CHAPTER III

RESEARCH METHODOLOGY

The research methodology of the present study is developed in this section. The methodology consists of the place and time of research, population and sample, research design, the instrument of research, the procedures of research, the technique of analyzing data, and hypothesis of statistic.

3.1 The Place and Time of Research

The study will be carried out at SMA N 1 Ujung Padang, which is situated in the North Sumatera Province's Simalungun Regency's Ujung Padang District. The researcher picked this site because, when observing the pupils, she discovered a number of issues, including the students' poor English pronunciation due to a lack of vocabulary exercise. This school establishes the effectiveness of this game.

3.2 The Population and Sample

3.2.1 Population

One important component of research is population (Sudjana, Dasar-Dasar Proses Belajar Mengajar, 2005) states that the population is all the totality of possible values. Meanwhile (Sugiyono, 2015) states that the population is a generalized area consisting of artifacts with a certain number and characteristics that are identified and written by researchers to be studied. The population of this study were all class X students of SMA N 1 Ujung Padang for the 2023/2024 academic year, which consisted of six classes.

3.1.1 Sample

A sample is a relatively small group of people or items that serve as an accurate representation of the total population of the characters. (Arikunto, 2014) states that the sample is a component of the selected research population.

The sample is a certain component of the research which is part of the population. Data taken from the sample population. Mcmillan in (Turumi, 2016)

states, "a sample is a group of subjects whose data is collected". Purposive sampling technique will be used in selecting the sample. Researchers chose purposive sampling because it has a specific purpose. (Afifah, 2017) argues that because researchers think they can give enough information, purposive sampling techniques can be used. For classrooms where students' pronunciation abilities need to be strengthened, this research will be carried out. According to the researchers' observations, there are six classes in class X, but the researchers only treated kids in classes X-1 and X-2 of SMA N 1 Ujung Padang. Although there were 30 students in each class, the researcher only accepted 20 participants for each experimental and control group. 40 students will thus be sampled in total.

3.3 Research Design

This research use quantitative methods with experimental research design. According to Muis as cited in (Afifah, 2017) claims, "The experiment, or experimental design, is described as "a test under controlled circumstances what is made to demonstrate a know or truth or examine the validity of the hypothesis." Two independent and dependent variables are used in an experimental design. A variable is considered independent if it influences another variable. It is known as an X variable. Contrarily, a dependent variable is one that is impacted by an experiment. This variable is referred to as Y. The following two factors are relevant to the study:

1. Independent Variable (X) = Tongue twister game.
2. Dependent Variable (Y) = Pronunciation.

This study employed an experimental design, particularly a quasi-experimental approach. In this study, a pretest-posttest design was adopted. According to Cresswell in (Juniarti,2019) quasi-experimental design can be table as shown below:

Table 3.1
Quasi-Experimental Experiment and Control Class

Class	Post-Test	Treatment	Pre-Test
EXPERIMENT	O1	X	O3
CONTROL	O2	---	O4

WHERE:

O1   : Pretest of experimental group

O2   : Posttest of experimental group

O3   : Pretest of Control Group

O4   : Posttest of Control Group

X   : Treatment for Experimental group

---   : No Treatment

3.4 Instrument of Research

In this study, the researcher will conduct the pronunciation test to both the experimental group and the control group. Students are given guidance on how to pronounce a word provided by the instructor during the pronunciation test. The pronunciation exam will reveal the results of the experimental and control groups and determine whether or not teaching the tongue twister game to students in the experimental group had any impact on their ability to pronounce words correctly.

The exam was prepared for the students to take and was administered to them twice by the researcher. The first exam was a pre-test where pronunciation instruction utilizing a game of tongue twisters was provided to the students before

providing care. By playing a tongue twister game before to instruction, it helps to understand the students' pronounciation skills. The second step is educating using the tongue twister game after providing care. It aims to take into account how the students' capacity to pronounce words after the operation has been completed may be impacted by the tongue twister game.

3.5 The Procedures of Research

The experiment group and the control group were divided into two classes by the researcher. In contrast to the other class, which did not use tongue twisters, the experiment class used them to teach. For each class, a pretest and a posttest were administered.

The steps for this study were as follows:

1. Setting up the pretest to ascertain the outcome of the dependent variable's measurement.
2. Giving the subject groups the treatment X.
3. Setting up the posttest to determine the outcome.

This study aimed to look into how tongue twisters were used to teach pronunciation at SMA N 1 Ujung Padang during the 2023–2024 academic year. To demonstrate whether the researcher might improve students' performance after the pretest, the treatment will be used. However, once the pupils were taught utilizing a tongue twister game, the treatment's efficacy was discovered.

3.6 The Technique of Analyzing Data

The researcher employed statistical data analysis techniques in her study. This method was utilized to compare the results of students' pronunciation achievement before and after treatment. Data on students' pronunciation test results from both before and after utilizing the tongue twister method were

required. The test was calculated statistically by the researcher in order to examine the data and determine the final result. Test results from students were quantified. Utilizing statistical computation, the research's quantitative data was examined.

1. Normality Test

   The data are put through the normality test to see if they are properly modeled as being normally distributed. Statistical formulas were used by the researcher to calculate the data.

   The hypothesis formulas are:

   H_o = the data have normal distribution

   H_a = the data do not have normal distribution

   While the criteria acceptance or rejection of hypothesis were:

   H_o is accepted if Sig (Pvalue) $\geq \alpha = 0.05$

   H_a is accepted if Sig (Pvalue) $\leq \alpha = 0.05$

2. Homogeneity Test

   To determine whether the data are homogeneous or not, it is important to apply the t-test.

   The hypothesis for the homogeneity test are:

   H_o = The variance of the data is homogeneous

   H_a = The variance of the data is not homogeneous 21

   The test criteria:

   H_o is accepted if Sig $\geq \alpha = 0.05$

   H_a is accepted if Sig $\leq \alpha = 0.05$

3. Pronunciation Checker

   To determine if students' test-day pronunciations were accurate or not, a Google Translate Voice application was employed as a pronunciation checker. This program is made available by Google LLC and offers speech recognition services. This application's accuracy is quite good, according to the business, which claimed that Google Voice's algorithm

recognizes data or voice using a pattern similar to brain cell patterns in humans (Asilfa, The Effect of Tongue Twister Technique On Students' Pronunciation Ability, 2019).

Furthermore, even if it is known that this program is exact and precise, mistakes can still happen at any time and may not be due to the application at all but rather to uncontrollable human speech or a damaged phone speaker. The test's results were examined using a grading system from (Arikunto, 2014):

$$S = \frac{R}{N} \times 100\%$$

Notes:

S = Score

R = Total answer right

N = Total item

3.7 Hypothesis of Statistic

The hypothesis of the research are:

H_a: There is an effect of tongue twister game on pronunciation ability.

H_o: There is no an effect of tongue twister game on pronunciation ability.

Where the criteria of hypothesis are:

H_o is accepted if Sig $\geq \alpha = 0.05$

H_a is accepted if Sig $\leq \alpha = 0.05$