

## **CHAPTER III**

### **RESEARCH METHOD**

In this chapter, the writer is going to discuss about research design, population, sampling, sample, variable of the study, research instrument, method in collecting data, method of analysis data, validity and reliability, normality and homogeneity, and hypothesis testing.

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

Research design is the way to collect the data and to show the result of the study. From this explanation, this study uses quantitative approach with the experimental research design. The writer chooses experimental research to know the effect of independent variable to another variable or to know cause effect between/among variable and in this case the writer want to know the effect of diary toward the students' achievement in writing recount text.

According to Ary, et al. (2010) experimental research design is a study of the effect of the systematic manipulation of one variable on another. Also, it could be explained that experimental research is the research method to test the hypothesis started with a question about the

relationship between two variables or more. Moreover, this study used one type of experimental study which was called as pre-experimental.

This study was classified into pre-experimental research design that used one group pre-test and post-test. In the one group of pre-test and post-test, a single group was measured or observed not only after being treatment, but also before the treatment. Pre-test provided a measure on some attribute or characteristic that was assessed in an experiment before the group got a treatment, while in the post-test measured on some attribute or characteristic that assessed for participants in an experiment after the treatment.

Furthermore, conforming to why using pre-experimental study because the researcher was not visible to have random assignment to determine the sample of the study and it was used limited of the time and cost. The requirement of this design was stated by Creswell (2014), with pre-experimental research design the researcher studied a single group. This design did not have a control group to compare with the experimental group.

**Table 3.1 The Illustration of pre-experimental research design**

<b>Pre-test</b>	<b>Treatment</b>	<b>Post-test</b>
Y <sub>1</sub>	X	Y <sub>2</sub>

Explanation:

Y<sub>1</sub> : Students' writing quality of recount text before treatment

X: Giving treatment by writing a diary

Y<sub>2</sub> : Students' writing quality of recount text after treatment

According to table 3.1, the procedures of using one group in pre-experimental study design were:

1. Administering pre-test to measure the students' writing score of recount text before the treatment.
2. Applying the treatment by writing diary as long as teaching learning process of recount text.
3. Administering post-test to measure the students' writing score of recount text after they are received treatment.

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

### *1. Population*

A population is defined as all members off any well-defined class of people, event, or object (Ary, et al. 2010: 148). It means that population is all subjects of the research. The population of this research was tenth grade students of X MIPA SMAN 1 Pakel Tulungagung. The total numbers of tenth grade students at X MIPA are 124 students.

### *2. Sampling*

Sampling is the technique how to select the sample. It means that sampling is the way to collect sample from the population that the characteristic does not cover all of the research object (population), but it only uses the part of population. Then, in deciding the sample, this study uses Non-probability sampling in which the individual does not have the same chance to be selected as the sample. Next, the kind of non-probability sampling that is used in this study is convenience sampling. Convenience sampling is the technique of taking sample that is based on the availability of element and the facility to get it.

### 3. *Sample*

Sample is part of population of the object research (Arikunto, 2013: 174). Sample in this study is taken by convenience sampling technic. After taking sample by convenience sampling technic, the writer gets the sample of the study that is X MIPA 2 class that consist of 31 students in the class.

### **C. Variable of The Study**

Ary et al (2010:37) says that variable is the constructs or the characteristics that will be studied. It meant that variable was the focus of the study used in quantitative approach. In experimental study, actually the variables were classified into independent and dependent variables.

Independent variable can be manipulated by experimenter. It meant that independent variable could be changed in order to give effect to dependent variable. However, independent variable in current study was diary writing.

Besides that, different from independent variable, dependent variable cannot be manipulated by the experimenter (Ary et al, 2010:266). This variable was affected by dependent variable. In short,

dependent variable could be called as the outcome from the effect of independent variable. The dependent variable in the study was student's achievement in writing recount text.

#### **D. Research Instrument**

Research instrument is measurement tools used by researcher while collecting data. Arikunto (2010:262) stated research instrument referred to an equipment used to collect the data. As an experimental research, the researcher used test in collecting required data. According to Ary, et al. (2010:201) test was a set of stimuli presented to individual in order to elicit response on the basis of which a numerical score can be assigned.

