

CHAPTER III

RESEARCH METHOD

A. Research Design

This research will be carried out at SMP Negeri 8 Bukittinggi which is located in Syech Djamil Djambek Street, Bukittinggi. This research started on November 18th 2024 and ended on January 06th 2025. SMP Negeri 8 Bukittinggi is located at Syech Djamil Djambek Street, West Sumatra, Indonesia. This is where the research will be conducted. This Research was a pre-experimental design, Pre-experiment is a type of research design conducted before the main experiment. This design usually includes preliminary observations or tests to identify variables, validate instruments, or explore relationships between variables that will be studied further.

Pre-experiments often lack strict controls and may involve non-randomized groups, so results can be influenced by external factors. The aim is to gain initial insights that can be used in planning more in-depth and methodological research. (Gay et al., 2014). One group used in the pretest-posttest group design. This design includes a pretest measure followed by a treatment and a posttest for a single group. It will be tested once (O_1), treated (X), and then tested again (O_2). The design takes the following form:

In this study, the researcher provided a pre-test (O_1) to measure students' reading comprehension before being given treatment using YouTube media. Then the treatment is given 5 times teaching using YouTube media to improve students' reading

comprehension. Posttest (O_2) will be given after treatment to measure the extent to which students have progressed after receiving treatment.

Table 3. 1 One Group Pre-Test Post test

Steps	Procedure	Aim
Step 1	Pre-Test	To measure students' understanding of reading comprehension (Dependent Variable).
Step 2	Treatment	To influence the dependent variable.
Step 3	Post-Test	To measure the degree of change on the dependent variable.

The research designs could be represented as follows:

One-Group Pretest-Posttest Design

Group A O_1 — X — O_2
(Creswell 2014:220)

Where :

O_1 : Pre-Test

X : Treatment

O_2 : Post-Test



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B. Population and Sample of The Study

1. Population

The population refers to the group to which a researcher aims to apply the findings of a study (Gay, 2012). Additionally (Sugiyono, 2016) states that the population refers to a broad category encompassing objects or subjects that possess specific qualities and characteristics that researchers have identified for study and subsequent drawing of conclusions. The population of this research is the six classes of eighth grade consist of 191 students in total SMP Negeri 8 Bukittinggi.

Table 3. 2 Table of Population

No	Class	Number
1.	VIII. 1	32
2.	VIII. 2	32
3.	VIII. 3	29
4.	VIII. 4	32
5.	VIII. 5	31
6.	VIII.6	32
Total		188

2. Sample

Simple random sampling is used to select samples from the 6 classes available as the population (Gay, 2012). Cluster random sampling is a sampling method that involves splitting a large population into smaller groups, or clusters, and then randomly selecting one or more clusters to study. Process, divide a population into clusters, then randomly select one or more clusters to study. The desired samples VIII 3 is decided as the sample from the above technique. This application is an line as what (Gay, 2012) suggest. The selection process is carried out randomly and cannot be controlled by the researcher, which means that each individual has an equal chance of being selected, and the choice of one individual does not affect the choice of other individuals (Gay, 2012). The researcher conducted cluster random sampling by writing the name of each class on a small piece of paper, then putting all the paper into a bottle, shaking the bottle, and then taking the paper from the

bottle until one class was selected. Based on the results of shaking the bottle, class VIII.3 was selected as the research sample.

C. Technique of Collecting Data

a. Steps of Collecting Data

1. Giving Pre-test

To collect data, this study uses a pre-test and post-test. The first test will give before receiving the treatment to determine students' initial reading comprehension knowledge

2. Providing Treatment

After giving the initial test, the researcher gave treatment to the class to learn reading comprehension through YouTube media. The treatment will conduct in four meetings. In the first meeting, the researcher will conduct a pre-test to find out the students' abilities. After that, the researcher explained what they would learn in the second to fourth meetings. The syllabus (Procedure text) is the basis on which the researcher selects the treatment materials. Pre-activity, While-activity, and post-activity make up the treatment. The goal of the treatment was to help pupils better understand language, particularly in process texts. Then the researcher also explained the YouTube media that they would use in class and at home.

3. Giving Post-test.

At the end of the meetings, the researcher conducted a posttest, which will serve as a measure of whether YouTube as Media is effective or not.

b. Instrument

The instrument in this research use test includes a pretest and posttest to determine students' vocabulary mastery. The test consists of 30 questions. 10 questions about word form, 10 questions about word use/context, and 10 questions about word meaning. In the pre-test, students were given 30 questions related to the procedural text to determine the extent of students' understanding before being given treatment. The test used is in the form of multiple choice. In the document, "multiple-choice questions" or multiple choice questions refer to a type of question/question in a test or assessment where participants must choose one correct answer from several answer options provided (Xu et al., 2016).

