

### CHAPTER III RESEARCH METHODS

#### A. Research Design

This research design is an experimental design. Experimental research designs are to allow researchers to evaluate the effectiveness of experimental treatments . You can conduct experimental studies in a laboratory or classroom . In this research, students are the population for experimental research conducted in the classroom (Agustian, 2006)

This research uses a Quasi Experimental design which has two types of design, namely Time Series Design and Nonequivalent Control Group Design. With the objectives to be achieved in this research, the researcher used a Nonequivalent Control Group Design.

The research was carried out in 2 groups, 1 group as an experimental group and 1 group as a control group. The research design is as follows:

Table. 3.1 Experimental Research Design

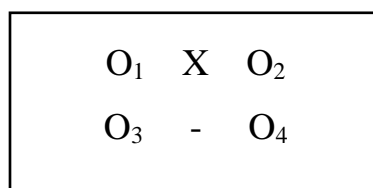
Group	Pretest	Treatment	Posttest
Experiment	O <sub>1</sub>	X	O <sub>2</sub>
Control	O <sub>1</sub>	-	O <sub>2</sub>

Based on the table above, it can be understood that O<sub>1</sub> is the assessment before treatment (pretest) and X is treatment and O<sub>2</sub> shows the assessment after treatment (posttest). With a pretest, it can provide information to reduce weaknesses regarding conclusions regarding what

happens to respondents if they are not given treatment, while  $O_1$  occurs before  $O_2$ , making it possible for the two to be different and not related to the treatment given.

The existence of a control group means that this design can control the threat of several external variables, for example: history, maturity and statistical regression. In this design, there is one group used for research, but it is divided into two, namely: half the experimental group (which is treated) and half the control group (which is not treated). The research paradigm can be described as follows:

Figure 3.1 Experimental Research Paradigm



Information :

$O_1$  &  $O_3$  = Measurement results for the groups before treated

$O_2$  = Measurement results for the group after treated

$O_4$  = Measurement results for the group that was not treated

X = Effect of treatment on  $(O_2 - O_1) - (O_4 - O_3)$  (Sugiyono, 2013)

## B. Research Setting

This research will be conducted at MTsN 3 Tanah Bumbu. The duration of the research was one month, with four meetings for treatment and two meetings for pretest and posttest.

### C. Population And Sample

To find out what the sample population in this study is, it will be explained as follows:

#### 1. Population

According to Arikunto (2016) the population is the entire research subject. The population in this study were all class VIII students at MTsN 3 Tanah Bumbu with the following details:

Table 3.2 Research Population

<b>Group</b>	<b>Man</b>	<b>Woman</b>	<b>Amount</b>
VIII A	10	26	36
VIII B	22	12	34
VIII C	17	19	36
VIII D	15	21	36
Amount	142 Students		

Source: TU documentation of MTsN 3 Tanah Bumbu.

#### 2. Sample

The sample is a part or representative of the population studied. As for sampling, the research is guided by (Arikunto, 2016) that: if there are less than 100 subjects, it is better to take all of them, whereas if the number of subjects is large (more than 100) it is better to take between 15% or 25% or more.

The sample in this study was 72 students of which class VIII D was the control class and class VIII C was the experimental class.

## **D. Data And Data Sources**

### 1. Data

The data extracted in this research includes primary data (main data) and secondary data (supporting data)

#### a. Primary Data (basic data)

1) *Pretest* initial test results data

2) *Posttest* final test results data

#### b. Secondary Data (supporting data)

The supporting data that supports the primary data, in this case is a general description of the research location of MTsN 3 Tanah Bumbu, includes:

1) History and development of the school

2) Vision and mission and goals of the school

3) Teacher's condition

4) Condition of administrative staff/administrative staff

5) Condition of students

6) Condition of facilities and infrastructure

### 2. Data source

a. Primary data sources were obtained from teachers and students

b. Secondary data sources were obtained from the school principal, teacher council and school TU.

## **E. Technique of Data Collection**

Researchers carried out tests in collecting data. The test was carried out twice, pretest and posttest. The pretest is given to find out previous skills before doing the material (ice breaking). Data collection is presented chronologically as follows:

### **1. Pre-Test**

The pretest is used to determine students' skills or knowledge about speaking.

