CHAPTER III

RESEARCH METHOD

This chapter describes the methodologies used in the research. This chapter discusses research design, research variable, sample and population, research instrument, data collections, data analysis and interpretation of the research result. The method utilized is described in detail below.

A. Research Design

Research design is a technique for arranging study settings in order to obtain reliable data on the research issue and thoroughly explain it. This study takes an experimental research method. Experimental research is a method of evaluating a hypothesis by creating a condition in which the strength of the relationship between variables may be selected. This research used quasi-experimental research. The goal is to demonstrate the relationship between the selected variables. the researcher's usage of Microsoft Power Point and TikTok as media for testing whether the subjects could learn vocabulary by comparing two study groups: the experimental and control groups.

The experimental groups learned vocabulary using TikTok, while the control group learned vocabulary through PowerPoint. Before and after, the researcher gave a pre-test and post-test to both the experimental and control groups. The pre-test is used to determine the student's capacity to master vocabulary before getting video treatment. The post-test aims to determine the development of a student's vocabulary mastery after obtaining treatment.

Table 3.1
Design of Experimental and Control Class

Class	Treatment	Test
Experimental	Used TikTok	Pre and Post-Test
Control	Used Microsoft Power Point	Pre and Post-Test

B. Research Variable

The variable represents the study's variation object. Variables are divided into two types: dependent (y) and independent (x). The dependent variable is the main variable that will be the subject of any relationship between other variables. The researcher selects the independent variable to determine its relationship with the dependent variable. Variables are objects researched that become important points in study. This study involves two factors. There are two variables in this study:

1. **Independent variable (x)**

   In this study, the independent variable for the experimental group is students who taught vocabulary using a TikTok, while the control group is students who taught vocabulary using PowerPoint.

2. **Dependent variable (y)**

   Dependent variable in this study is the vocabulary of student at eight grades of MTSN 5 KEDIRI.

C. Sample and Population

1. Population

The population is the focus of the research. In other words, the population is a large research group selected to represent all members of the group. The participants in this study will be eighth-grade students at MTsN 5 Kediri during the school year 2023/2024. There are around 285 students in eight grades this year.

2. Sample

Samples are subgroups of populations used for reaching conclusions about a larger sample of people. The researcher selected the sample based on the criteria provided by the school. Eight grades from two distinct classrooms were included in the sample. The experimental class was VIII-B, and the control class was VIII-A. The research involved 30 VIII-B student and 30 VIII-A students.

D. Research Instrument

Research instruments are tool that researchers use to evaluate variables. This was used to collect both main and supplementary data. The use of research instrument should be adapted to the research problem. In this research, the researcher employs pretest and post-test as instrument.

1. Try Out

To measure the instrument, the researcher used try-out. The purpose of a try out is to assess the test's validity and reliability. Validity relates to accurately assessing the ability that is being examined. Reliability is a key consideration while constructing a test. SPSS was used to calculate try-outs. There were 50 total questions, each of which was multiple-choice. In this study, 48 reliable and valid questions were used.

2. Validity

Validity measured the appropriateness of the means. Validity is currently essential in research, whether quantitative or qualitative. It is good quality. The researcher validated the test using SPSS for Windows. The validity was determined with 50 test items. The test proves valid if the Pearson correlation is higher than the r table. However, if the person correlation is less than the r table, the test is considered invalid.

Table 3.2
Validity Result

No	Pearson Correlation	Rtable	Result	No	Person Correlation	Rtable	Result
1.	0.357	0.312	Valid	26.	0.506	0.312	Valid
2.	0.421	0.312	Valid	27.	0.380	0.312	Valid
3.	0.523	0.312	Valid	28.	0.370	0.312	Valid
4.	0.467	0.312	Valid	29.	0.270	0.312	Invalid
5.	0.580	0.312	Valid	30.	0.441	0.312	Valid
6.	0.351	0.312	Valid	31.	0.676	0.312	Valid
7.	0.406	0.312	Valid	32.	0.195	0.312	Invalid
8.	0.487	0.312	Valid	33.	0.593	0.312	Valid
9.	0.413	0.312	Valid	34.	0.418	0.312	Valid
10.	0.691	0.312	Valid	35.	0.480	0.312	Valid
11.	0.635	0.312	Valid	36.	0.457	0.312	Valid
12.	0.492	0.312	Valid	37.	0.430	0.312	Valid
13.	0.365	0.312	Valid	38.	0.476	0.312	Valid
14.	0.397	0.312	Valid	39.	0.629	0.312	Valid
15.	0.525	0.312	Valid	40.	0.561	0.312	Valid
16.	0.478	0.312	Valid	41.	0.530	0.312	Valid
17.	0.674	0.312	Valid	42.	0.609	0.312	Valid
18.	0.657	0.312	Valid	43.	0.569	0.312	Valid
19.	0.645	0.312	Valid	44.	0.436	0.312	Valid
20.	0.502	0.312	Valid	45.	0.357	0.312	Valid
21.	0.631	0.312	Valid	46.	0.659	0.312	Valid
22.	0.391	0.312	Valid	47.	0.512	0.312	Valid
23.	0.468	0.312	Valid	48.	0.587	0.312	Valid
24.	0.680	0.312	Valid	49.	0.631	0.312	Valid
25.	0.558	0.312	Valid	50.	0.530	0.312	Valid

Based on the table above, the researcher concluded that there are 48 valid items, because *r-hitung (Pearson Correlation) > r-table.* There are 2 items are invalid because *r-hitung (Pearson Correlation) < r-table*

3. Reliability

Reliability is known as the degree to which a test delivers consistent findings when administered under identical conditions. It refers to the consistency of test results throughout time. The data is dependable if the test is repeated, and the results are the same. If the Cronbach's Alpha value is > 0.359, then the test items in the study can be considered reliable. If the Cronbach's Alpha value is < 0.359, then the test items in the study are regarded as not reliable.

