

CHAPTER III

RESEARCH METHOD

In this chapter, the author discusses research methods. This chapter focuses on research design, variables, population, and research samples, research instruments, research procedures, data collection, and data analysis.

A. Research Design

The types of inquiry in qualitative, quantitative, and mixed method approaches that provide guidelines in the steps of research are called research design (Cresswell, 2014, p. 3). In the other hand, Kothari (2004) said that combining relevance to research objectives with economy during the process was the purpose of setting the conditions for data collection and analysis. This research was quantitative research with an experimental approach. As stated by Ary et. al (2010) Experimental design was a design that shows a causal relationship. There were kind of this designs that can be used in experimental design such as true and quasi experimental also pre-experimental. The design used was quasi experimental design, specifically non-equivalent group design. There were two groups of non-equivalent group design were experimental and control. The determination of two groups was not selected randomly. The reason of using this design was evaluating the effectiveness of fondi application on speaking ability at MTsN 2 Kanigoro Kediri. The goal of this design was to assess the impact of a specific variable, fondi application on the students.

In this design, the author involved two groups namely experimental class and control class. Both classes took a pre-test to measure their initial ability in speaking

ability. Next, the experimental class gave the treatment of fondi application while the control class gave the treatment with picture series. After the treatment was completed, both groups took a final test (post-test) to evaluate the changes in their speaking ability. This design allowed researchers to determine the effectiveness of fondi application in improving speaking ability. A picture of this research design can be seen in the following table:

Table 3. 1 Collecting the Data Design

Class	Test	Treatment	Test
Experimental Class	Pre-test	Fondi Application	Post-test
Control Class	Pre-test	Picture Series	Post-test

B. Research Variable

In quantitative research, researcher explained the relation between variable that tested by investigator (Creswell, 2014, p.51). There were two variables in this research namely independent variable and dependent variable. According Ary et.al (2010) Independent variables were antecedents of the dependent variable and are known or expected to affect the dependent variable, which was the outcome. Independent variable was the variable used by the author to test its effect on the dependent variable. In this case, the independent variable was the cause of the change in the dependent variable because of the effectiveness. While the dependent variable was a variable that changes due to the treatment of the independent variable. The change was the result of the treatment.

In this research, the researcher used fondi application as independent variable. While dependent variable in this research is students' speaking ability. In this study,

the author wanted to determine the effectiveness of fondi application in improving speaking ability.

C. Population and Sample of the Research

Population in this research is a group of MTsN 2 Kanigoro Kediri.

1. Population

According to Creswell (2014) population is groups of people who have something that sets them apart from other groups. The population in this study included all objects that are the focus of observation, whether in the form of people, objects, symptoms, test scores, or events that have certain characteristics relevant to the research. In this study, the population was class VIII students at MTsN 2 Kanigoro.

2. Sample

A sample is a part of the population, carefully selected to represent that population (Kothari, 2004). Sample is a portion of the population that represents the rest of the population in providing information. Researcher took 2 classes that have the same characteristics such as level and academic ability. The researcher choosed class A as an experimental class that used the fondi as a treatment application and class D as a control class those taught by using a picture series.

D. Instrument of the Research

One of the most important components of a study was the instrument. Instruments are tools used to collect, measure, and analyse information relevant to research systematically and scientifically. As stated by Creswell (2014) researcher

collect data on an instrument test. The instruments in this study used tests, namely pre-test and post-test as research tools to collect data.

1. Pre-test

Pre-test was a test given to students before they receive treatment. The pre-test was given to measure students' initial speaking ability. In this test, students were asked to describe object or topic determined by the teacher according to the chapter studied, they spoke individually with a duration of 3-5 minutes. The aspects used to assess their speaking are pronunciation, fluency, grammar, vocabulary, and comprehension (Brown, 2004). This test applied to both classes are experimental and control.

2. Post-test

Post-test was given after the treatment to measure the extent of the improvement of students' speaking ability after using fondi application. These tests focus on the students' ability to describe objects or things related to the topic specified by the teacher. The post test results from both classes were evaluated, checked, and calculated by the researcher. In post-test, students were asked to describe object or topic determined by the teacher according to the chapter studied, they spoke individually with a duration of 3-5 minutes. The aspects used to assess their speaking are pronunciation, fluency, grammar, vocabulary, and comprehension (Brown, 2004). The experimental class used fondi application while the control class used picture series.