Instrument which used by the researcher was essay test. There were two kinds of tests for this study, those were pre- test and post-test. Pre-test was intended to measure students' score in writing recount text before the treatment given, while post-test was to measure students' score in writing recount text after the treatment given.

#### **E. Method of Collecting Data**

Data collecting method is the method to obtain data. Data of this research is collected by administering test. The data was collected by

using two writing tests; pre-test, post-test. The technique of collecting the data was clarified as follows:

### **1) Pre-test**

Pre-test was conducted to measure the students' skill in writing recount text without using diary writing and knew how far they understand about the subject that will be taught. It means that pre-test here was given in the first meeting before they received the treatment during the process of teaching learning writing of recount text. The form of pre-test is essay that required the students to write personal recount text with the topic "my holiday". Time Allocation to write recount text is 60 minutes.

### **2) Post-test**

After conducting treatment, the post-test was given to the students. The form and the level difficulty of test in the post-test was almost still same with pre-test, but the topic of recount text is different. Basically, this test was conducted to measure the students' writing quality through recount text after receiving the treatment. It was given to know the final score and the student difference achievement before

and after they get the treatment. Time allocation to write recount text about “embarrassing experience” is 60 minutes.

#### **F. Treatment**

Treatments are the step that must be conducted well and specific in experimental study. The purpose of treatment in this study is to help the students easier to write especially about recount text. Here, the students were guided to write recount text. Moreover, the treatment given in the study was in the form of diary writing. Then, the treatments in this study were conducted three times on 18<sup>th</sup> February 2019, 25<sup>th</sup> February 2019, and 03<sup>rd</sup> March 2019.

In detail, the teaching procedures of writing a diary that were applied by the researcher for students of X MIPA 2 SMAN 1 PAKEL Tulungagung could be elaborated on the table 3.2.

**Table 3.2 The Procedure of giving treatments**

<b>Date</b>	<b>Activities</b>
18 <sup>th</sup> February 2020	<ol style="list-style-type: none"> <li>1. The researcher gives the stimulus to the students by asking questions about their experience in the past. It can be the unforgettable experience, or so on.</li> <li>2. The researcher explains what the correlation between the question and the material that will be studied about recount text.</li> <li>3. The researcher gives the example of recount text entitled “Watching Movie” to the students and asked them to analyse what kind of tenses used in the text by</li> </ol>



	<p>underlining the verbs.</p> <ol style="list-style-type: none"> <li>Then, after the students know that recount text must use Simple Past Tense, the researcher explains about the pattern of the sentence in Simple Past Tense and give the example to them.</li> <li>The researcher asks the students to write both verbal and nominal sentence of Simple Past Tense.</li> <li>Next, the researcher asks the students to write their example of Simple Past Tense sentences on the whiteboard.</li> <li>The researcher discusses with the students whether there are any faults in the sentences or not. She asks the students to deliver the reason why the sentence is wrong and why it is true.</li> <li>After that, the researcher explains to the students about the fault that must be avoided in writing Simple Past Tense.</li> <li>When the students have understood about Simple Past Tense, the researcher continues to explain about recount text which include the generic structure, language feature, and social function.</li> </ol>
25 <sup>th</sup> February 2020	<ol style="list-style-type: none"> <li>The researcher asks a question to the students about the difficulty in writing recount text at the pre-test.</li> <li>The researcher gives the strategies how to write the recount text well.</li> <li>The researcher gives a piece of paper to the students.</li> <li>The researcher asks the students to write diary about “daily activities yesterday”.</li> <li>Students writes diary based on the instruction from the researcher.</li> <li>The students submit their product of diary writing to the researcher.</li> <li>The researcher will correct their work randomly.</li> <li>The researcher will discuss the product with the students together.</li> <li>The researcher will revise and give explanation if there are some mistakes.</li> </ol>
03 <sup>rd</sup> March 2020	<ol style="list-style-type: none"> <li>The researcher asks the students about difficulty in writing diary last week.</li> <li>The researcher explains more about diary and how to</li> </ol>

	<p>write diary.</p> <ol style="list-style-type: none"> <li>3. The researcher explains and show their fault in writing diary on last meeting.</li> <li>4. The researcher asks the students to write their activity yesterday again.</li> <li>5. The students submit their product and the teacher will correct their work randomly.</li> <li>6. The researcher will discuss with the students about their product.</li> </ol>
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### **G. Method of Data Analysis**

This study is experimental study that investigates the cause effect of diary toward students' achievement in writing recount text. So, this study is to investigate whether diary is effective to teach students' writing on recount text or not. To know the effectiveness of diary in teaching writing, the data was collected from students' scores in pretest and posttest.

