

## **CHAPTER III**

### **RESEARCH METHOD**

In this chapter, the researcher presented the research design, the population sample and sampling of the research, research variable, research instrument, validity and reliability test, normality and homogeneity testing, data collecting method, and data analysis.

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

To conduct this study the researcher used quantitative research approach. Quantitative research was methodology to study phenomena by collecting numeric data in the field, and then analyze it by using statistic program. According to Perry (2005:75) quantitative mainly came from psychology field and emphasized by statistic to make generalization from samples of populations.

To investigate the effectiveness of mnemonics acrostic technique in teaching student's vocabulary in recount text the researcher used research design namely Pre-Experimental design. According to Perry (2005) this research design is the overall structural designs used include the variables, techniques, treatments, and others. In this research, the treatment was conducted by using Mnemonic Acrostic technique in teaching vocabulary in

recount text. In this case, the researcher used Pre-Experimental design meant using one class as single group who got the treatment and the group got pre-test and post-test to know the result of treatment.

Furthermore, conform to why using pre-Experimental research because the researcher was not visible to have random assignment to determine the sample of the research. The requirement of this design was stated by Ary et al (2010: 302) pre-experimental design was not have random assignment of subjects to groups or other strategies to control extraneous variables. It meant in this research, the researcher was not having an authority to choose the sample. This research was focused on the effectiveness of mnemonics acrostic technique in teaching student's vocabulary in recount text of 8<sup>th</sup> grade students at MTsN 07 Tulungagung.

The independent variable was Mnemonic Acrostic Technique and the dependent variable was student's vocabulary in recount text. In this case, the independent variable influences the dependent variable, to know the result whether the dependent was influenced well positively, the researcher used pre-test and post-test to measure that. The design of the research could be summarized as follows:

**Table 3.1: The Illustration of Research Design**

<b>Pre - test</b>	<b>Treatment</b>	<b>Post - test</b>
<b>Y1 (DV)</b>	<b>X (IV)</b>	<b>Y2 (DV)</b>

**Adapted from Ary et al (2010)**

X : Mnemonics Acrostic Technique (Independent Variable)

Y1 : Students' vocabulary in recount text before taught by using Mnemonics Acrostic Technique (dependent Variable)

Y2 : Students' vocabulary in recount text after taught by using Mnemonics Acrostic Technique (dependent Variable).

### 1. Pre-Test

The students were given the pre-test. It aimed to measure the students' vocabulary mastery in recount text before being taught by using Mnemonic Acrostic.

### 2. Treatment

After administering the pre-test, the researcher gave the treatment to the students.

1. The first treatment had been done on 12<sup>th</sup> April 2019. The researcher shared the material about recount text and the introduction of Mnemonic Acrostic Technique. The second treatment had done on 14<sup>th</sup> April 2019. The researcher gave two texts about recount entitled underwater view and going camping, and then the researcher asked the students made list of vocabulary that had been they found from the text (noun, verb and adjective), then make acrostic form to remember the words.

2. Then the researcher asked the students come forward in front of the class to memorize the many vocabularies.
3. Then the teacher checked the vocabulary and acrostic form true or false based on they had write. In this activity, it gave them the chance to use their creativity in making acrostic form with limitation of someone's name.

### 3. Post-Test

Post-test was given after the students got treatments taught by using Mnemonic Acrostic technique. Post-test had been done on 22<sup>th</sup> April 2019. Post-test was aimed to measure the students' vocabulary in recount text after being taught by using Mnemonic Acrostic Technique.

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

### **1. Population**

Population was entire subjects where data was collected. Seltman (2015) as cited in Dewi (2017: 39) stated population as the entire set of actual or potential observational units. In other words, population was all subjects where the data could be attained. In this research, the population of data was all of eight grade students of MTsN 7 Tulungagung in period 2018/2019 which consisted of 284 students. Those were divided into six classrooms. Class A, B, C, D, E, F,

**Table 3.2 Population of Research**

NO.	Class	Gender	
		Male	Female
1.	VIII A	16 students	22 students
2.	VIII B	16 students	22 students
3.	VIII C	16 students	22 students
4.	VIII D	16 students	21 students
5.	VIII E	18 students	20 students
6.	VIII F	17 students	17 students
	Total students	223 students	