Table 3. 2 Blueprint Pre-test and Post-test of Speaking Ability of Descriptive Text Test

Question Indicator	Material	Kind of Test	Form of Instrument	Score Weight
Students can describe the topic given by the teacher orally in a coherent, clear, and structured manner.	Descriptive text with different topic (pre-test about school) while (post-test about people)	Oral test	Describe the topic for 3-5 minutes orally	100

The aspects used to assess their speaking are pronunciation, fluency, grammar, vocabulary, and comprehension by Brown 2004.

Table 3. 3 Rubric of Speaking Assessment

Aspect	Score	Description
Grammar	1	Often make mistakes
	2	Can handle the basic structure pretty well but the grammar isn't very controllable.
	3	Grammar control is good and can speak with a fairly accurate structure.
	4	Errors in grammar are quite rare, so it is considered capable of using language accurately in all needs.
	5	There are no grammatical errors so it is considered equivalent to an educated native speaker.
Vocabulary	1	Inadequate vocabulary so unable to express anything.
	2	Some conversations are imprecise because they have little vocabulary to express themselves.
	3	His vocabulary is wide enough that he rarely has to look up words in conversation.
	4	High level of vocabulary accuracy so you can understand and participate in any conversation.

	5	Has a very wide vocabulary including idioms, colloquialisms, and related cultural references, so that it is fully accepted by native speakers.
Pronunciation	1	There are often mistakes in pronunciation.
	2	Often quite wrong but the accent is understandable
	3	The accent may still be unfamiliar but the mistakes are rarely distracting.
	4	Errors in pronunciation are quite rare.
	5	Equivalent to and fully accepted by educated native speakers.
Fluency	1	No specific fluency description. Refer to other four language areas for implied level of fluency.
	2	Can handle confidently but not with most situations.
	3	Rarely gropes for words, and can discuss certain competencies
	4	Be able to use the language fluently and be able to participate in any conversation within this range of experience – with a high level of fluency.
	5	Has complete fluency in the language
Comprehension	1	Can only understand simple statements if delivered in slow speech, repetition, or paraphrasing.
	2	Can get the gist of most conversations.
	3	Comprehension is quite complete at a normal rate of speech.
	4	Can understand any conversation within the range of his experience.
	5	Equivalent to that of an educated native speaker.

E. Treatment Procedure

This research consists of pre-test, treatment, and post-test.

1. Pre-test

Pre-test was conducted after the odd semester break or at the beginning of the even semester in 2026 before students received treatment. Both students from the control class and the experimental class took oral test as pre-test without using any media. They were asked to talk about a place they had visited for 2-3 minutes. The assessment was carried out using Brown's 2004 rubric.

2. Treatment

Treatment was conducted in four meetings. Experimental group used fondi application while control group used picture series. The table below explains the treatment procedure that will be carried out by the experimental class and control class.

Table 3. 4 Treatment Activities by Jerome Bruner (1961)

Learning Model Discovery Learning	Activities of Using Fondi Application	Activities of Using Picture Series
Stimulation	<ul style="list-style-type: none"> • Teacher gives the topic “Describing Places” and introduces fondi application. • Students make account fondi application. Choose avatar as them and take a place between plaza, park, home, bar, or lounge for meeting friends. • Teacher shows feature’s application to stimulate their curiosity. 	<ul style="list-style-type: none"> • Teacher gives topic “Describing Places”. • Students listen to the material that covered by the teacher. • Teacher shows them digital picture series. Pictures was showed on LCD randomly. • Students look at LCD in front of the class which covers a series of picture series.

	<ul style="list-style-type: none"> • Students practice to try the feature's the application. 	
Problem Statement	<ul style="list-style-type: none"> • Teacher asks students to mention everything in the place that taken by them. • Students mention the places of app like home, plaza 1, plaza 2, and others. • Teacher asks students to give some questions about fondi. • Students ask the teacher like <i>"How can we meet people from other countries?"</i>. 	<ul style="list-style-type: none"> • Teacher asks students to mention some of pictures in LCD when the pictures being shown by the teacher. • Students mention some of pictures in LCD, they mention one word about the picture series. • Teacher asks students to ask about pictures. • Students ask about picture series like <i>"What are we going to do with the picture and one word?"</i>.
Data Collection	<ul style="list-style-type: none"> • Teacher asks students to use live voice chat (feature's fondi application) for practicing speaking with their friends. • Students try to use the feature of fondi like voice chat to practice their speaking. 	<ul style="list-style-type: none"> • After that, teacher give opportunities to convey the opinion of the picture. • Students speak about digital picture series. Tell about picture content with their friends.
Data processing	<ul style="list-style-type: none"> • Teacher guides students to organize information into a coherent descriptive text. • Students collecting the information from their conversation. 	<ul style="list-style-type: none"> • Teacher guides students in shorting pictures and composes their description about pictures into a coherent descriptive text. • Students choose one of pictures to organize become descriptive text.

