the form of multiple choice and fill in the blank questions.

## b. Post-test

The post-test was given when the treatment or learning process had finished. It was carried out to see if there was progress after being given the treatment compared with the pre-test results. Both pre-test and post-test items were substantially the same.

## 3. Questionnaire

The questionnaire was something that the researcher used to collect the data and to know the response of students about the use of Duolingo in learning vocabulary. To obtain the data, the researcher used the questionnaire items of himself. The researcher used closed-ended question after did applying in Duolingo. It had a list of possible options or answers from which the respondents must choose. It consisted of ten questions. Through questionnaire, the researcher gets all information that he wants to know. The researcher uses questionnaire in order to know the students" opinion related to the Vocabulary learning through Duolingo. The options are "Yes "and "No". The researcher analysed it by using Guttmann Scale. "Yes "answer scored 1 and "No" answer scored 0. The questionnaires were distributed to the students after teaching and learning process.

### 3.5 Data Analysis

The qualitative data concerning students' learning behaviour during the teaching and learning process were analysed descriptively by following the steps below.

1. classifying student learning behaviour;
2. describing student learning behaviour;
3. drawing inferences based on data analysis results.

To analyse the quantitative data in the form of students' vocabulary scores, the descriptive statistics was utilized. The analysis was done by applying the formula for computing the means of the pre-test and post-test scores as follows.

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

Mx = Mean

X= Individual score

N= Number of student