## 2. Sample

Sample was the representative of population. Arikunto (2016, as cited in Fifah, 2016) stated that sample as part of representative of population that is observed. By considering the number of population which are many, to determine the sample of population the researcher focused on one class and using purposive sampling to consider some qualifications. According to Perry (2005:57) purposeful sampling strategy was used to indicate that the sample was chosen to answer the research question as relevant as possible. By using purposive sampling, the researcher considered some suggestions from certain people who know well which sample was appropriate to be chosen by giving qualification. The researcher chooses MtsN 7 tulungagung because of based on mission of MTsN 7 Tulungagung is excellent to produce the quality of student's potential development. That is why, one of the good criterion. According Vice Head master of Curriculum in MTsN 7 Tulungagung

recommended eight A to be the sample of population. So, based on the mission the researcher wanted to know how quality of potential students development. In addition, English teacher who handled eight A suggested taking that class too as subject of sample to be researched by some reasons:

1. This class was taught by recount text.
2. The class was cooperative enough.
3. The characteristics of the students had assumed as homogeneous in vocabulary, meant not too good and not too bad.

**Table 3.3 Sample of Research**

Sample of VIII A		Total Participants
Male	Female	
16 students	22 students	38 students

### **3. Sampling**

The technique in taking sample was called sampling (Sugiyono, 2006 : 90). In this research, the researcher used purposive sampling as the process of sampling. Ary et al (2010 : 156) stated that purposive sampling also-referred to as judgment sampling-sample elements judged to be typical, or representative, are chosen from the population. In purposive sampling, the researcher used expert judgment to taken some representatives or typical cases from population.

Purposive sampling was a type of nonprobability sampling where the researcher consciously selects subjects for addition in a study to make sure that the elements could have certain characteristics pertinent to the study. Purposive sampling was sample which was taken because the researcher believed that VIII A could give sufficient information. The researcher used purposive sampling the class consisted of various background of schools and English proficiency. Some of them joining English course, any others were graduated from excellent and ordinary schools. Besides, the English teacher gave recommendation to this class. Thus, the researcher believed that VIII A class of MTsN 7 Tulungagung could be given sufficient information because of it was heterogeneous class.

### **C. Research Variable**

Variable was the characteristics of something that researched. There were two variables in this research:

- a. Independent variable (x) : Mnemonic Acrostic Technique
- b. Dependent variable (y) : Students' Vocabulary in Recount Text

### **D. Research Instrument**

Research instrument refers to the instrument or tool to collect the data. Instrument which used by researcher was testing vocabulary. Test used to measure the students' vocabulary in recount text before and after being taught by using Mnemonic Acrostic technique. Students were given two kinds of test. The first test was pre-test which distributed on April 12th 2019 and second test was

post-test which distributed on April 14th 2019. The total items of the test were 20 in the form of fill in the blanks. In making the test, it must be considered to the core competence and also basic competence of curriculum. It was about recount text which is suitable to the level of students in eighth grade. To know the result of the test, the researcher used the scoring rubric guide. According to Afandi (2013:69), the scoring rubric as follows:

$$\text{Score} = \frac{\text{number of correct items}}{20} \times 100$$

*(number of questions)*

**Table 3.4 the criteria of students' score from Luis Villalobos**

(<https://www.slideshare.net/lavillalobos>)

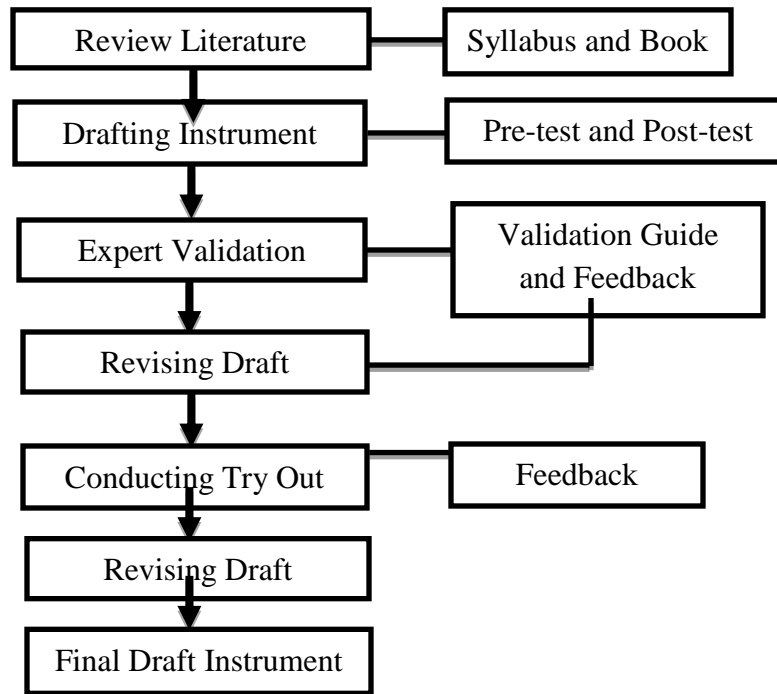
No.	Criteria	Range Score
1.	Excellent	90 – 100
2.	Very Good	80 – 89
3.	Good	70 – 79
4.	Fair	60 – 69
5.	Fail	≤ 59