Verification	<ul style="list-style-type: none"> • Teacher asks students to present their descriptive text again after get guidance from teacher. Then, teacher gives feedback. • Students present the information of their conversation with descriptive text. 	<ul style="list-style-type: none"> • Teacher asks students to present descriptive text to know the accuracy of description and sequence. Teacher gives feedback. • Students present about descriptive text based on picture.
Generalization	<ul style="list-style-type: none"> • Teacher gives students opportunities to ask about descriptive text using fondi application. • Students ask about the fondi. 	<ul style="list-style-type: none"> • Teacher gives students opportunities to ask about descriptive text using picture series. • Students ask about picture series.

3. Post-test

Post-test was administered to students after conducting the treatment for four sessions. Both classes were given a post-test, which was an oral test with the topic of describing events for 3-5 minutes. Their post-tests were recorded and assessed using Brown's 2004 rubric. The results of the pre-test and post-test were calculated to determine whether the use of the fondi application had a different effect before and after its implementation.

F. Data Collection

According to Creswell (2014) researchers make interpretations of the statistical results, or they interpret the themes or patterns that emerge from the data. In this study, the test method was used to collect data on the speaking ability of

MTsN 2 Kanigoro students in class VIII, consisting of a control class and an experimental class.

1. Pre-test

Before treatment, a pre-treatment test was conducted on both groups. For the experimental class, the test was conducted on January 7th, 2026 while for the control group it was conducted on February 10th, 2026. The topic of the pre-treatment test was descriptive text, and students were given 3-5 minutes to complete their speaking tasks on that topic.

2. Post-test

After the treatment is completed, a post-test is conducted to find out whether the students' speaking ability has improved as a result of using *fondi* application in the experimental class and picture series in the control class with same criteria as pre-test but different things or human that they will describe. Several statistical requirement tests were used to process the data from these two stages of the test. These included the normality test which ensured that the data were normally distributed, the homogeneity test which tested whether the variances of the data between groups were equal, and the hypothesis test which was conducted using the SPSS version 26 program to evaluate the significant differences in students' speaking ability in the two groups.

3. Documentation

Documentation is done during research progress, both during pre-test and post-test also during treatment. Documentation like take a picture when activity progress such as when students perform or they use *fondi* application for

experimental while control, they use picture series, and attendance lists, teaching modules, and field notes. The aim of documentation is as proof of the research and help researcher to asses students objectively.

G. Data Analysis

This research used quantitative approach as data analysis techniques to test established hypotheses. The process used IBM SPSS Statistics. The steps for analysing the data are descriptive analysis, preliminary analysis test (normality, homogeneity, inter-rater both of grader), and ANCOVA hypothesis test. The data obtained from the pre-test and post-test were analysed. After get the result of test, researcher divides it into two group. The first group is experimental group and the second is control group. The researcher analysed the final score of two groups using ANCOVA formula with SPSS program 25 Version. Using SPSS version 25, a normality test was conducted to determine whether the data was normally distributed, with a significance criterion of more than 0.05 being considered normal. In addition, the homogeneity test was conducted to ensure that the data variation between the experimental and control classes was homogeneous. Data with a significance criterion of more than 0.05 is considered homogeneous. The ANCOVA formula can be represented as follows (Field,2018):

$$Y_{ij} = \mu + \tau_i + \beta(X_{ij} - \bar{X}) + \epsilon_{ij}$$

Where:

- Y_{ij} = The dependent variable (post-test scores)
- μ = The grand mean of the dependent variable
- τ_i = The effect of the treatment

- B = The regression coefficient of the covariate
- $(X_{ij} - \bar{X})$ = The covariate (pre-test scores) adjusted by its mean
- ϵ_{ij} = The error term

H. Interpretation of The Result Research

1. If the sig. < 0.05 , H_0 (null hypothesis) is rejected and H_a is accepted. It means there is a significant difference between the mean score of experimental and control group. In this case, the mean score of experimental class is higher than control class thus indicating that the use fondi application is more effective than the use of picture series.
2. If the sig. > 0.05 , H_0 (null hypothesis) is accepted and H_a is rejected. This means there is no significant difference between the mean score of experimental and control group. In the case, the mean score of experimental class is same or lower than control class thus indicating that the use fondi application is not more effective than the use of picture series.