

CHAPTER III

RESEARCH METHOD

A. Research Design

This research employed a quasi-experimental design. According to Sugiyono (2013), a quasi-experimental design is used because researchers cannot fully control the external variables that may influence the implementation of the experiment. Although this design involves an experimental group and a control group, the subjects cannot be randomly assigned as in a true experimental design.

This study used the Nonequivalent Control Group Design, which consists of two groups: an experimental class and a control class. Both groups were given a pre-test to determine the students' initial speaking skills before the treatment. The experimental class received treatment through the use of TikTok as a learning media, whereas the control class was taught using the conventional teaching method. After the treatment, both groups were given a post-test to measure the students' speaking skills after the learning process. The comparison between the pre-test and post-test scores of both groups was used to determine the effectiveness of TikTok as a learning media in improving students' speaking skills.

The research design can be illustrated as follows.

Table 3. 1
Research Design

Group	Pre-test	Treatment	Post-test
Experimental Class	O ₁	X	O ₂
Control Class	O ₃	–	O ₄

Where:

O₁ = Pre-test of the experimental class

O₂ = Post-test of the experimental class

O₃ = Pre-test of the control class

O₄ = Post-test of the control class

X = Teaching speaking using TikTok as a learning media

– = Conventional teaching without TikTok as a learning media

B. Population and Sample of the study

1. Population

Population refers to the entire group of individuals or objects that possess certain characteristics determined by the researcher to be studied and from which conclusions are drawn (Sugiyono, 2017: 80). The population of this research consists of all seventh-grade students of SMP Negeri 2 Pulau Punjung. The students are divided into several classes as shown in the following table.

Table 3. 2
The number of students class VII of SMP N 2 Pulau Punjung

No	Classes	The number of students
1.	VII.D1	32
2.	VII D2	32
3.	VII.D3	32
4.	VII.D4	32
5.	VII.D5	32
6.	VII.D6	32
Total		192 students

In conclusion, at SMP N 2 Pulau Punjung City there is a class VII level which is divided into eleven classes (from class VII Phase D I to class VII Phase D II) with a total of 192 students.

2. Sample

A sample is a part of the population used as a source of data and is expected to represent the whole population. Therefore, a sampling technique is required to obtain a sample that is appropriate for the purpose of the research.

This research used purposive sampling. According to Sugiyono (2017), purposive sampling is a sampling technique in which the sample is selected based on certain considerations determined by the researcher or other relevant parties. In this study, the sample classes were determined by the English teacher based on the existing class conditions. The selected classes were taught by the same English teacher and followed the same curriculum and learning objectives to ensure similar learning conditions. Class VII.D1 was

assigned as the experimental class and received treatment using TikTok as a learning media, while Class VII.D2 was assigned as the control class and was taught using the conventional teaching method. Therefore, the total sample of this research consisted of 62 students.

C. Instrument of the Study

Research instruments play an important role in the research process because they enable researchers to collect data systematically from the participants. According to Soedibjo (2018, p. 11), a research instrument is a tool used to observe and measure the social phenomena being investigated. Therefore, selecting an appropriate research instrument is essential to ensure that the data obtained are valid and reliable.

In this research, the instrument used is a speaking test, which consists of a pre-test and a post-test. Both tests are administered to measure students' speaking skills before and after the implementation of TikTok as a learning media. The pre-test is conducted to determine the students' initial speaking ability, while the post-test is administered to identify any improvement in students' speaking skills after receiving the treatment.

The speaking test is conducted individually through an oral performance. Students are asked to introduce themselves based on the topic "About Me." They are required to provide simple personal information, such as their name, age, place of residence, hobbies, and other relevant information using spoken English.

Students' speaking performance is assessed using a speaking

assessment rubric adapted from Brown and Abeywickrama (2010). The rubric consists of five assessment aspects, namely pronunciation, fluency, grammar, vocabulary, and task achievement. Each aspect is scored using a four-point rating scale ranging from Poor (1) to Excellent (4). Although all aspects are assessed to obtain a comprehensive evaluation of students' speaking performance, pronunciation is the primary focus of this research because it represents the aspect being investigated.

No	Indicator	Speaking Aspect	Question
1.	Students are able to introduce themselves.	Pronunciation, Vocabulary	What is your name?
2.	Students are able to provide personal information.	Grammar, Pronunciation	How old are you?
3.	Students are able to provide information about their residence.	Vocabulary, Grammar	Where do you live?
4.	Students are able to talk about their hobbies.	Vocabulary, Fluency	What is your hobby?
5.	Students are able to introduce themselves using several sentences	Pronunciation, Grammar, Vocabulary, Fluency, Comprehension	Can you tell me about yourself?

D. Technique of Data Collection

Data collection techniques are methods used by researchers to obtain research data (Sambas Ali Muhidin & Maman, 2018). In this research, the data were collected through three stages, namely the pre-test, treatment, and post-test.

1. Pre-test

The pre-test was administered to both the experimental class and the control class before the treatment to determine the students' initial speaking skills.

In this stage, each student was asked to perform an individual speaking task based on the topic "About Me." Students introduced themselves orally by providing simple personal information, such as their name, age, place of residence, and hobbies. The duration of each performance was approximately 30–45 seconds. The students' speaking performance was assessed using the speaking assessment rubric prepared by the researcher.