In this research, the researcher used tests and questionnaires. The researcher gave a test to find out the data score of student achievement in v reading comprehension using a YouTube short movie. Based on the result, the researcher concluded that YouTube short movie as a media is effective or not to improve students' reading comprehension

The procedures used test and questionnaires were follows;

1. Preparing the research

Before doing the research, the researcher did some preparation. Firstly, the researcher made a learning media and lesson plan of the research. Then, the researcher made a research instrument and deciding the class (sample) of this research

2. Getting the document

The researcher asked permission to the teacher to decide the class and collected some documents which of name list of the students and the schedule.

3. Giving pre test

The researcher gave pre-test to the students of VIII.3 to measure their vocabulary ability before treatment. This test uses to find out score of reading comprehension of the students before taught using YouTube.

4. Giving treatment

The researcher gave a treatment to the students in the pre-experimental class that has been selected by the researcher before. In this treatment, the researcher used YouTube as a teaching media to improve students' reading comprehension. The researcher gave a treatment using YouTube

5. Giving Post-test

The researcher gave pre-test to the students of VIII.3 to measure their reading comprehension ability after the researcher gave a treatment. This test used to find out the score of vocabulary mastery of the students after taught using YouTube. If the post test score is higher than pre-test score that means YouTube effective media to improve students' reading comprehension.

D. Technique of Analysis Data

The data for this study will be analyzed using SPSS version 25, with the researcher examining the results from both the pre-test and post-test.

A preliminary analysis includes conducting tests for normality and homogeneity.

1. Scoring Test

In the scoring system, the researcher gave 1 point for the right answer and 0 point for the wrong answer. The formula as follows;

$$students'score = \frac{right\ answer}{total\ items} \times 100$$

2. Categorizing the students' score test

After getting the students' score test, the researcher categorized students' score test based on Brown (2000) as follows;

Table 3. 3 Students' Score Categorization

Grade	Score	Category
A	90-100	Excellent
B	80-89	Very good
C	70-79	Sufficient
D	60-69	Insufficient
E	< 60	Very bad

After categorizing students' score, the researcher calculated mean of students' score using the formula as follows;

$$\bar{x} = \frac{total\ score}{total\ number\ of\ students}$$

After getting mean of students' score, the researcher categorized students' score based on table categorize students' score above.

3. Normality Test

The researcher conducted a normality test on the previous vocabulary test result data. The normality test determines whether the pre-test and post-test data are normally distributed or not. According to (Shapiro & Wilk, 1965), the inventors of this method, this test is very effective for sample sizes of 3 to 50. In practice, the Shapiro-Wilk test is often performed using statistical software. (Ghasemi & Zahediasl, 2012) suggest using the p-value generated by the software as a basis for decision making. If the $p\text{-value} > 0.05$ (using a significance level of 5%), then the data is considered normally distributed. The participants in this study were 32 students. Significance is a term in statistics as a reference for determining the effect of a treatment on the object of research.

4. Homogeneity Test

The homogeneity test aims to determine whether the variance is homogeneous or not in both data groups. This test can be performed using the Levene test using SPSS 25 software, so that a significant value is obtained. Data is categorized as normal if its significance is greater than 0.05.

5. Hypothesis Testing

A statistical technique called hypothesis testing is used to ascertain whether a data sample contains sufficient information to draw a populace. This entails developing a hypothesis that the researcher has made, according to which students who are taught through YouTube have a higher level of vocabulary mastery than those who are not, and then gathering data to evaluate the evidence.

The formula of hypothesis testing:

$$Z \frac{Xn - \mu_o}{\frac{\sigma}{\sqrt{n}}}$$

6. T-test

T-test In this study, the researcher used a t-test to test the hypothesis that had been proposed. The t-test will use to test whether there is a significant difference in the level of success of vocabulary mastery of students taught using the media YouTube. The t-test used in this study is specifically a paired sample t-test. A paired sample t-test is a test that uses two paired samples. The t-test will be analyzed using SPSS software version 25 and the following criteria:

If the t-test result is positive (+)

1. If the p-value is greater than sig $\alpha = 0.05$ (5%) then the alternative hypothesis is accepted.
2. If the results show a p-value or sig (2-tailed) smaller than the significance level sig $\alpha = 0.05$ (5%), then the null hypothesis is accepted.

If the t-test result is negative (-).

1. If the results show a p-value or sig (2-tall) smaller than the significance level sig $\alpha = 0.05$ (5%), then the alternative hypothesis is accepted.
2. If the results show a p-value or sig (2-tall) greater than the significance level sig $\alpha = 0.05$ (5%), then the null hypothesis is accepted.

The formula of t-test:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}$$

Explantion:

t = t test statistic

$\bar{x}_1$ = average of pre test

$\bar{x}_2$ = average of post test

n_1 = total of sample data

s = standard deviation

