

### CHAPTER III

#### RESEARCH METHODOLOGY

##### A. Research Design

This design of this research was pre-experimental research. Sugiyono (2010:109) state the pre-experimental research was type of research which involves one group which is experimental group. This design has one class: those is in experimental class, there is no control class. The purpose of this research to know the effectiveness of the treatment of the class. The writer gave post-test to experimental class. In this case, the writer used two variables. The variables are POW + TREE strategy as independent variable and the students' writing ability as dependent variable. The variables in this research can be formulated in table 3.1.

**Table.3.1**  
**The research will be designby using following:**

<b>E</b>	<b>O<sub>1</sub></b>	<b>X</b>	<b>O<sub>2</sub></b>
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Where:

E : Experiment class

O<sub>1</sub> : Pre-Test

X : Treatment Using POW + TREE Strategy

O<sub>2</sub> : Post-Test

In the treatment class, the writer gave pre-test by asking them a topic to write. After taking the pre-test score, the writer gave the treatment to the class by using POW + TREE strategy and asked the students to write the different topic. The

treatment gave for four meetings, this is supported by Gay and Arasian (2000:378), they propose that some periods of time are required for treatment. It is assumed that four meetings will be enough to see the differences that would arise between the student's skill in writing before treating by POW + TREE strategy and after treating by POW + TREE strategy. Then, after treating the class in four meetings, the writer asked the students to write the same topics with the previous pre-test by using the steps of POW + TREE Strategy. Therefore, the writer hold six meetings to see the effectiveness of POW + TREE Strategy toward students' achievement in writing. The procedures of experiment class can be seen in the table 3.2:

**Table. 3.2**  
**Procedures of the research**

<b>Class</b>	<b>STEPS</b>	<b>PROCEDURES</b>	<b>AIM</b>
Experiment Class	Step 1	Pre test (Writing Test )	To measure the degree of the dependent variable before the treatment
	Step 2	Treatment (POW+TREE Strategy)	To influence the dependent variable
	Step 3	Post Test (Writing Test)	To measure the degree of change on dependent the variable

## **B. Population and Sample**

### **1. Population**

Population is the number of students on this research. Gay and Airasian (2000:122) state that population is the group of interest to the researcher. It means that the writer would like to know the result of the study to be

generalized. The population of this research was the eighth grade of Junior High School 1 X Koto Singkarak that consist of 71 Students. Thus, the population of this research can be seen in the table 3.3.

**Table. 3.3**  
**The Population of class VIII SMP 1 X Koto Singkarak**  
**Academic Year 2017/2018**

CLASS	STUDENTS
VIII A	24
VIII B	24
VIII C	23
<b>Total</b>	<b>71</b>

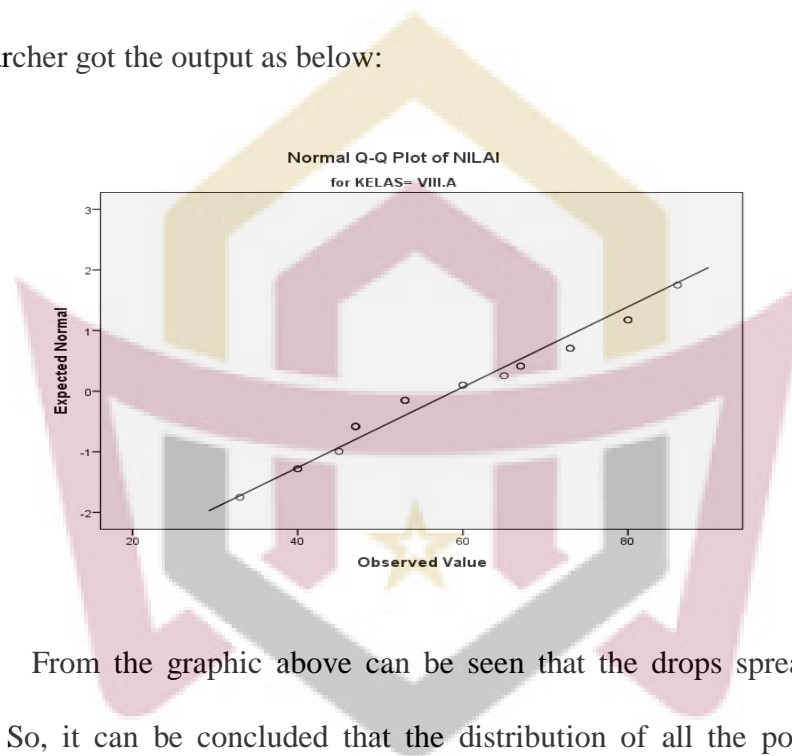
Taken from Administration affair of SMPN1 X Koto Singkarak

Test of normality, normality test has an objective to know the population normal or not. The normality test analyzed by using SPSS (*Statistical Product and Service Solution*) with data exploration of Kolmogorov-Smoirnov test and Shapiro Wilk. Based on that test the data stated normal if every class has significance or probability score bigger than 0.05. It can be seen on the table below:

Tests of Normality							
	KELAS	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
NILAI	VIII.A	,162	24	,104	,945	24	,206
	VIII.B	,153	24	,153	,949	24	,255
	VIII.C	,186	23	,038	,925	23	,086

Based on the table, it can be seen that the significance or probability score of all the classes bigger than 0.05 in both Kolmogorov-Smirnov and Shapiro-Wilk.

