

CHAPTER III

RESEARCH METHODS

This chapter covers the research design, population and sample, location of the research, research instruments, test validity and reliability and the data analysis.

3.1 The Research Design

The design used in this research is a quasy-experiment; by using two groups: pre-test – post-test. In this design there are two classes; pre-test was carried out before treatment and post-test was carried out after treatment. This treatment was made as an experiment to find out the effect of the treatment given.

According to Sugiyono (2018: 24), quasy-experiment with two groups; Pretest and posttest experimental design is to compare the pretest and posttest. The pre-test was carried out before the treatment and the post-test was carried out after the treatment. The treatment carried out in the experiment was to look for the effect of the treatment given.

Furthermore, Creswell (2008: 7) states that the search uses an initial type that is in accordance with the pretest-posttest design where there is a pretest given by the research to measure students' reading comprehension abilities. Thus, the results of the two tests can be compared with the reading scores of students or students who were 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
O1	-	O2

In which:

- O1 : Pre-test
- X : Treatment
- Y : Conversional Learning
- O2 : Post-test

3.2 Population and Sample

a. Population

The population is the whole of the research subjects. According to Zuriah (2009: 116) population is all data that is of concern to researcher within a predetermined scope and time. On the other hand, population is defined as all members of any well-defined class of people, events or objects (Ary, et al 2010: 148).

The population in this study was students of class X semester 1 at SMAN 3 Seunagan for the academic year 2022/2023.

b. Sample

The sample is part of the population to be studied. The sample is called quantitative research if the population is very large. Therefore, this study only requires a certain amount. Ari et al (2010: 649) explain that the sample is a group selected from a population to be observed in a study. The sample in this study was class X-IPA1 as the experimental class totaled 20 students which was given treatment using pre-reading techniques, while class X-IPA2 totaled 18 students as the control class.

3.3 Location of The Research

The research will be conducted at SMAN 3 Seunagan in class X. Whose address is Kuta Paya village, Seunagan district, Nagan Raya regency, Nanggroe Aceh Darussalam.

3.4 Research Instruments

This study uses the test as a research instrument in this study. This test is used to determine students' reading skills in mastering reading comprehension. While the questionnaire is used to determine student responses to the method of researchers in the teaching and learning process.

Furthermore, the test consists of two tests, namely pre-test and post-test. The pre-test consists of 25 reading comprehension questions in choice form. Whereas in the post-test there are also 25 choice reading comprehension questions in essay form which are tested after students are given the treatment that has been delivered. The questions for the pre-test and post-test differ according to the narrative text material provided. The time used in this lesson is 90 minutes/meeting.

Tests are a series of searches or exercises used to measure the skills, knowledge, and talents of a person or group (Arikunto, 2016). In addition, Brown (2007) stated that the test is a method for measuring a person's ability, performance, or knowledge in a certain treatment. In this study, researchers used a test to measure students' reading comprehension competence. Therefore, the test is divided into two types which are called pre-test and post-test.

a. Pre-test

Pre-test is a test that is distributed to participants before instructions are given. The pre-test was conducted at the first meeting to determine students' ability to master reading comprehension prior to treatment. In the pre-test, the researcher prepared questions to students about reading comprehension. Students are given 60 minutes to answer questions.

b. Post-test

Post-test refers to the measurement of students' abilities after treatment. In addition, in the post-test, students are asked to answer the post-test questions within 60 minutes.

3.6 The Data Analysis

In completing the data, the next step is data analysis. The data analysis method is a method for processing data findings into research. In this research, researcher used statistical analysis. In measuring data, researchers used Statistical Product and Service Solution (SPSS 22) as a statistical program application that has high capabilities in statistical calculations. The SPSS 22 application used provides more accurate information so that data loss can be avoided.

Table 3.2 Assessment Score

No	Classification	Scale
1	Very Good	86-100
2	Good	71-85
3	Poor	56-70
4	Very Poor	<55

After all components are assessed and calculated, the researcher will classify the students' reading comprehension of narrative text based on the score,

that students obtained through the result of pre-test and post-test, the researcher will use some statistical procedures to calculate data as explained in bellow:

1. After obtaining all test results, assign a value between 1 - 100. The obtained scores were then analyzed.
2. After evaluating the work of each student, the average grade was calculated. Using SPSS (Statistically Product and Service Solution), the value of the students was determined.
3. Using SPSS to determine the average test score of the students
4. To find out the significant different between the pre-test and post-test by N-Gain score. The test using SPSS.

Table 3.5 Interprets N-Gain

Percentage	Interpretation
< 40	Low
40 – 55	Less
56 – 75	Sufficient
>76	Effective

Figure 3.1 Formula n-Gain Score

$$N\ Gain = \frac{Skor\ Posttest - Skor\ Pretest}{Skor\ Ideal - Skor\ Pretest}$$

5. Hypothesis Testing using Mann Whitney to see hypothesis accepted or rejected