

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter presents the research method. It focused the method used in conducting this study which covers (a) Research Design, (b) The Population, Sample and Sampling, (c) Research Variables, (d) Research Instrument, (e) The Validity and Reliability of the Test, (f) Normality and Homogeneity Testing, (g) Data Collecting Method, (h) Data Analysis, (i) Hypothesis Testing.

#### **A. Research Design**

This study is a kind of experimental research. The design of this research is quasi experiment design. The purpose of quasi-experimental research is to get information through some assumption from the true experiment which is impossible to control or manipulate the entire relevant variables. The type will used is nonequivalent group pretest-posttest control group design. It is aimed to search whether there is an effect or not of treatment which has been done to the experimental subject without random assignment.

In this research, the writer used two groups or two classes as the sample, namely: experimental group and control group. Those classes are not chosen randomly. For experimental group, the students were treated with particular teaching on what problems of research the writer had. Meanwhile, control group was only given a pre-test and pos-test without particular treatment as given to the experiment group. Both experimental and control group were treated in the same test.

**Table 3.1 Research Design**

Class	Pre-test	Treatment	Post-test
Experimental group	O <sup>1</sup>	X	O <sup>2</sup>
Control group	O <sup>1</sup>	-	O <sup>2</sup>

Where:

O<sup>1</sup> : Pre-test for experimental group and control group

X : Receiving particular treatment

O<sup>2</sup> : Post-test for experimental group and control group

Before doing the treatment, the writer gave pre-test to all of the samples. Pre-test was given in order to find out the students' reading comprehension before implementing Imagine, Elaborate, Predict, and Confirm (IEPC) strategy. Then, the teacher taught reading materials by using Imagine, Elaborate, Predict, and Confirm (IEPC) strategy for experimental group and using teacher's strategy as for control group. After one meetings, both of groups were give test again (post test) to find out the effect of implementation of Imagine, Elaborate, Predict, and Confirm (IEPC) to improve the students' reading comprehension.

Based on the explanation above, procedure of this research is divide into two way, they are :

## 1. Design of the research for experimental group

### a. Pre-test

The pre-test was carrying out to determine the students' reading comprehension with their score. The researcher uses multiple choice test consist on 20 question to test the students. The function of pre-test is to know tha ability of the students before the researcher doing the treatment.

### b. Treatment

The treatment was conducting for experimental group. This used Imagine, Elaborate, Predict, and Confirm (IEPC) strategy that applied for about two meetings. For the first meeting, the researcher explained about IEPC Strategy, then give task to the student to know their understanding. The next meeting, the researcher retry ask about IEPC to stimulate the students knowledge.

### c. Post-test

After conducting the treatment, the post-test was administered and it was analyzed as final data for this research. The test given was the same test as given in the pre-test. As explanation by Roestiyah (118:2008) "if pretest administered before the student follows the instruction, then the post test given after the student teaching program. Tests are given in the post-test is identical to that given in the pre-test, it means test material used was the test material as well".

## 2. Procedures of collecting data for control group

### a. Pre-test

The control group was given pre-test to know their reading comprehension. The test was the same as for experimental group.

### b. Conventional Strategy

When the experimental group was treated by using IEPC strategy, the control group was taught by using conventional strategy as usual. This was to compare the students' reading comprehension between experimental group and control group. The strategy can see in chapter 2.

### c. Post-test

Post-test was also given to control group and the result was analyzed and used as final data for this research.

## **B. The Population Sample and Sampling**

The total of population of this research was two class students of MTs PSM Jeli Karangrejo. They were divided into 2 classes of VII A (40 students), VII B (40 students). Based on the data above, all of the populations were 80 students. In this research, the writer used quasi experimental research; the writer took two classes as sample. They were VII A class that consisted of 40 students as control group, and VII B class that consisted of 40 students as experimental group, so the total of sample was 80 students. In this research, the researcher used purposive sampling

as the process of sampling, the researcher finally choose VII A and VII B class.

**Table 3.2**

**Total of Sample at the Second Year student of  
MTs PSM Jeli Karangrejo**

No	Classes	Total
1.	VII A	40
2.	VII B	40
<b>Total of Sample</b>		80

**C. Research Variable**

Variable is the characteristics of something that will be researched. There are two variables in this research :

- a. Independent variable (x) : Imagine, elaborate, predict, and confirm (IEPC) Strategy
- b. Dependent variable (y) : Students' reading comprehension in Descriptive Text.

**C. Research Instrument**

Research instrument refers to any equipment used to collect the data (Arikunto, 2010 : 262). As an experimental research, the instrument used in this research was test. Accordig to Ary, et al (2010 :

201) test is a set of stimuli presented to individual in order to elicit response on the basis of which a numerical score can be assigned.

There were two kinds of tests for this study, those were pre-test and post-test. Pre-test was intended to measure students reading comprehension ability before the treatment given, while post-test was to measure students reading comprehension ability after the treatment given. The total item of the test were 20 in the form of multiple choice test.

#### **D. The Validity and Reliability of the Test**

##### **1. Validity**

Validity is the most important consideration in developing and evaluating measuring instrument. Ary et al (2010:225) defines validity as the extent to which as instrument measured what it claimed to measure. In other words, validity can be defined as the instrument that measures what is supposed to be measured. In this study, to ensure test validity the researcher used construct validity, content validity and face validity.

