

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

Research methods are a tools and techniques for doing research. In this part the researcher used experimental research. Experimental research aims to determine whether there is a causal relationship between variables X and Y. Experimental Research is “a scientific research in which the researcher manipulates one or more independent variables, controls any others relevant variables, and observes the effect of the dependent variable”(Ary et al., 2010).

There are two kinds classifications of experimental research design: first, based on the number of independent variables, namely single variable design and factorial design. Second, based on how well the researcher controls for threats to internal validity, namely pre experimental research design, true experimental research design (randomized research design), quasi experimental research design, factorial design and time series design.

In this research, the researcher used preexperimental research. According to Ary et al., (2010) preexperiment is do not have random assignment of subjects to groups or other strategies to control extraneous variables. The design of preexperiment is divided into two, namely one group pre-test–post-test design, static group comparison. So, the researcher choose one group pre-test–post-test design with formula:

Table 3.1 Pre-experimental Design Formula

Pre-test	Independent	Post-test
Y_1	X	Y_2

Table 3.1 shows the pre-experimental research design with a one-group pre-test–post-test design model. In this design, the research only involved one group without a control group. In the first stage, students were given a pre-test (Y_1) to determine their initial abilities before being given treatment. This pre-test aimed to measure students' initial abilities in speaking skills.

Next, students are given treatment (X), namely the use of the Monopoly Game as a learning medium in teaching procedure texts. This treatment is carried out in several meetings in according with the learning plan that has been prepared. After the treatment is given, then students given a post-test (Y_2). The post-test aims to determine students' abilities after getting the treatment. The post-test results are compared with the pre-test results to determine whether there is an increase in students' speaking skills.

B. Variable Research

There are two variables in experiment of this study, namely the independent variable and the dependent variable.

1. Independent variable (X)

Independent variable is an influencing variable, where this variable is manipulated by the researcher (Ary et al., 2010). In this research, the independent variable is Monopoly Game.

2. Dependent variable (Y)

Dependent variable is a variable whose effects of change are observed, but not manipulated by the researcher, because its value is hypothesized to depend on, and vary with, the value of the independent variable (Ary et al., 2010). Dependent variable in this study is Speaking Skill.

C. Population and Sample

1. Population

In this research the researcher chose MTsN 1 South Solok as the object of research. Object or subject of research is called population. Population is the whole subject or object that becomes the focus of research. Population according to Ary et al., (2010) defined as “all members of any well-defined class of people, events, or objects”.

The populations of this research are 166 students from six class of ninth grade students MTsN 1 South Solok. The following table is the population of students class IX at MTsN 1 South Solok.

Table 3.2 Total of Population

No	Classes	The number of students
1.	IX 1	28
2.	IX 2	28
3.	IX 3	28
4.	IX 4	28
5.	IX 5	27
6.	IX 6	27
Total		166 students

From the table 3.2 above it can be seen at MTsN 1 South Solok there are six classes of ninth grade class (from class IX 1 to class IX 6) with total 166 students. The number of students each Class IX.1 until IX.4 are 28 students. However the number of students each Class IX.5 and IX.6 are 27 students

2. Sample and Sampling

A research sample is a part of the population that will be used as a source of data and may be representative of the entire population. According to (Ary et al., 2010) sample is a “portion of a population”. To determine the number of samples that are representative of the population, sampling techniques are used. In this research the sample is all of class IX.1 with total 28 students.

In sampling technique, the terms probability and nonprobability are known. In this research, researcher used probability sampling with cluster random sampling technique. According to Ary et al., (2010) “Probability sampling involves sample selection in which the elements are drawn by chance procedures”. There are four types of probability sampling are simple random sampling, stratified sampling, cluster sampling, and systematic sampling. To selected the class to be used as the research sample, the researcher randomly selected papers labeled IX.1 until IX.4. The researcher only choose class IX.1 until IX.4 because there were two classes with different numbers of students, there are IX.5 and IX.6. The selescted paper was IX.1.

D. Technique of Collecting Data

In this part, the researcher focuses on speaking tests, especially monologue ability in students. The researcher uses two methods to collecting the data: pre-test and post-test. The pretest is conducted before the treatment to measure the initial conditions of the respondents or the variables studied. Meanwhile, the post-test is conducted after the treatment to evaluate the changes and measure the effects of the treatment.