2. Treatment

The treatment was conducted only in the experimental class using TikTok as a learning media, while the control class was taught using the conventional teaching method. The treatment was carried out in three meetings using the Scientific Approach, which consists of observing, questioning, experimenting, associating, and communicating. During the observing stage, students watched TikTok videos related to the topic

"About Me" to observe pronunciation, vocabulary, grammar, and expressions used in self-introduction.

In the questioning stage, students asked questions about unfamiliar vocabulary, pronunciation, grammatical structures, and expressions found in the videos. During the experimenting stage, students practiced introducing themselves orally by applying the language expressions learned from the TikTok videos.

In the associating stage, students organized and improved their self-introduction by applying appropriate pronunciation, grammar, vocabulary, and fluency.

Finally, during the communicating stage, students performed their self-introduction orally in front of the class. The teacher provided feedback on their speaking performance before the post-test was administered. Meanwhile, the control class learned the same material using the conventional teaching method without using TikTok as a learning media.

3. Post-test

After the treatment had been completed, both the experimental class and the control class were given a post-test to measure the students' speaking skills.

The post-test used the same speaking topic, "About Me," with similar levels of difficulty as the pre-test. Each student performed an individual oral self-introduction within approximately 30–45 seconds.

The students' speaking performance was assessed using the speaking

assessment rubric adapted from Brown and Abeywickrama (2010), which consists of pronunciation, fluency, grammar, vocabulary, and task achievement. The students' speaking scores obtained from the post-test were then analyzed and compared with the pre-test scores to determine the effect of using TikTok as a learning media on students' speaking skills.

E. Technique of Data Analysis

The data obtained from the students' speaking pre-test and post-test in both the experimental and control classes were analyzed quantitatively using IBM SPSS Statistics Version 25. The analysis aimed to determine whether the use of TikTok as a learning media significantly affected students' speaking skills.

1. Descriptive Statistics

Descriptive statistics were used to summarize and describe the characteristics of the students' speaking scores before conducting inferential statistical analysis. The descriptive statistics included the number of samples, minimum score, maximum score, mean score, and standard deviation of the pre-test and post-test scores in both the experimental and control classes. These statistics provided an overview of students' speaking achievement before and after the treatment.

To determine the mean score of the students' speaking test, the researcher used the following formula:

$$\bar{x} = \frac{\sum FiXi}{\sum fi}$$

Where:

X = Mean Score

Σx_i = Total score

Σf_i = The number of students

(Gay, 1981:298)

Determining of standart deviation score of variable

$$SD = \frac{\sqrt{\Sigma x^2 - \frac{(\Sigma X)^2}{N}}}{N-1}$$

Where:

$\bar{X}$ = Mean Score

Σx = The sum of the difference score

N = The number of students (Gay, 2006:320)

2. Normality Test

Before testing the hypothesis, a normality test was conducted to determine whether the data were normally distributed. The normality test is one of the assumptions that should be fulfilled before conducting a parametric statistical test. In this research, the researcher used the Shapiro–Wilk test through IBM SPSS Statistics Version 25 because it is appropriate for testing the normality of the research data.

The decision criteria were as follows:

- If the significance value (Sig.) > 0.05, the data are normally distributed.
- If the significance value (Sig.) ≤ 0.05, the data are not normally distributed.

3. Homogeneity Test

After the normality test, a homogeneity test was conducted to determine whether the variances of the experimental and control groups were homogeneous. The researcher used Levene's Test of Equality of Variances provided in IBM SPSS Statistics Version 25. After the normality test, a homogeneity test was conducted to determine whether the variances of the experimental and control groups were homogeneous. The researcher used Levene's Test of Equality of Variances provided in IBM SPSS Statistics Version 25. The homogeneity test was conducted to determine whether the variances of the two groups were equal before selecting the appropriate statistical test for hypothesis testing.

The decision criteria were as follows:

- If the significance value (Sig.) > 0.05 , the variances are homogeneous.
- If the significance value (Sig.) ≤ 0.05 , the variances are not homogeneous.

4. Hypothesis Testing

The research hypothesis was tested using the Mann–Whitney U Test through IBM SPSS Statistics Version 25. The Mann–Whitney U Test is a non-parametric statistical test used to compare two independent groups. In this research, the test was used to determine whether there was a significant difference in the speaking skills between students in the experimental class who were taught using TikTok as a learning medium

and students in the control class who were taught using conventional learning media.

a. Hypotheses Tested

The hypotheses tested in this research were:

$$H_0 : \mu_1 \leq \mu_2$$

The mean speaking skills of the students taught using TikTok as a learning medium are equal to or lower than those of the students taught using conventional learning media.

$$H_a: \mu_1 > \mu_2$$

The mean speaking skills of the students taught using TikTok as a learning medium are higher than those of the students taught using conventional learning media.

Where:

μ_1 = the mean speaking skills of the students taught using TikTok as a learning medium.

μ_2 = the mean speaking skills of the students taught using conventional learning media.

b. Decision Criteria

The hypothesis was tested at a significance level of $\alpha = 0.05$ using the Mann–Whitney U Test. Since the alternative hypothesis was directional ($\mu_1 > \mu_2$), a one-tailed test was applied. The decision criteria were as follows:

- If the $p\text{-value} < 0.05$, H_0 is rejected and H_a is accepted. It means that there is a significant difference in speaking skills between the students taught using TikTok and those taught using conventional learning media, with the TikTok group having higher speaking skills.
- If the $p\text{-value} \geq 0.05$, H_0 is not rejected and H_a is rejected. It means that there is no sufficient evidence to conclude that the speaking skills of the students taught using TikTok are higher than those of the students taught using conventional learning media.

