

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter present several topics dealing with research method. Those are research design, variable, population and sample, normality and homogeneity testing, research instrument, validity and reliability testing, and data analysis.

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

Research design is the way to accomplish the purpose of the research. According to (Creswell, 2009, p. 3) research design is procedures for research that consist of wide-ranging assumptions method to specific or complete of data collection and analysis. The Experimental research design is a research design proposed to test the effectiveness of theory. Pre-experimental design using quantitative approach with one group pre-test post-test is used in this study. This research uses pre-experimental because it does not have random assignment of subject to group or other strategy to control extraneous variable. Therefore the researcher just takes one group to use pre-test and post-test design to know the result of treatment.

This research classified as pre-experimental design because it is little or no control of extraneous variable. In the one group pre-test post-test design, a group is observed not only after being give a treatment in short but also before. Pre-experimental design involves three steps they are administering pre-test to the

dependent variable, applying the experimental treatment to the subject, and administering post-test. The pre-test and post-test was given to get the score. The pre-test and post-test are given to comparing students' score before and after taught using storyboard animation. This design focused on the treatment and the result.

**Table 3.1 Pre-experimental Design One Group Pre-Test post-Test**

Pre-test	Independent variable	Post-test
$Y_1$	X	$Y_2$

(Ary, 2006)

Note:

$Y_1$  : Pre-test

$Y_2$  : Post-test

X : Treatment

Pretest administered before treatment to measure students' writing ability before taught using storyboard animation. In the pre-test students asked to write a recount paragraph related to the topic based on their own knowledge. For the treatment, the researcher asked the students to practice creating storyboard animation. This activity is given after administered the pretest. Posttest administered after treatment to know whether storyboard animation effective to teach writing recount text.

## **B. Variables**

Variable is characteristics that can be measured. A variable refers to characteristics of an individual or group that can be measured or observed and it varies (Creswell, 2009). Usually variable will vary in two or more categories and it can be measure. In this research there are two kinds of variables, they are independent variable and dependent variable.

### **1. Independent variable**

Independent variable is variable that manipulated to dependent variable. Independent variables are those that cause, influence the out came (Creswell, 2009). In this research using teaching writing recount text using storyboards animation as independent variable.

### **2. Dependent variable**

Dependent variable is variable that is influenced by the independent variable. According to (Creswell, 2009) dependent variables are those that be influenced by on the independent variables, or it called the results of the influence of the independent variables. The dependent variable in this research is students' achievement in writing recount text.

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

### **1. Population**

Population is all components that being studied. A population is a whole member from which data can be collected, for example people, events, or objects (Ary, 2006). The population of this research is the first grade students of

Vocational High School 1 Boyolangu in academic year 2018/2019. There are twenty four classes and every class there are 33-36 students in each class. The total number of the population is 831 students.

## 2. Sample

Sample is part of population that is being studied. According to Ary et al (2010:148) sample is a portion of population. Sample needed to represent all of population. In this research the researcher take 1 SR 2 or animation class as the sample.

## 3. Sampling technique

Sampling is process selecting part from population. Sampling involves taking a portion of the population, making observations on this smaller group, and then generalizing the findings to the target population from the larger population from which the sample was drawn (Ary, 2006, p. 149). The main point of sampling is the sample must represent the larger population from which it is drawn. So, sampling is the way to select a certain individual or group for a research which those individuals can be represents the larger population from which they were selected.

In this research used purposive sampling to choose the sample. According to (Ary, 2006) purposive sampling refers to judgment sampling, sample elements judged to be typical, or representative, are chosen from the population. Purposive sampling is a type of non-probability sampling where the researcher selects particular subjects for addition in a research to make sure that the elements will

have certain characteristics which appropriate to the research. Purposive sampling is sample which taken because the researcher believe that could give appropriate data. The researcher use purposive sampling by consideration of course and achievement in English course. Finally choose SR 2 or animation class, because appropriate with needed and according to teacher suggestion.

#### **D. Data Collecting Instruments**

Test is used to collecting the data. The test is dividing into two steps they are pretest and posttest. In collecting data the researcher used some procedures as follow:

1. Pre-test

In the first meeting researcher give pre-test to the students. At the pretest stage the students are given test to know students' basic skill in writing before they get the treatment. The students are given several times to write about recount text based on their knowledge or experience individually and it related to the topic.