It is widely known that the results of numerical data analysis in quantitative research are used to answer the research problem. Moreover, the result of data analysis also can give the evidence whether it can support the hypothesis of the study or not. In this study, the uses quantitative data analysis technique by using statistical method. Specifically, this method is used to find the significant different score

between students who are taught by diary writing and those who are not taught by diary writing.

## **H. Validity and Reliability**

In quantitative research, it was important to get and show the validity and reliability of the data. The validity and the reliability of this study were elaborated as follows:

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

Ary, et al. (2010:225) defines that validity as the extent to which as instrument measured what it claimed. While, Fraenkel and Wallen (2006:150) stated that validity is the most important idea to consider when preparing or selecting an instrument for use. Hence, it could be concluded that validity was the instrument that measured what was supposed to be measured. To measure whether the test had a good validity or not, the researcher analyzed the test from face validity, content validity, and construct validity.

#### **a. Face Validity**

Face validity refers to the degree to which a test looks right, and appears to measure the knowledge or abilities it claims to measure,

based on subjective judgement or the examinees who take it, the administrative personnel who decide on its use, and other psychometrically unsophisticated observers (Brown, 2004). The test in this research was designed to measure students' writing skill.

There are some aspects that were considered from this test to make a good test based on the validity. They are (1) the instruction must be clear for students. It was about what they should do in the test. (2) in this test, students of tenth grade at Senior High School were instructed to write recount text. Thus, the degree of the test must be suitable for their level. (3) the consideration of time allocation must be clearly. The researcher gave time about 60 minutes for each student.

#### **b. Content Validity**

Content validity means that the instruments of the research should match with the curriculum. Moreover, content validity is a kind of validity which depends on careful analysis of the language being tested and of the particular test. In the context of this study, the content validity refers to the 2013 National Curriculum of Indonesia. The researcher conducted consultation with the expert as the way to validate the test that has been set up. In this research the content of item in

testing used recount text. It was suitable for the 10<sup>th</sup> grade of SMAN 1 Pakel because this test based on the basic competence in English syllabus of Senior High School. Therefore, this test was valid in term of content validity.

**Table 3.3 English syllabus of recount text for 10<sup>th</sup> grade at Senior High School**

Core Competence	Basic Competence	Indicator
KI 4 Mengolah, menalar dan menyaji dalam ranah konkret dan ranah abstrak terkait dengan pengembangan dari yang dipelajarinya di sekolah secara mandiri dan mampu menggunakan meode sesuai kaidah ilmu.	4.14. Menyusun teks <i>recount</i> lisan dan tulis sederhana tentang pengalaman/ kegiatan/ kejadian/ peristiwa, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan, secara benar dan sesuai dengan konteks	4.14.1 Membuat teks recount personal tulis sederhana berdasarkan tema yang telah ditentukan. 4.14.2 Menyunting teks recount tulis sederhana berdasarkan tema yang telah ditentukan.

In this study, the researcher made some indicators of writing recount text in the pre-test and post-test activity. Those indicators related to the components of recount text included social function, generic structure,

mechanic, and language features. The brief explanation about it can be seen as in the table 3.4.

**Table 3.4 Content Validity of Pre-test and Post-test**

<b>Construct</b>	<b>Indicators</b>
Social Function	<ul style="list-style-type: none"> <li>• The students can write personal recount text based on their experience in real life.</li> </ul>
Generic Structure of Recount Text	<ul style="list-style-type: none"> <li>• The students can determine the participants which involve in the recount text</li> <li>• The students can determine the place and time according to the real story</li> <li>• The students can tell the sequence of event specifically</li> <li>• The students can make conclusion in the las part of recount text</li> </ul>
Mechanic	<ul style="list-style-type: none"> <li>• The students can arrange the sentences in the recount text by using appropriate punctuation, capitalization, and spelling.</li> </ul>
Language Features	<ul style="list-style-type: none"> <li>• The students can use appropriate action verb in arranging the sentences</li> <li>• The students can use Simple Past Tense</li> <li>• The students can arrange the sentences by using appropriate chronological connection to connect each sentence in the text.</li> </ul>

### **c. Construct Validity**

Johnson (2001: 303) stated that construct validity deals with the relationship between a test and a particular view of language and language learning. It could be interpreted that the test should be appropriate with the theory of skills and language components that

being measured. For writing test, it must be measured the contents of writing included content, organization, vocabulary, grammar, and mechanic. Also, the test which be given has to in the form of writing test.