### **E. Validity and Reliability**

In experimental research, the researcher had to check validity and reliability of the instrument. The instrument used in this research was a test which was given before and after taught by mnemonic acrostic technique. The validity and reliability of the instrument could develop through the following steps (seen figure 3.1).



**Figure 3.1** Process in making valid and reliable instrument adapted from David Wilkinson and Peter Birmingham (2003)



The steps of instrumentation were:

1. Review Literature

The first steps to get valid and reliable test was reviewing literature concerning with the recount text. Therefore, the researcher reviewed some literatures from syllabus and book used in the eighth grade students in MTsN 7 Tulungagung to get some important information as sources to drafting instrument that related with the materials.

## 2. Drafting Instrument

After getting some information from reviewing literature, the researcher started to draft instrument that appropriate with the materials.

## 3. Expert Validating

After finishing the drafting instrument, the instrument should be validated by the expert like English teacher or lecturer. The purpose of the expert validating was to know how much valid the instrument was either related with it was construct validity, face validity, or content validity. So, in this steps the researcher got feedback and validation guide.

## 4. Revising Draft

In revising draft of the instrument, the researcher used feedback collected from the expert validation.

## 5. Conducting Try- Out

After revising the draft of the instrument, the researcher conducted tried the instrument out to the students in different class as the sample to get feedback. The researcher conducted the tryout in class VIII B which consisted of 38 students, there were 16 males and 22 females.

## 6. Revising

After conducting try out, then revising the instrument again after getting input or feedback from the try out and based on that term the researcher got final draft to test to class VIII A as a sample of population of this research.

So, the researcher revised the instrument to make the questions ideal or not easy or too easy, difficult or too difficult.

## 7. Final Draft Instrument

The last step was final draft instrument meant that the instrument had good or best quality where the instrument was appropriate. To get more information, the researcher described both validity and reliability as below:

### 1. Validity

Validity of instrument was measured what was supposed to be measure. Brown (2000:387) stated “Validity is the degree to which the test actually measures what it is intended to measure”. An instrument was called valid if the instrument was able to measure what were measured. According to Brown (2000:388) there are three types of validation: content validity, face validity, and construct validity. In this research, the researcher used content validity and construct validity.

#### a. Content validity

Content validity is the correspondence between curriculum objectives and the objectives being assessed (O'Malley & Pierce, 1996:25). The type of the instrument was test. The content validity of the test could be done by comparing the content of test and the material that could be learned. The researcher made a test based on standard competence and basic competence in syllabus, the researcher made test specification before making a test, especially vocabulary testing. After knowing the standard competence, the researcher made indicator of

the test based on the standard competence in syllabus. The instrument of this research was designed based on standard and basic competence in K13 since the school implements K13 curriculum. In this research, the contents of question in testing about recount text which was suitable to be mastered to the students of eighth grade at junior high school. Therefore, this was valid in term of content validity.

a. Construct Validity

The construct validity of test which was capable of measures certain specific characteristic in accordance with a theory of language behavior and learning. According to Latief (2017:238), the construct defined could lead to what tasks the instrument requires students to do. The correct definition of construct could lead to the correct selection of the task, which result in correct data, which has strong validity. It meant that the task should be matched between the purposed of the assessment. Here, the researcher used construct validity in administering vocabulary test based on the form of fill in the blanks, with the purposed to measure the students' vocabulary about recount text and therefore, it was valid in term of construct validity.

b. Face Validity

The researcher used face validity by consulting with the advisor and English teacher to make sure that the test measured what must be measured. In this case, the test had measured vocabulary in recount text.

## 2. Reliability

Reliability referred to the consistency of the scores resulted from the instrument. According to Brown Ary et al (2002:250) 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 VIII 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. The formula was test scoring was one correct answer was given one point, while incorrect answer was given by zero point.

According to Ridwan (2004:118), the criteria of reliability were 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 could be seen in the following table (3.4 and 3.5).