##### **a. Content Validity**

For instruments in the form of tests, testing content validity can be done by comparing the contents of the instrument with the subject matter being taught. Technically the content validity can be helped by using an instrument grid, or instrument development matrix. In the grid there are variables studied, indicators as

benchmark and number of items (item) questions or statements that have been described from the indicator (Sugiyono, 2017:129). The researcher made this test based on standard and basic competence in K13 since the school implements K13 curriculum. The material of the test also can be suitable to being taught for the student of seventh grade at Junior High School. Therefore, this test is valid in term of content validity.

b. Construct Validity

According to Brown (2004:45) mentioned that a construct is any theory, hypothesis, or model that attempts to explain observed phenomena in our universe of perception. Based on the theory above, the researcher asked the students to answer the question about descriptive text in the form of multiple choice and giving other task by applying IEPC Strategy, it can be measure student achievement in reading comprehension to fullfil the construct of reading test. Therefore, it is valid in term of content validity.

c. Face Validity

The researcher used face validity by consulting with the advisor and English teacher to make sure that the test measures what must be measured. In this case, the test has measured is students reading comprehension in Descriptive Text

## 2. Reliability

Reliability refers to the consistency of the scores resulted from the instrument. According to Brown Ary et al (2002:250) stated that reliability is concerned with the effect of such random errors of measurement on the consistency of scores. The reliability of the test or instrument can be seen from the result of conducting Try out instrument in different class, in this research the researcher used VII B. To measure the reliability of the score obtained from pre-test and post-test, the researcher calculated by using IBM SPSS 24.0 version using the formula Alpha Cronbach. This formula is used because requires test scoring is one correct answer was given one point, while incorrect answer was given zero point.

According to Ridwan (2004 2004:118), the criteria of reliability are divided into 5 classes as follows:

1. If the alpha Cronbach score 0.00 – 0.20 : less reliable
2. If the alpha Cronbach score 0.21 – 0.40 : rather reliable
3. If the alpha Cronbach score 0.41 – 0.60 : enough reliable
4. If the alpha Cronbach score 0.61 – 0.80 : reliable
5. If the alpha Cronbach score 0.81 – 1.00 : very reliable

The result of the reliability score of the instrument can be seen in the following table :



**Table 3.3 Reliability Result****Reliability Statistics**

Cronbach's Alpha	N of Items
.908	20

From the table above, it shows that Cronbach's Alpha score of pretest is 0.908. It means that the instrument of test is categorized into very reliable because the Alpha Cronbach's score is between 0.81 – 1.00.

**E. Normality and Homogeneity Testing**

## 1. Normality

According to Sujianto (2009:77) normality distribution test is a test to measure whether our data has a normal distribution or not. To know the normality, the researcher used One Sampling Kolmogorov-Smirnov test with SPSS. The hypothesis for testing normality are :

- d.  $H_0$ : Data is normal distribution
- e.  $H_a$ : Data is not normal distribution

Critic area is in which  $H_0$  is rejected when the significant value lower than 0.05 ( $\alpha=5\%$ ).

## 2. Homogeneity

Homogeneity testing is conducted to know whether the data which is taken has a homogeneous variance or not. The computation of

homogeneity testing using SPSS with the formula One-Sample Kolmogrov-Smirnov test by the value of significance ( $\alpha$ ) = 0.05. The hypothesis is the data will be homogeneous if the significant value ( $\alpha$ ) is more than 0.05 ( $\alpha > 0,05$ ). Meanwhile, the data will be not homogeneous if the significant values is more less than 0.05 ( $\alpha < 0,05$ ).

## **F. Data Collecting Method**

The data collecting method is the method to obtain the data in the research. The aims of the data collecting to conducting scientific research was to get data that needed by the research. The technique of collecting data was classified as follow :

### 1. Pre-Test

Pre-test will give to the students before the researcher taught by using IEPC Strategy (experimental group). Pre-test is needed to know the basic competence for student and how far the students know about the subject that were be taught.

### 2. Treatment

Treatment werel conducted after the administration of the pre-test. The purpose of treatment is to help students in understanding English text., especially in descriptive text.

### 3. Post-test

After the treatment, post-test erel gives to the student. The test item in the posttest is to measure students reading comprehension after treatment.

## **G. Data Analysis**

Data analysis is a review of a series of activities, grouping, systematization, interpretation and verification of data so that a phenomenon has social value, academic, and scientific (Tanzeh, 2009 : 69). The data obtained from research result is the result of student test that were analyzed quantitatively. Quantitative analysis was done using statistic which is called statistical analysis or inferential statistics. The quantitative data of this research is analyzed using statistical computation.

In this research, the researcher used students' pre test and post-test scores of the experimental and the control group as the data of the research. The researcher analyzed the data by using t-test to know the significant difference effect before and after taught using IEPC Strategy on the students reading comprehension. The data were analyzed by using SPSS 16

## **H. Hypothesis Testing**

The criteria of hypothesis testing were as follow :

- a. When the significant value  $<$  significant level, the alternative hypothesis ( $H_a$ ) is accepted and the null hypothesis ( $H_0$ ) is rejected. It means there is significant difference score on the students reading comprehension before and after being taught by using IEPC Strategy.
- b. When the significant value  $>$  significant level, the null hypothesis ( $H_0$ ) is accepted and the alternative hypothesis ( $H_a$ ) is rejected. It means

there is no significant difference score on the students reading comprehension before and after being taught by using IEPC Strategy.