2. Treatment

Using storyboard in teaching writing can be a good way in deliver lesson to attract students' attention. The main thing should be prepared by the teacher is suitable media and select an effective technique in teaching writing, and one of the technique is using multimedia storyboard animation as an cooperative and imaginative media in teaching learning process (Anastasia & Al-Hafizh, 2013). It means about the way how to

present the lesson in innovative way in this millennial era. Every teacher has their own procedures in the teaching learning activity. Procedure of teaching writing using storyboard as follows,

### **1. Pre-teaching**

- 1) Before start the lesson, teacher gives greetings to the students. Greetings the students are one of the important activities to know how the students are.
- 2) The researcher shows a short video about recount text. It is to build the background knowledge of the topic and introduce about recount text. Moreover, it can give students' enthusiasm to start the lesson.
- 3) The researcher will ask to discuss about the video for a few minutes. This activity pulls the students to express their ideas about the video that they have been seen before. As stated by (Ni'mah & Pusparini, 2014) the teacher guide the students to share their thoughts freely without thinking about which ones are correct or incorrect. In this process, there are many ideas that presented by the students.

### **2. Teaching activity**

- 1) There are some sections they are observation, exploration, questioning, experimenting, and communicating. The researcher will be explaining about recount text in the observation section. The purpose, generic structure, language features of recount text will be explained briefly.
- 2) In exploration section, the researcher will show an example of storyboard animation and explain about it. The researcher gives

example of the video and the text about recount text. While, show the video of storyboard animation, the researcher and students will make little discussion about what happen in the video, what it meant.

- 3) Questioning section will be discussing about some things that students may not understand yet.
- 4) The researcher asked the students to make storyboard animation based on the topic, and then they have to write a text based on the ideas that they have made in storyboard animation. In the writing process the students are allowed to have discussion with their friends. This activity belongs to experimenting.
- 5) The last section in teaching activity is communicating. In this section the students share their project to others.

### **3. Post teaching activity**

- 1) The researcher gives feedback and conclusion about the teaching learning activity. Also, the students asked to give their opinion about teaching learning using storyboard animation. This is the end of the lesson.

### **3. Post-test**

Post-test administered after treatment. The post-test conducted to know students' progress in writing after they are receive a treatment. In the post-test the students are asked to practice writing a text by creating a storyboard animation. In the posttest, the students are asked to write similar paragraphs that have been done in pretest. Then, the researcher

evaluated the result using a scoring rubric. The score of posttest will show the progress achievement in writing skill. Therefore, the procedures of teaching recount text using storyboard animation as follows:

For the first the researcher shows the example of recount text to students. Then, explain clearly about recount text. After that, the researcher introduces storyboard animation in the form of video. Next, the researcher explains how to create storyboard animation. The students practice to make storyboard animation based on the topic. And for last activity, students start to write a text based on their storyboard animation.

#### **E. Hypothesis Testing**

The hypothesis testing of this research as follows:

1. When the significant level was higher than 0.05, the alternative hypothesis ( $H_a$ ) is accepted and the Null hypothesis ( $H_0$ ) is rejected. It means there is significant different score of writing ability of recount text at first grade of SMKN 1 Boyolangu before and after taught using storyboard animation.
2. When the significant level was less than 0.05, the null hypothesis ( $H_0$ ) is accepted and the alternative hypothesis ( $H_a$ ) is rejected. It means there is no significant different score of writing ability of recount text at first grade of SMKN 1 Boyolangu before and after taught using storyboard animation.

The mean of total writing recount text score of 36 students before taught using storyboard animation is 58.89. After the treatment, the means score of students' writing achievement is 69.67. It means that the students'



score is improved. It can be conclude that there is significant different score of students' writing ability of recount text at first grade of SMKN 1 Boyolangu before and after taught using storyboard animation.