Here are the pretest procedures:

- 1) The researcher explains what the students will do.
- 2) Researchers distributed pretest instrument sheets to students.
- 3) The researcher gave the questions to students
- 4) Researchers gave students a maximum of 1 minutes to answer 1 question
- 5) After the students presented their answer, the researcher gave the score for each question.

### **2. Treatment**

After both groups have been given a pretest and have been deemed equivalent, the next stage is to carry out treatment. Treatment in the experimental class used instruments in the form of ice breakers, while in the control group used lectures and questions and answers. In this study, the treatment was carried out 4 times, namely four times in

the experimental group and four times in the control group. Each treatment was carried out within 2 x 40 minutes.

This treatment is given in accordance with the theory of Sugiyono (2013) experimental research which uses a One-Group Pretest-Posttest design where the treatment is given in the control group and the experimental group.

### **3. Post-Test**

Researchers gave a posttest to measure students' speaking skills after participating in the treatment. The test is the same as the pre-test.

## **F. Research Instrument**

The instruments that will be used in this research pass development, and scoring of instruments, as follows.

### **1. Development of research instruments**

The development of research instruments using test instrument. Activity Results The test instrument is a set of test measuring tools designed by researcher. The instruments used are in the form of games. Adjustments to this test instrument were carried out with due attention the following things.

- 1) This research is in accordance with the curriculum
- 2) Research looks at the aspects of children's religious and moral development with different portions in every aspect.

## 2. Scoring of activity results

The results of activities are measured through tests carried out 2 times, the previous test treatment (pre-test) and test after treatment (post-test). The tests given are the same, both before and after, consisting of 1 aspect with 5 criteria, namely:

Table. 3.3  
Speaking Scale Criteria in Grammatical Aspects

Aspect	Score	Criteria	Information
Grammar	5	Excellent	Makes a few noticeable word order grammatical errors
	4	Very Good	Sometimes making grammatical wording errors that do matter, no matter how unclear the meaning
	3	Good	Often makes grammatical and word order errors, thereby obscuring the meaning
	2	Fair	Grammar and word order make it difficult to understand, so you often have to rearrange sentences and/or limit them to basic patterns
	1	Poor	Errors in grammar and word order are so severe that they make speech almost unintelligible

## G. Data Analysis

Data analysis techniques are intended to find answers to questions that have been previously formulated. The approach used in this research is a quantitative approach, so the data analysis uses statistical analysis techniques. The analytical statistics used are different tests, namely the t

test or Paired Sample T-test .

Paired Sample T-test is a procedure which is used to compare the averages of two variables in one group. This means that this analysis is useful for testing against two related samples or two paired samples (Jaya, 2020). The criteria results are as follows:

If  $t_{\text{count}} < t_{\text{table}}$ ,  $H_0$  is accepted.

If  $t_{\text{count}} > t_{\text{table}}$ ,  $H_0$  is rejected

1.  $H_0$ : Null Hypothesis

There was no significant difference in improving students' speaking skills in the grammatical aspect before and after being taught through icebreaking activities at MTsN 3 Tanah Bumbu.

2.  $H_a$ : Alternative Hypothesis

There is a significant difference in improving students' speaking skills in the grammatical aspect before and after being taught through icebreaking activities at MTsN 3 Tanah Bumbu.

The following are the steps for the Paired Sample T-test using the SPSS version 25 program: a) Open SPSS software , then click the View variable, b) Type the attribute on name, decimals and label columns , c) Click View data then enter Pretest data and Posttest , d) Click Analyze-Compare Means-Paired Sample T Test, e) Enter Pretest and Posttest into the Paired Variable column , f) Click OK (Ahmad, 2020).



Apart from that, an increase (gain) test is also carried out to determine the percentage increase:

$$N - \text{gain} = \frac{S_{post} - S_{pre}}{S_{max} - S_{pre}} \times 100\% \quad (\text{Doyan, 2020})$$

Information:

N-gain = gain

$S_{post}$  = post-test score

$S_{pre}$  = pre-test score

$S_{max}$  = highest score

Based on the score results, the gain is then categorized into 3 criteria, namely:

Table 3.4 N-Gain Earning Criteria

No	N-Gain Value	Category
1	$g > 70\%$	Tall
2	$30\% < g < 70\%$	Currently
3	$g < 30\%$	Low