**Table 3.4 Reliability Statistic of Pre-test**

<b>Reliability Statistics</b>	
Cronbach's	
Alpha	N of Items
.512	20

From the table 3.4 above, it showed that Cronbach's Alpha score of pre-test was 0.512. It meant that the instrument of test was categorized into enough reliable because the Alpha Cronbach's score was between 0.41 – 0.61.

**Table 3.5 Reliability Statistic of Post-test**

<b>Reliability Statistics</b>	
Cronbach's	
Alpha	N of Items
.544	20

From the table 3.5 above, it showed that Cronbach's Alpha score of post-test was 0.544. It meant that the instrument of test was also categorized into enough reliable because the Alpha Cronbach's score was between 0.41 – 0.61. So, it could be concluded that both instrument of the test (pre-test and post-test) was reliable.

## **F. Normality and Homogeneity Testing**

### **1. Normality Testing**

Normality testing was conducted to know whether the data which was taken had been normal distributed or not. The computation of normality testing in this research using SPSS 24.0 version with the formula One-Sample Kolmogorov-Smirnov Test by the value of significance ( $\alpha$ ) = 0.050. Data normality testing was conducted by the rules as follows:

- a. If  $\alpha > 0.050$ , it meant that the distribution of data was normal.
- b. If  $\alpha < 0.050$ , it meant that the distribution of data was not normal.

If the data distribution was normal next, the researcher analyzed the homogeneity testing.

### **2. Homogeneity Testing**

Homogeneity testing was conducted to know whether the data which was taken had a homogeneous variance or not. The computation of homogeneity testing using SPSS 24.0 version with the formula One-Sample Kolmogorov-Smirnov test by the value of significance ( $\alpha$ ) = 0.050. The hypothesis was the data could be homogeneous if the significant value ( $\alpha$ ) was more than 0.050 ( $\alpha > 0.050$ ). Meanwhile, the data was not homogeneous if the significant value was more less than 0.050 ( $\alpha < 0.050$ ).

## **G. Data Collection Method**

The data collection method was the way how researcher got the data which was needed. The researcher collected the data from the students' score of pre-test and post-test. The technique of collecting data was clarified as follow:

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

The students were given the pre-test. It aimed to measure the students' vocabulary mastery in recount text before being taught by using Mnemonic Acrostic. The pre-test had done on 10<sup>rd</sup> April 2019. The number of students who got pre-test was completely 38 students. After finishing the test, the students' score of pre-test was calculated by using scoring rubric to know the result of pre-test before being taught by using Mnemonic Acrostic Technique. This result of the test became the evaluation before using mnemonic acrostic strategy for vocabulary mastery in recount text applied in the class.

### **2. Post-Test**

Post-test was given after the students got treatments taught by using Mnemonic Acrostic technique. Post-test had been done on 22<sup>th</sup> April 2019. Post-test was aimed to measure the students' vocabulary in recount text after being taught by using Mnemonic Acrostic Technique. The number of students who got post-test was completely 38 students. After finishing the test, the students' score of post-test was calculated by using scoring rubric to know the result of post-test after being taught by using Mnemonic Acrostic Technique. From the score of this test, the researcher was intended to find out



the effectiveness of using Mnemonic Acrostic Technique in teaching vocabulary in recount text. The result of the score then compared with pre-test. In this case, the researcher known how far was the effectiveness of using Mnemonic Acrostic Technique in teaching vocabulary in recount text.

### **3. Data Analysis**

Data analysis was used by the researcher to analyze the collected data which was taken from the students' pre-test and post-test score. The data obtained from the results of students' test were analyzed quantitatively. Quantitative analysis was done using statistics which was called statistical analysis or inferential statistics. The quantitative data of this research was analyzed using statistical computation. In this research, the researcher used Paired Sample T-test in IBM SPSS 24.0 version from IBM Cooperation to analyze the data to know whether there was significant different score on the students' vocabulary in recount text before and after being taught by using Mnemonic Acrostic Technique.

### **4. Hypothesis Testing**

The criteria of hypothesis testing were as follows:

- a. When the significant value  $<$  significant level, the alternative hypothesis ( $H_a$ ) was accepted and the null hypothesis ( $H_0$ ) was rejected. It meant there was significant difference score on the students' vocabulary before and after being taught by using Mnemonic Acrostic Technique.

- b. When the significant value  $>$  significant level, the null hypothesis ( $H_0$ ) was accepted and the alternative hypothesis ( $H_a$ ) was rejected. It meant there is no significant difference score on the students' vocabulary before and after being taught by using Mnemonic Acrostic Technique.