To see whether the sample normal or not in distribution, researcher also use normal graphic of Q-Q plot, the data is normal if the distribution of data plot be in the surrounding of aslant and athwart line. From the normality test, researcher got the output as below:



From the graphic above can be seen that the drops spread around the line. So, it can be concluded that the distribution of all the population were normal.

After doing the normality test, researcher analyzed the homogeneous variation test. This test has an objective as to know whether the sample homogeny or not. The researcher did the test of homogeneity by using *Test of*

*Homogeneity of Variance.* Population has homogeny variance if P-value is bigger than 0.05. See the table below:

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
NILAI	Based on Mean	1,208	2	68	,305
	Based on Median	1,090	2	68	,342
	Based on Median and with adjusted df	1,090	2	66,091	,342
	Based on trimmed mean	1,206	2	68	,306

## 2. Sample

After deciding the population researcher need to choose the research sample. In deciding which is group becomes the experimental group; the sample was taken by simple random sampling. According to Sugiyono (2010: 120) concern that simple random sampling refers to select the sample that the researcher believes to be representative of homogenous population. In this research, the researcher chose one class as sample.

Then Gay (1987:110) states that random sampling technique is the best single way to obtain a representative sample. Besides that, Arikunto (2010:95) stated that sample random sampling means that the sample of the population was taken by lottery.

In choosing the sample researcher did the following these steps: first, researcher collected the students daily examination score for writing in first semester. Second, researcher gets normality and homogeneity test by doing SPSS. Third, after getting the normal and homogeny popuation reseracher

chose the sample which way write the name of class VIII on piece of paper, then put them in a glass next, researcher shook the glass and which paper out of the glass first, it becomes the sample of this reserach. Then class VIII<sub>A</sub> out of the glass, so class VIII<sub>A</sub> as a sample. It is done because the writer wants to find whether POW+ TREE strategy is effective to improve students' writing achievement

**Table. 3.4**  
**Sample of Research**

<b>NO</b>	<b>Grade</b>	<b>Total of Students</b>
1	VIII A (Experimental Class)	24

### **C. Place and Time of Research**

This research was held in SMP 1 X Koto Singkarak. The treatment had conducted at second grade students at second semester. This research was done six times meeting in several weeks. The treatment carried out based on the teaching schedule of SMP 1 X Koto singkarak. At the first meeting, the writer gave the students pre-test. The next meeting, the writer gave the students treatment in experimental. After four times, the writer gave post-test to find out the student's writing ability. To see whether the application of POW + TREE Strategy gives significant effect on student's writing ability, the writer compared the result of pre- test and post-test in experimental class.

## **D. Procedure of Research**

Generally, there are three phases procedures of this research, they are preparation, application, and the final phase.

### **1. Preparation**

The writer used one class to collect the data, in experimental class, the writer taught the students by using POW + TREE Strategy. In short, the writer will proposed these procedures:

- a. Determining the research time
- b. Preparing the lesson plan arranged by curriculum.
- c. Explaining to the students about the planning in learning process.
- d. Preparing the final test

### **2. Application Phases**

The application phases of the research can be seen in the table 3.5

**Table.3.5**  
**The application phases of the research**

<b>Experimental Class</b>	
<p><b>a. Pre-Activity</b></p> <ol style="list-style-type: none"> <li>1) Teacher greets the students</li> <li>2) Praying</li> <li>3) Teacher checks students' attendance</li> <li>4) Teacher asks students about the last material</li> <li>5) Teacher builds students background knowledge</li> </ol> <p><b>b. Whilst-activity</b></p> <p><u><b>Observing</b></u></p> <ol style="list-style-type: none"> <li>1) Teacher shows recount paragraph to the students on white boardby using cardboard</li> <li>2) Teacher asks them to read recount paragraph.</li> </ol> <p><u><b>Questioning</b></u></p> <ol style="list-style-type: none"> <li>3) The students ask the teacher what the text about that they read</li> <li>4) Students ask the teacher about what is content of the text that they read</li> <li>5) The students ask the teacher about orientation events and reorientation of the text</li> </ol> <p><u><b>Exploring</b></u></p> <ol style="list-style-type: none"> <li>6) The students write their plan to collect information about their last holiday</li> <li>7) The students organize their thoughts and make outlines/notes to be written</li> </ol>	<ol style="list-style-type: none"> <li>8) Students write to find more idea</li> <li>9) Students asked to state their topic sentences</li> </ol> <p><u><b>Associating</b></u></p> <ol style="list-style-type: none"> <li>10) The students write at least three reasons to support their opinion</li> <li>11) The students explain their reasons more detail</li> <li>12) Students end paragraph with good conclusion statement.</li> </ol> <p><u><b>Communicating</b></u></p> <ol style="list-style-type: none"> <li>13) The teacher ask the students to make their writing about their last holiday based on the steps that taught by the teacher</li> </ol> <p>Teacher asks students to stick their writing on the wall and ask the others students to correct it.</p> <p><b>Post- Activity</b></p> <ol style="list-style-type: none"> <li>1) Teacher gives feedback to the teaching process</li> <li>2) Teacher and students conclude what they learned</li> <li>3) Teacher gives the students homework and Teacher informs the next material.</li> </ol> <p>Teacher close the class</p>