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

### **1. Normality**

Normality testing is prerequisite test to know whether the data is normally distributed or not. Normality means that the test is distributed normally with 0 mean and 1 standard deviation. The normality testing in this research is statistical computation SPSS 20.0 that is Kolmogrov-Smirnov test with the value of significance ( $\alpha$ ) = 0.05. This test should not be significant to meet the assumption of normality. The rules of normality testing are:

1. If the value of significance  $>0.05$ , means that the data distribution is normal.
2. If the value of significance  $<0.05$ , means that the data distribution is not normal.

### **2. Homogeneity**

Homogeneity testing is used to know whether the data has homogeneous variance or not. The Levene's testing is used in this research. This testing is homogeneity testing using statistic computation SPSS to test the assumption of homogeneity of variance. The value of significance ( $\alpha$ ) = 0.05. So, the data can be considered as homogeneity if the value of significance is  $> 0.05$ .

## **G. Research Instrument**

In any scientific study instrument is the tool to gather the necessity data. The instrument which was used in this study is test. Test is the commonly used for several research instruments. The kind of test in this research is writing test, and the test are divided into two tests, they are pre - test and post-test. Both used to know the students' ability in writing a recount text before and after giving treatment.

The instruments constructed in the form of text construction, writing test are about organization of idea and language capability (grammar and vocabulary). In this writing test the students write recount text based on their background knowledge of it. The writing test consists of topic, time allocation, and some instruction. The researcher gives a topic about students' experience. Both pretest and posttest has same topic, but there are some different in the term of the genre. It is to avoid the students write the same text. The researcher gave time allocation in writing test to control students' discipline on doing a task. And then, there are some instructions in conducting the test. In the pretest the topic is about holiday experienced and the topic for posttest is about unforgettable experience. The detail format of the test can be seen in the Appendix 1.

The text should be in a series based on the generic structure of recount text, from the orientation, events, and re-orientation. In the orientation the students should write the background of the story. The information of the background of the story should be clear, such as who are involved in the story, where the story

happened, and when the story happened. And then, the events should be written in a series and complete. The last, the re-orientation consist of students' conclusion and opinion about their experience. The next instruction is, the paragraph must write chronologically, using past tense, and appropriate vocabularies in conducting the sentence.

**Table 3.2 Example of Recount Text**

<p>‘Last week, my friends and I went to Yogyakarta for a holiday. I went there with my five best friends by a train’.</p>
<p>{Event 1} ‘We departed from Tulungagung railway station at 7 am. We spend 8 hours from Tulungagung to Yogyakarta by a train. We arrived in Yogyakarta at 3 pm, and then we went to restaurant to fill our energy. After that, we went to hotel to put down our stuff and take a bath....</p> <p>{Event 2} ‘On the second day, my friends and I woke up earlier because we want to visit the beach...</p>
<p>For me, my holiday in Yogyakarta is one of my best experiences. The trip was awesome and unforgettable. Someday, I would like to visit this place again.</p>

There were four meetings that the researcher needed to collect the data. Each meeting consists of 45 minutes. To evaluate students' writing the researcher set up scoring rubric that adopted from Cohen's scoring rubric for writing. The criteria

of the scoring rubric are (1) vocabulary, (2) mechanics, (3) content, (4) grammar, (5) organization. The complete of scoring rubric can be seen in the Appendix 2.

## **H. Validity and Reliability Testing**

### **1. Validity**

Validity is the most importance part in developing and measuring instrument that the researcher used. Validity means as the point to which an instrument measured what it demanded to measure (Ary, 2006). A test is valid when it measures what is supposed to measure. Researcher need evidence to make the result of the test is clear or appropriate. The evidence itself is collecting from the process of construct theory before the researcher conduct the test. To know whether the test has good validity, the researcher used construct validity, content validity, and face validity.