## **2. *Reliability***

Reliability is a measure that states the degree of consistency of a test question. Creswell (2012:627) says that reliability means that individual scores from an instrument should be nearly the same or stable on repeated administrations of the instrument and that they should be free from sources of measurement error and consistent. It means that a reliability is the test can be used to know that test is consistent and dependable.

In current study, the researcher ascertained that the test was reliable by doing inter-rater reliability. According to Sarosdy et al. (2006: 135) inter-rater reliability refers to consistency of scores given by two or more scores to the same set of oral or written texts. The two scorers were researcher and English teacher.

To measure the reliability of test item before conducted the real test, the researcher firstly gains try-out test in different class. In finding out the reliability of the test, the researcher used *Cronbach's*

*Alpha*. According to Sujianto (2009:97), the criteria of reliability based on the value of *Cronbach's Alpha* were as follows:

**Table 3.5 The criteria of reliability**

<b>Cronbach's Alpha</b>	<b>Interpretation</b>
0,00 - 0,20	Less reliable
0,21 – 0,40	Rather reliable
0,41 – 0,60	Quite reliable
0,61 – 0,80	Reliable
0,81 -1,00	Very reliable

Based on the try-out of instrument that has been done on 04<sup>th</sup> March 2020 at X MIPA 4 class, the researcher could find the result of the reliability test. The researcher used SPSS 16.0 program to calculate it and the result of the test could be seen as in the table 3.5.



**Table 3.6 the result of reliability testing****Case Processing Summary**

		N	%
Cases	Valid	22	100.0
	Excluded <sup>a</sup>	0	.0
	Total	22	100.0

**Reliability Statistics**

	Cronbach's Alpha Based on Standardized Items	N of Items
Cronbach's Alpha	.892	2

Based on the table 3.6, the result of *Cronbach's Alpha* was 0.892. It was higher than 0.005. It can be concluded that the test was very reliable.

**I. Normality and Homogeneity Testing****1. Normality Testing**

Normality test is used to test whether a variable is normal or not.

Normal here means if the data have normal distribution. The main

reason of conducting normality testing in a research that it is necessary for the researcher to know that the population or data involved in the research in normal distribution.

In this research to measure the normality testing, the researcher used SPSS 16.0 One Sample Kolmogorov – Smirnov method by the value of significance ( $\alpha$ ) = 0.05. Basic decisions in making normality testing were as follows:

- a. If the significance value  $> 0.05$ , the data had normal distribution.
- b. If the significance value  $< 0.05$ , the data did not have normal distribution.

## **2. Homogeneity Testing**

Homogeneity testing is used to know the similarity of the two conditions or population. Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. In this case to measure the homogeneity testing, the researcher analyzed the sample by using SPSS 16.0 (ANNOVA). The value of significance ( $\alpha$ ) was 0.05. Basic decisions making in homogeneity testing were as follows:

- a. If the significance value  $> 0.05$ , the data distribution was homogeneous.

- b. If the significance value  $< 0.05$ , the data distribution was not homogeneous.

## **J. Hypothesis Testing**

In testing the hypothesis, the writer will use this formula:

If  $P\text{-value} < \alpha$ ,  $H_0$  is rejected

If  $P\text{-value} \geq \alpha$ ,  $H_0$  is not rejected

Explanation:

$\alpha$  = Significant level (5% or 0.05)

$H_0$  = Null Hypothesis

Then, it can be explained that if the P-value is less than 0.05, the Null Hypothesis is rejected, and the opposite if the P-value is bigger or equal than 0.05 the Null Hypothesis is not rejected. So, if the result of his study shows that the Data of P-value less than 0.05, the null hypothesis that tell there is no significant effect of diary toward students' achievement in writing recount text is will be rejected. Then the opposite, if the P-value of this study show bigger or equal than 0.05 the null hypothesis is will be not rejected.