Table 3.3
Reliability Statistics

Based on the results, the try-out items have a Cronbach's Alpha of 0.956. This value is greater than Cronbach's Alpha value of 0.60. The test is

Cronbach's Alpha	N of Items
.910	48

said to be reliable because the Cronbach's Alpha value is 0.956 > 0.359.

Table 3.4
The characteristics of Reliability of The Test

No.	Reliability	Category
1	0.800-1.000	Very high
2	0.600-0.700	High
3	0.4000-0.500	Average
4	0.200-3.00	Low
5	>0.200	Very low

From the criteria above can be conclude that the reliability of the test has very high value 0.910.

4. Pre-Test

A pre-test is used to determine the student's basic abilities and prior knowledge before the researcher gives any treatment. This test will be given to both groups, experimental and control groups. The researcher will give a test to the students that consists of 20 multiple choice questions, each with four answers (a, b, c, d). The researcher will allow 40 minutes to complete the questions. Each correct answer earns five points, while incorrect answers get zero points.

Table 3.5
Blueprint of Pre-Test

No.	Indicators	Items of Question	Test Format	Item
1.	Students can identify antonym of the words	2, 4, 5, 7, 10, 18, 19	Multiple Choice	7
2.	Students can identify synonym of the words	1, 3, 6 8, 9, 11, 12, 13, 14, 15, 16, 17, 20	Multiple Choice	13
Total				**20**

5. Post-Test

Post-tests are required to determine the group's progress. A post-test was provided after the researcher treated the student. This test will be given to both groups, experimental and control. The test will determine the student's basic competence and prior knowledge after treatment. A post-test consisting of 20 multiple-choice questions with four options (a, b, c, d) will be delivered by the researcher. The researcher will allow 40 minutes to complete the questions. Each correct answer gets five points, while incorrect answers are got zero.

Table 3.6
Blueprint of Post-Test

No.	Indicators	Items of Question	Test Format	Item
1.	Students can identify antonym of the words	3, 4, 5, 11, 15	Multiple Choice	5
2.	Students can identify synonym of the words	1, 2, 6, 7, 8, 9, 10, 12, 13, 14, 16, 17, 18, 19, 20	Multiple Choice	15
Total				**20**

6. Treatment Procedure

This treatment was used to determine the effectiveness of the TikTok on students' vocabulary. The experimental group will be learning about vocabulary using TikTok so that students can understand the effectiveness of the TikTok in vocabulary material. In the control class, researchers created vocabulary through Power Point.

Table 3.7
Treatment Procedure

Treatment Procedure

Activity	Activities	
	Experimental class **(TikTok)**	**Control class** **(Microsoft Power Point)**
PreTeaching Activity	• Opening • Check attendance and explain the material	• Opening • Check attendance and explain the material
Main Teaching Activity	• The teacher shows a video about from the TikTok account brilliantkampunginggris as many as 4 videos about vocabulary. • Students are asked to watch each video. • To help student understanding, the teacher used game.	• The teacher shows a Power Point about vocabulary. • Students are asked to watch the Power Point • To help student understanding, the teacher used game. • The class is divided into 6 groups and

	- The class is divided into 6 groups and each group is given paper and random letters. - The group must arrange the letter. - The group that arranges the letters into a word the most and correctly is the winner.	- each group is given paper and random letters. - The group must arrange the letter. - The group that arranges the letters into a word the most and correctly is the winner.
Post Teaching Activity	- Teacher and students have a discussion on the correct answer to the game. - Teacher giving feedback and evaluation to the students. - Teacher tells students to say hamdalah together. - Closing	- Teacher and students have a discussion on the correct answer to the game. - Teacher giving feedback and evaluation to the students. - Teacher tells students to say hamdalah together. - Closing

E. Data Collections

Pretest, treatment, and post-test are tools used to gather data. The experimental and control groups got pre-test with the same test. The test is designed to determine the student's vocabulary ability before treatment. After receiving the result, the researcher analysed the result to determine the students' scores.

The researcher will do the treatment three times, using the different topic each time, after the pre-test. Next is post-test. The test gave to both groups after they finished treatment to determine whether there is a significant difference in the score between the groups of students who were taught using PowerPoint and TikToks. The researcher used ANCOVA to analyse the scores from vocabulary tests.

F. Data Analysis

Data analysis is crucial aspect of the research process. The researcher has for analysing, describing, and illuminating all data results. Several approaches are used to analyse the data in this study. The researcher collected data by giving pre-test and post-tests to the experimental and control groups. Then, the data analysed and compared by the researcher.

The researcher used ANCOVA to analyse the data in SPSS 21. ANCOVA was used to control parameters that cannot be randomized but can be calculated on an interval scale. After analysing, the researcher determines whether learning vocabulary through TikTok is effective or not. If the p-value is less than 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted. And if the

significant value is more than 0.05, the null hypothesis is accepted while the alternative hypothesis is rejected.

G. Interpretation of the Research Result.

1. If the Sig. < 0,05 then H_0 (null hypothesis) is rejected.

    This means that the mean scores of the experimental group are higher than the mean scores of the control group indicating that TikTok is effective applying in vocabulary to junior high school students.

2. If the Sig.> 0,05 then H_0 (null hypothesis) is accepted.

    This means that the scores of experimental groups are same or lower than the mean scores of the control group indicating that TikTok is not effective applying in vocabulary mastery to junior high school.