

CHAPTER III

RESEARCH METHOD

A. Research Design

This study uses a quantitative method to examine the effective of instructional treatment through measurable data analyzed using statistical procedures. The research employs a quasi-experimental design with a post-test only control group design, involving an experimental class and a control class. The experimental class received instruction using Conversational YouTube Videos combined with the pair work technique, while the control class was taught using conventional teaching methods.

In the experimental class, English speaking instruction was conducted by utilizing Conversational YouTube Videos as a learning medium to provide students with authentic language input, including pronunciation, intonation, vocabulary, and everyday communication expressions.

The implementation of pair work in this study is based on the theory put forward by Jeremy Harmer (2007), which states that pair work increases student participation and provides greater opportunities for speaking practice in a supportive learning environment. The outlines the stages of its implementation as follows:

- a. **Preparation** – The teacher explains the objectives and gives clear task instructions.

- b. **Pairing** – Students are divided into pairs. The teacher can assign partners or let students choose.
- c. **Task Activity** – Students work in pairs to complete a task, such as a dialogue, question-and-answer session, or role play.
- d. **Feedback and Follow-up** – After the activity, students report their results or discuss their work with the class.

In the control class, the researcher implemented the conventional methods technique to teach asking and giving opinion. Students were given partially completed dialogues related to familiar topics and were asked to fill in blanks using appropriate expressions.

This structured implementation will support the effectiveness of the treatment and will ensure consistency during the experimental process. Therefore, this research design will allow the researcher to investigate the impact of pair work activities on students' speaking skills in a systematic and measurable way.

Table 3. 1
Post-test Only Design

Group	Treatment	Post-test
A	X	O
B	-	O

Where:

Group A : Experimental Class

Group B : Control Class

X = Treatment

O = Post-test

Table 3. 2
Research Design

Days	Class	Activity
Tuesday/ 09/16/2025	Experiment	Treatment 1
Wednesday/ 09/17/2025	Control	Conventional
Tuesday/08/23/2025	Experiment and Control	Treatment/ Conventional
Monday/09/29/2025	Experiment	Treatment 3
Wednesday/10/01/2025	Control	Conventional
Monday/ 10/06/2025	Experiment	Treatment 4
Wednesday/ 10/08/2025	Control	Conventional
Monday/ 10/13/2025	Experiment	Post-test
Tuesday/10/14/2025	Control	Post-test

B. Population and Sample of the Research

1. Population of the Research

According to Creswell (2012) describes a population as a collection of people who have similar traits and are the subject of an investigation. This population encompasses every person or group that has specific similarities pertinent to the research.

According to Gay, a population consists of a collection of individuals who possess one or several shared traits and are the focus of an investigation. In the realm of research, populations may either be limited or limitless.

In this research, the population is all the Ten grade students of MAN 1 SOLOK academic year 2023/2024.

Table 3. 3
The Population of the Research

Class	Amount of the students
XE3	28
XE5	27
Total	55

Source: English Teacher of MAN 1 Solok

2. Sample of the research

Creswell describes a sample as a portion of the larger population chosen for study that mirrors the overall traits of that population. The purpose of sampling is to extend the insights gained from a limited group to the whole population.

According to Sugiyono, a sample consists of a segment of the population's size and traits. This segment is selected through a specific method designed to accurately reflect the entire population, allowing the findings from the sample to be applied to the broader population.

In this study, Class XE3 and Class XE5 were designated as the sample units of analysis through the technique of Total Cluster Random Sampling. These two clusters (classes) were assumed to possess adequate initial homogeneity in English language proficiency, considering they were taught by the same instructor and utilized standardized teaching materials.

The subsequent step involved a random assignment procedure to determine the experimental and control roles of the groups. This determination was executed

through a lottery procedure. Based on the results of the draw, Class X.E3 was assigned as the Experimental Group, and Class X.E5 was designated as the Control Group.

C. Technique of collecting data

1. Collecting Data

Data collection techniques are the process of collecting information about a subject. Data is defined as factual information and can include measurements or statistics, although not limited to numerical facts. Creswell (2014) states that the technique of data collection involves systematic and structured methods for gathering measurable information that can be statistically analyzed. Data collection techniques in this research are tests. The researcher collects data through post-test scores, the post-test is administered at the end after doing four meetings treatment to know students' speaking ability, after providing the treatment.

The data can then be used to evaluate and improve understanding of something, facilitate discussion, or help uncover patterns that lead to further discoveries in the field. In conducting data collection techniques, researcher conduct a class experiment, the experiment use Pair Work.

The data collection technique in this study conducted two tests, Treatment, and Post Test.

a. Treatment

Treatment can be in the form of various teaching methods or interventions aimed at improving students' speaking abilities. Treatment is carried out 4 times.

1. In the first treatment, the researcher will explain the material about asking and giving opinions about food.
2. In the second treatment, the researcher will explain the material about asking and giving opinion about social media.
3. In the third treatment, the researcher will explain the material asking and giving opinion about School Objects.
4. In the fourth treatment, the researcher will explain the material asking and giving opinion about person.

b. Post-Test

After the treatment is finished, give another speaking test (post-test) in the same way as the pre-test. When the post-tests begin, the researcher asks students to perform describing people with different topics.

2. Instrument

A research instrument is defined as a structured device designed to systematically and objectively collect, process, analyse, and present data for the purpose of solving a problem or testing a hypothesis. Essentially, any tool supporting the research process, particularly data collection, is categorized as a research instrument. Consistent with Arikunto's view (in Makbul, 2021), the instrument is the selected apparatus used by the researcher to facilitate and systematize the data collection activities. Therefore, the instrument is a crucial device employed to measure and record quantitative information concerning the variables under investigation. The quality of the instrument used will directly influence the validity and reliability of the data collected.

