

CHAPTER III
RESEARCH METHODOLOGY

3.1 The Research Design

The design used in this research is pre-experiment; one group: pre-test – post-test. In this design, there is one class; pre-test is conducted before treatment and post-test is conducted after treatment. This treatment is made for experiment to determine the effects of a given treatment. According to Sugiyono (2018), pre-experiment with one group; pre-test and post-test experimental design is to compare pre-test and post-test. Pre-test is conducted before treatment and post-test after treatment is conducted. The treatment is conducted in an experiment is to find the effect of a given treatment.

Next, Creswell (2018) states that the search used an appropriate initial type with a pretest-posttest design in which there is a pretest given by the study to measure students' vocabulary scores. Thus, the results of the two tests can be compared with the students' vocabulary scores; before being given treatment and after being given treatment.

Next, the research paradigm of one group: pre-test – post-test can be drawn in the following table:

Table 3.1 Research Paradigm

Pre-Test	Treatment	Post-Test
O1	X	O2

In which:

O1 : Pre-test is conducted before treatment

X : Treatment

O2 : Post-test is conducted after treatment

3.2 The Population and Sample

3.2.1 The Population

According to Sugiyono (2018), a population is a whole of subject research, which a sample is a part of population. The population of this research is the tenth-grade students of SMA Negeri 1 Blangpegayon in academic year 2022/2023. The total population is 148 students who are composed of six classes; class X IA1, class X IA2, class X IA3, class X IS1, class X IS2, and class XII IS3. Every class consisted around 28 students.

3.2.2 The Sample

Meanwhile sample is part of population that the writer takes as source of data in this study (Sugiyono, 2018). The sample of this research is the students of class X IA1 which was taken purposively. The students of class X IA1 was taken as the sample of this research because the students were active and enthusiastic than the students of the other classes. The class X IA1 consisted of 28 students. Thus, the total sample was 28 persons.

Next, purposive sampling technique is a type of non-probability sampling that is most effective when one needs to study a certain cultural domain with knowledgeable experts within. Purposive sampling may also be used with both qualitative and quantitative research techniques (Sugiyono, 2018).

3.3 The Research Instrument

This research used a test as the research instrument of this research. The test was used to know the students' ability in mastering vocabulary. Meanwhile, the questionnaire used to know the students' respond toward the researcher's way in teaching and learning process.

Next, the test consisted of two tests, which were pre-test and post-test. Pre-test consisted of 25 vocabulary questions in multiple choice. Meanwhile, in the post-test, there were also 25 vocabulary questions in multiple choice that were tested after students understand the material had been conveyed. The questions for the pre-test and post-test were different and the questions of the both tests were taken from the English book for the tenth grade which was publish by ministry of education. Furthermore, the experiment was carried out by applying group discussion. The time used in these lessons was 90 minutes/meeting.

The test is a series of searches or exercises that are used to measure the skills, knowledge, and talents of a person or group (Arikunto, 2016). In addition, Brown (2007) states that the test is a method for measuring a person's ability, performance, or knowledge in a particular treatment. In this research, researchers used tests to measure students' vocabulary mastery. Hence, the tests were divided into two types which were called pre-test and post-test.

a. Pre-test

The pre-test was a test that is distribute to participants before the instructions were presented. The pre-test was carried out at the first meeting to determine the the students' abilities in mastering vocabulary before the treatment was carried out.

In the pre-test, the researcher prepared questions to students about the vocabulary. Students had 75 minutes to answer questions.

b. post-test

Post - test refers to measuring students' abilities after being applied group discussion. In addition, in the post-test, the students were asked to answer the post-test questions within 75 minutes.

3.4 Validity and Reliability of the Test

3.4.1 Validity of the Test

According to According Hatch and Farhady (2018), the term validity refers to whether or not the test measures what it claims to measure. On a test with high validity the items will be closely linked to the test's intended focus. For many certification and licensure tests this means that the items will be highly related to a specific job or occupation. For example, when a teacher wants to measure the students' ability in mastering vocabulary thus the tests used must relate to the vocabulary and its principle.

Next, the writer made this test based on the course objectives in the syllabus of tenth grade students of SMA Negeri Balngpegayon and in this case the writer arranged the tests which were taken from the book which was used by teacher in teaching and learning process. The title of the book is Bahasa Inggris Untuk Kelas X published by the ministry of education and culture of the republic of Indonesia 2016. Therefore, this test is valid in term of content validity.

3.4.2 Reliability of the Test

According Hatch and Farhady (2018), reliability refers to how consistently a method measures something. If the same result can be consistently achieved by using the same methods under the same circumstances, the measurement is considered reliable. Next, reliability is the level in the test in a consistent manner measure at any test. In this test, the writer consulted the test with English teacher of the tenth-grade students of the school and the test is considered reliable.

3.5 The Data Analysis

In this study, the writer applied quantitative data. Next, to know the success of teaching vocabulary through scattergories game and to find out the differences between pre-test and post-test, the writer used the following formula suggested by Meltzer (2002).

In which:

N-GS = Gain Score

O2 = Average score of Post-Test

O1 = Average score of Post-Test

Max Score = 100

Pre-test = Average Score of Pre-Test