

## CHAPTER III

### METHOD OF INVESTIGATION

This chapter provided the method of investigation which consisted of research method, time and place of research, population and sample and technique of data analysis.

#### 3.1 Research Method

Experimental research was a research method which was using to find a specific treatment effect against the other in uncontrolled conditions (Nunan, 1992:233). Experiment was carried out to explore the relationship between variables. Research design was a true experimental design. According to Mubarok (2015:100), said that the design was a true experiment because, the researchers could control all external variables that affect the experimentation. The research design was quantitative research, the data would be presenting in the form of score or figures through the experimental trial results. Research design used in this research was true experimental research conducting with try-out, pre-test, and post-tests. The researcher used true experimental design to experiment class. Experimental class was a group of students which became the main attention of the researcher specially to see if there was a changing situation after the treatment.

In the study, would be different treatment between a group of experiments with the control group. Experimental group had given preferential treatment in the form of Quantum method. Experimental group achievement

could be displayed from the post-test experimental group reduce group pre-test results of experiments (O2-O1).

**Table. 3.1. Pre-test and post-test design**

Group	Pre-test	Treatment	Post-test
Experiment	O1	X	O2
Control	O3	-	O4

**(Mubarok**

**(2015:101)**

O1: Observation pre-test for experiment group

O3: Observation pre-test for experiment control group

O2: Observation post-test for experiment group

O4: Observation post-test for control group

X: Free variables would give preferential treatment in the form of Quantum Method (independent variable).

In this case the difference it could be displaying in achievement between the experimental and the control group. Experimental group achievement could be displaying from the post-test experimental group reduced group pertest results of experiments (O2-O1). Achievement of the control group could be seeing from the control group pre-test post-test reduced control group (O4-O3).

**Table 3.2. Variable: Independent and Dependent**

<b>Independent</b>	<b>Dependent</b>
Quantum method	Speaking ability

a. Independent variable:

All other variables that might impact the dependent variable were controlled. The values of the independent variable were under experimenter control. Quantum Method as an independent variable because it affected the dependent variable.

b. Dependent variable:

The values of the dependent variable depended upon another variable.

Speaking Ability as a dependent variable, because it was influenced by independent variable.

### 3.1.1 Pre-test

The purpose of pre-test was to know the basic capability of students. The pre-test would be given to students before giving the treatment by the writer in order to know students' ability in speaking. The researcher gave 6 questions to the students. The form of the test was speaking text that would be given to students to measure their level of understanding in speaking before getting treatment.

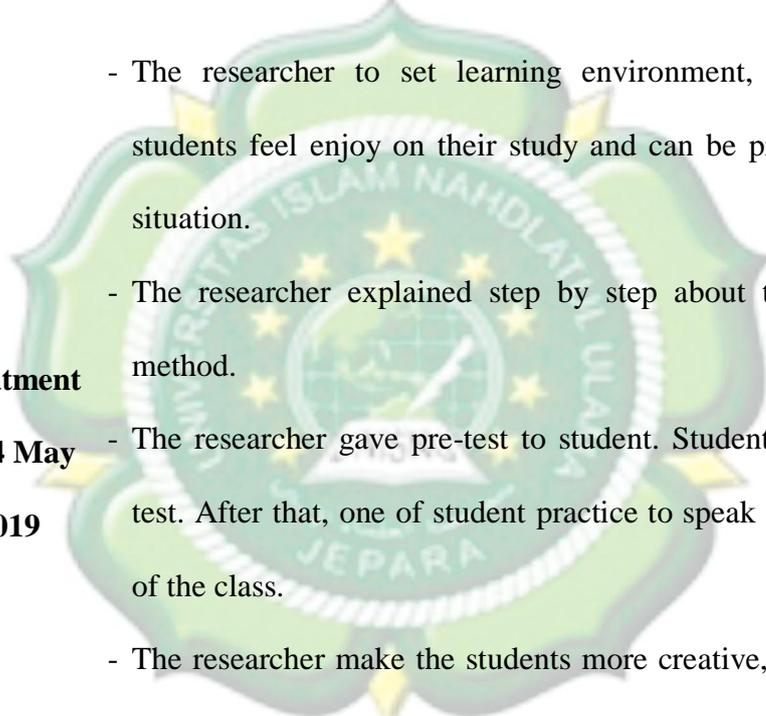
### 3.1.2 Treatment

Treatment was using to help the students solve the problems in learning activity. In this stage, the researcher used quantum method as a treatment to the experimental group. Treatment gave for two meeting in class experimental group. The explanation bellowed:

**Table 3.3. Eksperimental Group and Control Group**

**1. Experimental Group**

**Experimental Group**

- 
- Treatment**
- The researcher to set learning environment, so that the students feel enjoy on their study and can be prevent bored situation.
  - The researcher explained step by step about the quantum method.
- 1, 14 May 2019**
- The researcher gave pre-test to student. Student do the pre-test. After that, one of student practice to speak loud in front of the class.
  - The researcher make the students more creative, creative are students who always want know more, like to make experiment or like to play and gave motivation for them.
- Treatment**
- The researcher asked to students about the previous material.
  - The researcher gave some questions to students and students practiced the strategy using the quantum method.
- 2, 15 May 2019**
- After that, one of student spoke aloud in front of the class

- After that, the student defined into some groups and they practiced speaking using quantum method. One group consisted of 2 students.
- Then, per-group practiced speaking in front of the class and to train the students memory, need training for getting the good memory.
- The last steps, the researcher gave post-test to the students and gave motivation to the students from the explanation about the benefit after they learn quantum method.