1. Pre-test

In the implementation of the pre-test, the researcher was given four topics of procedure text, and each student was asked to choose one topic. For this pre-test the researcher had prepared four procedure text topics and printed 28 copies. Then the students were given a maximum time of 5 minutes to deliver a monologue to explaining the topic they had chosen. The researcher recorded each student on video. After the pre-test data was collected, the researcher transcribed the students' speaking to checked and conducted an assessment.

2. Post-test

The researcher gave a post-test to students after conducting treatment for four meetings. In implementing the post-test, the researcher asked each student to choose one of four procedure text topics. After that, the researcher instructed each student to write a procedure text based on the topic they chose. Then the students gave a monologue to present it to the researcher. Each student was given a maximum of 5 minute to give a

monologue. The researcher recorded each student using a cell phone in video format. After obtaining the post-test speaking data, the researcher transcribed the speaking and conducted an assessment to obtain the speaking scores of each student in class 9.1.

3. Instrument

The instrument used in this research was a speaking test, which specifically measures students' monologue ability. (name of student, class, date/day, time, and topic), direction, instructions, assessment criteria, score total, dan category (very good, good, fair, poor, very poor). Instrument ini digunakan untuk pre-test dan post-test.

The instruments used by researchers have been validated by two validators. The instrument validation sheets included in Appendices 2 and 3 contain the researchers' identities, validation formats, general recommendations, general comments/suggestions from validators, and validator identities. There are seven aspects assessed in the validation of the instrument. Each validator was asked to give a score ranging from 1 to 4. After that, the validators were asked to give general recommendations for the instrument to be used by researchers. The general recommendations available include: suitable for use without revision, suitable for use with minor revisions, needs to be thoroughly revised before replacement, and not suitable for use.

Validator 1 gave a score of 3 on assessment aspects 1, 2, 3, 4, 6, and 7. On assessment aspect 5, a score of 2 was given. The recommendation given was suitable for use without revision.

Comments/suggestions from the validator were “it is better to also attach the conversion of numbers from the value categories” (very good, good, fair, poor, very poor).

Validator 2 gave a score of 4 for each assessment aspect. The recommendation given was that it was suitable for use without revision. The comment/suggestion from the validator was “overall it's okay”, it is recommended to attach the type of speaking.

E. Technique of Data Analysis

The data for this study were obtained for statistical product and service solution (SPSS) 26 version. The data from the pre-test and post-test were analysis by the researcher.

a. Descriptive Analysis

In this research, there are sample numbers, range score, minimum and maximum score, mean and standard deviation. The researcher used students' pre-test and post-test to produce a descriptive analysis. In this case, the researcher used two methods; manually and using the SPSS version 26, which can be used to calculate descriptive data.

b. Normality Test

The researcher conducted a normality test on the previous speaking test result data. The normality test was conducted in this research to find out the absolute requirements before statistical analysis was carried out. The normality test determines whether the pre-test and post-test data are normally distributed or not. There are 2 types of normality test namely,

kolmogorov-smirnov which used for sample more than 50 and Shapiro wilk which used for sample less than 50. According to Shapiro and Wilk, (1965), the investors of this method, this test is vey effective for sample 3 to 50. In practice, the Shapiro –Wilk test is often performed using statistical software. Besides that Ghasemi and Zahedials, (2012) suggest using the p-value generated by the software as a basics for decision-making.

If the p-value > 0.05 (using a significance evel of 5%), then the data is considered normally distributed. This research involved 28 students. Significance is a term in statistics used to determine the effect of a treatment on the object of research.

c. T-test

In this research, thie researcher used a t-test to test the hypothesis that had been proposed. The t-test is used to test whether there is a significant difference in the level of success of learning speaking skills of students taught using Monopoly Game. The t-test used in this research is a paired samples. There are three types of t-tes, namely one sample t-test, paired sample t-test, and independent sample t-test Nuryadi et al., (2017). One sample t-test is used to test the mean or average of one sample. Paired t-test is used to test research hypothesis that have two types of data samples, specially which obtain two different treatments. Independent sample t-test is used to determine the difference in the means of two populations or different data group.

The t-test will be analyzed using SPSS software version 26 and the following criteria:

If the t-test result is positive (+):

- a) If the p-value is greater than sig $\alpha = 0,05$ (5%) then the alternative hypothesis is accepted.
- b) If the result show a p-value or sig (*2 – talled*) smaller than the significance level sig $\alpha = 0,05$ (5%), then the null hypothesis is accepted.