### **1. Content Validity**

Content validity relates to the ability of an instrument to measure the content of variable that will be measure. Content validity is kind of validity that the instrument should comprehensively covers the field that it purports to cover (Cohen & et-al, 2007). The researcher should ensure the essentials of the main topic to be covered. In content validity involves careful analysis of language that being tested and specific test. The content of the test will have content validity if it related with the purpose of the test. Therefore, the instrument of this research was designed based on Vocational High School Syllabus 2013 revision 2017 arranged in a blueprint bellow:

**Table 3.3 Blueprint**

Blueprint of Test		
Skill : Writing		
Material : Recount Text		
School : Vocational High School 10 <sup>th</sup> grade		
The competence measured:		
1.7 Menyusun teks recount lisan dan tulis, pendek dan sederhana, terkait peristiwa/pengalaman, dengan memperhatikan fungsi social, struktur teks, dan unsur kebahasaan, secara benar dan sesuai konteks.		
Construct	Dimension	Indicator
Social Function	Arrange recount writing purpose	Be able to make retell events in order to inform or entertain others about stories in the past.
Structure of Text	Orientation	Be able to determine who are involved in the story.  Be able to write down clearly time and place of the story takes place.
	Events	Be able to describing completely what happened in the story in chronological sequence.
	Re-orientation	Be able to write the feelings/opinion about the story.

Language Features	Grammar	Be able to arrange the sentence using past tense.  Be able to using personal participant; I, my, etc.
	Vocabulary	Be able to arrange sentence using linking verb (was, were, saw).  Be able to arrange sentence using action verb (look, go, change).
	Chronological order	Be able to arrange paragraph with the suitable conjunction.

## 2. Face Validity

Face validity used to know whether the instrument is measure what to be measure. Face validity refers to appearance of the instrument. Face validity is used to confirm acceptance of the test. A test which does not have face validity may be not accepted by test takers, teacher. There are some aspects in conducting a good test.

First, the researcher should give clear instruction in the test to make a good test based on the validity. Clear instructions help the students to understand easily what they should do. Second, the topic that researcher gave should be

appropriate with the students' level. Then, the time allocation must be suitable so that the students can finish the task on time.

### 3. Construct Validity

Construct validity relates to the test that will be measure. The test can be called have construct validity if it can be confirmed that it measured what is supposed to measure. The researcher created the test based on the material that is appropriate for the ten grade of Vocational High School 1 Boyolangu. In this research used writing test. In this writing test should have understanding about content, vocabulary, organization, grammar, and mechanic. Those are components of writing test, so that it only can be measured if the form of test is written. Thus to measure students' writing achievement, the researcher asked the students to make recount text. Therefore, this test has construct validity because the product of the test in written.

### 2. Reliability

Reliability have important role measure the instrument, it can show the consistency of whatever that to be measuring. Reliability is one of factor to know that the test is consistence or not. Consistence here means the test that administered from time by time still have similar result. The scores must be nearly the same when the researcher administer in different time. There are some factors that can make the scores are not consistence, it can because of the individual that being measure, the administration of the measuring instrument, and the instrument itself. The researcher conducted try out to test the reliability.

To measure the reliability of the test, the researcher administered tryout to see if the result of the test was reliable or not. The purpose of tryout is to make sure that the instrument was clear and the test was not either too easy or too difficult. It was done on Monday, 18<sup>th</sup> February 2019 in the DKV class. In this research, the researcher used SPSS 16.0 to know the reliability of test instrument. The researcher analyzes using reliability testing based on Cronbach's Alpha. The criteria of reliability instrument can be divided into 5 classes as follows:

- a. If the alpha cronbach score 0.00-0.02: less reliable
- b. If the alpha cronbach score 0.211-0.40: rather reliable
- c. If the alpha cronbach score 0.41-0.60: enough reliable
- d. If the alpha cronbach score 0.61-0.80: reliable
- e. If the alpha cronbach score 0.81-1.00: very reliable

Table 3.4 Reliability testing

Reliability Statistics	
Cronbach's Alpha	N of Items
.709	36



The table 3.4 showed that the result 0.709. Based on the Cronbach scale, the value score between 0.61-0.80 is reliable. So, it is concluded that the instrument is reliable.

## **I. Data Analysis**

Data analysis is process of categorize the data that related with the research. Hyland (2003: 264) states the purpose of data analysis to clarify our understanding of situation we have researched, exploring the data for patterns which make the situation meaningful, and perhaps provide a basis for action. In this research the data was collected from pretest and posttest. Data from pretest and posttest are the most needed data by researcher in conducting the research. In this research the data grouped are in the write form of writing recount paragraph at the tenth grade students of SMKN 1 Boyolangu. The data were analyzed using statistical instrument (SPSS 16) particularly using Paired Sample t-test.