### 3. Final Phase

The writer gave the post-test to know the score of the students after giving the treatment for four meetings with different topic and it is based on the syllabus.



### **E. Types of Data**

The writer collected the data in form of quantitative. The term quantitative data used to describe a type of information that can be counted or expressed numerically. This type of data was often collected in experiments, manipulated and statically analyzed. Quantitative data can be representative got from the result of student's writing test in form of written test.

### **F. Technique of Data Collection**

The research data were collected by giving writing test. The data of this research is student's score in pre-test and post-test. The class conducted for several meetings. The writer taught Recount text by implementing POW + TREE Strategy. In this section the writer prepared an instructional design for each meeting. After giving the treatment, the writer gave the post-test to the students. After the post test was done, the writer collected the data based on students' writing. The writer gave scores of the test. The score of test used as the data of this research.

### **G. Technique of Data Analysis**

The data of this study are analyzed by using statistical procedure T-test. The formula that used is a T-test. T-test means a statistical procedure used to determine whether there is any significant different between the means of scores' pre-test and post-test in experimental class. Furthermore, the data analyzed by using T-test formula as suggested by Sudjana (2005:239), and the formula of T-test is:

$$t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$s^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$$

Where:

$\overline{X_1}$  = Mean score of post test

$\overline{X_2}$  = Mean score of pre test

$s_1^2$  = Standard Deviation of pre test

$s_2^2$  = Standard Deviation of post test

$n_1$  = Frenquensy of samples in pre test

$n_2$  = Frenquensy of samples in post test

The T-table is employed to see whether there is significant difference between the mean score of experimental. The value of obtained is consulted with the value of t table at the degree of freedom  $(n_1-1)+(n_2-1)$  and the level of confidence of  $95\% = 0.05$ .

If the value T-obtained is less than the value of T-table, the null hypothesis would be accepted. On the contrary, if the value of the T-obtained is equal or bigger than the value of T-table, the alternative one is not accepted.

## H. Instrumentation

According to Gay and Airasian (2000:145) instrument is a tool or something that is used in collecting data. The instrument which used in this research was writing

test. According to Gay and Airasian (2000:153) a test is a formal, systematic, usually paper and pencil procedure for gathering information about peoples' cognitive (e.g, achievement, ability, reading) and affective (e.g attitudes, emotions, interests, values) characteristics.

After giving the treatment for six meetings the writer gave the class post test in order to know the students' writing skill. And to see whether the used of POW + TREE Strategy was more effective, the writer compared the result of post test of the class. The instrument of this research is writing test and lesson plan. Writing test used to measure the students' ability in writing. Lesson plan used to treat students' problem in writing. Writing test used to measure the students' ability in writing. Lesson plan used to treat students' problem in writing. The written test which was given in post test for both of control and experimental class were the same writing test. The blue print of writing test can be seen in the following below:

**Table. 3.7**  
**Blue Print of Writing Test**

No	Component of Writing test	Indicator	Topic	Number of item
1	Content	The students are able to write down a paragraph in good content, organization, vocabulary, language use and mechanic	1. Last holiday	1
2	Organization		2. Bad experience	1
3	Vocabulary		3. Last experience	1
4	Language Use		4. Unforgettable experience	1
5	Mechanic		5. My birthday	1
			6. My day	1
Total				6

From the table above, the students were asked to write a recount text based on the topics given and also based on the orientation, events and re-orientation.

Researcher gave attention to the students about criteria to be evaluated from their writing such content, organization, vocabulary, language use and mechanics. The researcher used the students' writing to get the students' score by giving marks on each indicator were based on Jacob's writing indicators such, content (13-30), organization (7-20) vocabulary (7-20) language use (11-25) and mechanics (2-5).

**Table. 3.8**  
**Sample of Instrument in Giving Writing Scores**

No	Name	Categories					Score
		Content	Organization	Language Use	Vocab.	Mec.	
1.							
2.							
3.							
↓							
24							