In the context of this study, the primary instrument utilized to obtain data is an oral test, specifically a speaking test. This test will be administered to all participants post-intervention (as a post-test). The testing procedure involves providing students with a topic relevant to specific linguistic functions, namely asking and giving opinions, which students must then address through direct spoken communication. The researcher will evaluate the students' speaking performance using the Speaking Assessment Rubric adopted from Hughes (2003). This rubric encompasses five critical dimensions of measurement: Pronunciation (Accent), Comprehension, Fluency, Vocabulary, and Grammar.

3. Procedures of Research

This study involved two study groups: an experimental class that received the treatment, and a control class that received no special treatment. Both groups were given a post-test at the end of the learning session to measure students' speaking achievement.

The treatment given to the experimental class was the use of YouTube Conversation Videos combined with Pair Work learning techniques, conducted over four sessions. The implementation process in the experimental class was divided into several stages:

First, in the introductory stage of each meeting, the teacher (researcher) explained the learning objectives and provided task instructions related to the use of the videos and subsequent activities.

Second, in the main stage, the teacher played YouTube conversation videos relevant to the questioning and giving opinions material. The teacher then

divided students into pairs to begin pair work activities. Students were allowed to study independently, discuss, and practice oral dialogues (role-plays) under the guidance of the video content. During the pair work process, the teacher acted as a supervisor, monitoring progress and assisting the pairs in solving any problems that arose.

Third, after the learning process was completed and before closing the lesson, the teacher provided feedback and reinforced the material to ensure proper understanding. Unlike the experimental class, the control class was taught the same material using conventional methods. After the four treatment sessions were completed, all research subjects (both classes) took a post-test to determine the effectiveness of the intervention.

D. Techniques for Data Analysis

Data analysis techniques are methods used to process and analyze data that has been collected in research or studies. Data analysis techniques are processes that involve processing, organizing, and interpreting data to produce a deep understanding of the phenomenon under study Creswell (2014). This technique aims to uncover patterns, relationships, or meanings that exist in the collection. Once the data on a student's scores is collected, the researcher examines and analyzes the data.

1. Descriptive Statistic

Descriptive Statistics (Data Description Analysis) constitutes the initial analytical procedure aimed at describing, summarizing, and presenting the essential characteristics of the collected data. In this research, descriptive analysis

functions to summarize the students' Pre-test and Post-test scores for both the experimental and control groups, thereby examining the initial performance and subsequent improvement in the data. Its primary objective is to obtain a preliminary overview of students' speaking performance, including the mean level of ability and the variability of the scores, prior to the execution of hypothesis testing (inferential statistical tests).

Descriptive Statistics is the use of measures such as mean, median, mode, variance, and standard deviation to provide an overview of data.

a. Mean

The mean is a measure that represents a data set's average value and is considered the closest value to the actual measurement results. It is calculated by summing all data values and then dividing this total by the number of data points. For further clarification, the mean can be determined using the following formula:

$$\bar{X} = \frac{\sum x}{N}$$

b. Standard Deviation

The standard deviation measures the distribution of data in a sample, reflecting the relative distance of each individual score from the mean. The methodological purpose of using the standard deviation formula is to provide a concise overview of the characteristics of the data distribution around the mean. The standard deviation data can be calculated using the following formula:

$$SD = \frac{\sqrt{\sum (x^2)}}{N}$$

1. Maximum Value (*max*)

The maximum value (*Max*) is a statistical measure utilized to display the highest score or largest number found within a given data set or range. This value effectively establishes the upper limit of the collected data.

2. Minimum Value (*min*)

Conversely, the minimum value (*Min*) is used to represent the lowest score or smallest number contained within the data set. This value serves as the opposite of the maximum value, establishing the lower boundary of the measurement results.

3. Range (*R*)

The Range, commonly symbolized as *R*, is a measure of statistical dispersion that indicates the absolute distance between the lowest score and the highest score in a data set. The Range can be formally calculated using the following formula:

$$R = \text{Maximum Value} - \text{Minimum Value}$$

2. Pre-Requisite Analysis

a. Normality Test

Normality test is a statistical procedure that determines whether the collected data follows a normal distribution or not. A normal distribution is a

symmetrical data pattern that forms a bell curve. The normality test works by collecting data, such as pre-test or post-test scores, then selecting an appropriate method, such as Shapiro -Wilk for small samples or Kolmogorov - Smirnov for large samples. The data is analyzed using statistical software, such as SPSS, to obtain a significance value (p-value). If the p-value is greater than 0.05, the data is considered normally distributed; if the p-value is less than or equal to 0.05, the data is considered not normally distributed.

b. Homogeneity Test

The homogeneity test is a statistical procedure that determines whether the variance of two or more data groups is the same or homogeneous. The homogeneity test works by collecting data from each group to compare. Then, the data is analyzed using a homogeneity test through statistical software such as SPSS. The result of this test is a significance value (p-value); if the p-value is greater than 0.05, the variance between groups is considered homogeneous, so parametric tests are applicable. However, if the p-value is less than or equal to 0.05, the variance is considered inhomogeneous, so the researcher uses a statistical test that does not require homogeneity of variance or performs a data transformation first.

c. Independent Sample t-Test

Independent Sample t-Test is used to compare the mean scores between two independent groups in this case, the experimental class taught using conversational YouTube videos and the control class taught using the conventional method. This test aims to determine whether there is a statistically

significant difference in students' speaking achievement between these two groups after the treatment.