## 2. Control Group

### Control Group

- The researcher explained the material about speaking ability.
- Treatment**  
**1, 16 May**  
**2019**
- The researcher gave some questions about the material to the students.
  - The researcher gave pre-test to the students.
- Treatment**  
**2, 17 May**  
**2019**
- The researcher asked the previous material.
  - The researcher gave assignment to student and the student do post-test.

### 3.1.3 Post-Test

The purpose of post-test was to know about the influences of the result after the student gives another method. The post-test was given to

student after the treatment finished. The condition after giving pre-test and treatment test. The researcher gave 6 questions to the students.

### **3.2 Time and Place of Research**

#### **3.2.1 Time of Research**

The research was conducted in even semester in the academic year of 2018/2019.

#### **3.2.2 Place of Research**

The research was conducted at SD Negeri Puncel 03. This school was located at Jl. Tayu Dukuh Seti KM 3 Puncel Kabupaten Pati.

### **3.3 Population and Sample**

#### **3.3.1 Population**

Population was the whole subject of the research (Arikunto, 2013:173). Population was a unit of the object that had certain qualities and characteristics which are studied by the researcher then be deduced. So, that in this research the researcher had chosen the population had fifth grade of Elementary School Puncel 03 that consisted of 32 students. They were class 5A and class 5B.

#### **3.3.2 Sample**

Sample was a part or a representative of the population investigated (Arikunto, 2006:131). The researcher used probability sampling in the form of simple random sampling. The researcher took

simple random sampling because every individual had the same opportunity to be sample. The population in the fifth grade, 5A and 5B. The researcher write name of class in the paper, after that the researcher shake the paper and first out paper that is experiment class and second paper is control class. The researcher focused on two class, class 5A as experiment class and consisted of 15 students and the control class 5B consisted of 17 students.

### 3.3.3 Technique of Data Collection

The technique of collecting the data used speaking test and the instrument of speaking test researcher was used spoken test. According to Ugiljon, Anakhon and Gulnoza (2018:1), the testing of speaking was widely regarded as the most challenging of all language exams to prepare and score. The main purpose was to present the most effective classroom approaches available for measuring oral proficiency. To evaluate the score of spoken test, researcher was used by using rubric assessment.

**Table 3.4 Rubric of speaking test by using spoken test**

ASPECT	CRITERIA	SCORE
Fluency	Very fluent in reciting English words or sentences	5

	Fluent in pronouncing words or sentences in English	4
	Good enough in pronouncing English words or sentences	3
	Less fluent in pronouncing English words or sentences	2
	Not fluent in reciting English words or sentences	1
	Almost perfect in the pronunciation of English words or sentences	5
	There is an error but it did not interfere with the meaning	4
Pronunciation	There were some errors and disturbing meanings	3
	Many mistakes in pronunciation of English words or sentences	2
	Too many mistakes that were difficult to understand	1
	Almost perfect in the pronunciation of English words or sentences	5
Vocabulary	There was an error but it did not interfere with the meaning	4

There were some errors and disturbing meanings	3
Many mistakes in pronunciation of English words or sentences	2
Too many mistakes that was difficult to understand	1

(Brown, 2004:172)

The collecting of the score was from three aspect there are fluency, pronunciation and vocabulary in every question. After that total of the score divided with six questions. So, it can be seen the final score.

### 3.4 Technique of data Analysis

#### 3.4.1 Trying Out of the Instrument

The test Prediction Analysis According to (Arikunto, 2002:178), there was two things that must be using t-test analysis, first Validity analysis and Reliability analysis. But to analyse data of try out test, the researcher only used validity analysis.

##### a. Validity

Validity was arguably the most important criteria for the quality of the test. The technique of analysing data, this research used t-test because this research compared the result of test between pre-test and post-tests from experimental group and control group.

The researcher using SPSS calculation to get the validity instrument. The validity computation consulting to the r-table of product moment by determining the significances level 5% and n which was according to the data. The instrument was valid if the  $r_{xy} > r_{table}$  for  $\alpha = 5\%$ .

### 3.4.2 Pre-requisite Test Analysis

According to (Arikunto, 2006:307) there were two things when using t-test analysis normality test and homogeneity test.

#### a. Normality Test

The calculation of normality test would be counting by using SPSS number 16.

#### b. Homogeneity test

Homogeneity test of this variant served to determine whether or not uniform variations of samples from the same population. Homogeneity calculation resulted the variant then compare to the table F. If  $F_h > F_t$  then it could state that the two groups were not variant, variants significant or homogeneous.  $F_h$  was the F value obtain from the table. Level the desired significance is 5% with degrees of freedom  $(db) = (n-1) (n2-2)$

Homogeneity test used formula Levene's test of homogeneity.

#### c. Technique Analysing Data Using T-test

The Data would be analysed by using SPSS. Program was an activity in reflecting the data of the research. The researcher

used score pre-test and post-test in analysing the data of the research. It was used to find out the difference between experiment group and control group in speaking ability. Furthermore, the researcher used t-test to analyse the data.

