CHAPTER III

RESEARCH METHOD

This chapter presents about research methodology. It is consist of research design, population of sample / subject of the study, research instrument, validity and reability testing, normality and homoginity testing, data collection method and data analysis.

A. Research Methodology

The object is taught by using a methods on the students of the first grade in SMK PGRI 1 Tulungagung. This research is using quasi-experimental study, using comparison or control group to investigate research question (without random assignment) (Alison Mackey and Susan M. Gass, 2005:146) , which aims to know whether fishbone method is effective towards studdents' writing skill of descriptive text. The quasi-experimental design according to Creswell (2008) describes in the following table.

Table 3.1

Pre- and Post-test Design

Select Control Group	Pre-test	No Treatment	Post-test
Select Experimental Group	Pre-test	Experimental Treatment	Post-test

Based on the table above, the writer took two classes, the experimental class and control class. Before giving treatment, the writer gives pre-test to both of classes. Then the writer teaches the students in experimental class by using fishbone method and in controlled class without using fishbone method. After three meeting, the writer gives the post-test to the both classes. It is given to know the effectiveness of fishbone method towards students' writing skill.

B. Population and Sample

1. Population

A population, according to Ary (2002:162-163) is all members of any well defined class of people, events, or object. It means that the population is a group of subjects, it can be person or things, to whom or which the findings of the research are to be applied.

In accordance to the topic of the research, the population was the first grade students at SMK PGRI 1 Tulungagung in academic year 2017/2018. There were seven classes. The total number was 247 students.

2. Sample

Selecting sample is very important step in conducting a research. According to Ary (2010:149) the small group that is observed is called a sample and the larger group about which the generalization is made is called a population. A sample is a portion of

a population. It means that a good sample must represent the entire populations as good as possible, so that the generalization of the sample as true as population.

In addition, Cohen, et. Al (2005:92) stated that the quality of a piece of research not only stands or falls by the appropriateness of methodology and instrumentation but also by the suitability of the sampling technique that has been adopted. The writer used the sample of two classes that were chosen as the sample by using purposive sampling technique in choosing the class. According to Ary (2002:163) purposive sampling technique is a portion of population from whom or which data are collected.

In this research the writer selected classes X MP2 that consist of 40 students as the experimental group was taught by using fishbone diagram. Whereas, class X AK1 consisting of 37 students was taught without using fishbone diagram.

C. Instrument

Instrument is a tool of collecting data that should be valid and reliable. According to Ary et.al (2010:201) tests are valuable measuring instruments for educational research. A test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. This score, based on the representative sample of the individual's behaviour, is an indicator of the extend to which the subject bas the characteristic being measured.

The instrument to collect data in this research was test. The data were in the form of students' achievement on writing tests. The test was used to measured students'

ability in writing descriptive text. The test was done twice, before and after treatment (pretes-posttest). The pre-test was used to see the students' achievement in writing descriptive text before treatment was given and post-test was used to see students' achievement in writing descriptive text after given treatment. To access students writing the writer set up analytic scoring rubric which included the criteria like as; Content, Organization, Language Use, and Mechanic.

D. Variable

A variable is defined as anything that has quantity or quality that varies. According to Santrock (2004:47) explained that a variable is the characteristic or attribute of individual, group, or educational system that researcher is interested in. There are two types of variable as follows;

1. Independent Variable

    Independent variable is a factor that effects a dependent variable. In this study, the independent variable is a use fishbone method in teaching writing descriptive text.

2. Dependent Variable

    Dependent variable is a variable that the researcher interested in to change or to be affected. In this study, the dependent variable is a students' writing achievement of descriptive text.

E. Procedure of Treatment

Treatment was given after administering the pre-test and before the post-test. The treatment conducted by the writer on Monday, 30th April, 3rd, 7th May 2018. The procedure of teaching followed Gerlack, at.al. (1890:273-274) with some modification involving: (10 the writer conveys about simple present, (2) the writer shows the example of descriptive text, (3) the writer ask the student to identify the generic structure and language feature of descriptive text, (4) writer explains more about the method, (5) the writer asks the students to make descriptive text using the diagram, (6) the writer review about the material, (7) the writer give the opportunity to ask about fishbone diagram, (8) the writer ask the students make descriptive txt and submit the assignment.

For the detail the procedure of treatment is as follows:

1. First Treatment was conducted on April, 30th 2018

In the beginning the writer conveyed about simple present and discussed the main points of descriptive text. After that the writer introduced the method that are used in teaching writing descriptive text. The method that used is fishbone method. The writer ask the students to made a descriptive text using fishbone diagram in a small group that consist of 4-5 students.

Each group will be given a model of fishbone diagram and choose the main topic that will be discussed. Each member of the group begin to tell what they know

about the topic and one of the member write it down on the fishbone diagram. After collect all of information about the topic, the group should determine the things that will be put in the text. after that the students makes the text based on the diagram that they make.

2. Second Treatment was conducted on May, 3 rd 2018

The writer review about the material and the writer remind how to do exercise based on explanation before. In the in the second treatment the writer focuses on explaining about fishbone diagram. Students asked to write descriptive text using fishbone diagram.

Some of the students asked about the use of the diagram and what should be put on the diagram. After the teacher answer and explain the students' question, the students are asked to make a fishbone diagram by their selves. The teacher give a topic and the students begin to collect the information about the topic and write it in the diagram. After that the students make their text based on the diagram.

3. Third Treatment was conducted on May, 7 th 2018

The writer gave exercise to the students. The students asked to make descriptive text based on the fishbone diagram that they made.

First the writer make a fishbone diagram on the blackboard, give the topic and the students should fill the diagram. From those diagram the students should make a

descriptive text. they decide by their selves which point that will they use in their text. after that the students' collect their work to the teacher.

F. Validity and Relliability

1. Validity

Validity is the most important consideration in developing and evaluating measuring instruments (Ary, et.al, 2010:225). Fraenkel and Wallen (2009:147) give addition that validity is the most important idea to consider when preparing or selecting an instrument for use. More than anything else, researchers want the information they obtain through the use of an instrument to serve their purposes. The drawing of correct conclusions based on the data obtained from an assessment is what validity is all about.

There are four types of validity; content validity, criterion related validity, construct validity, and face validity. In this study, the instrument tested by using *content validity, face validity, and construct validity* because those are relevant with this research.

a. Content Validity

Lodico et al. (2006:93) state the content validity is composed of two items of validity, sampling validity and item validity. Both sampling validity and item validity involve having expert examine items that make up the instrument.

A test was said have content validity if its constitute a representative sample of language skills, structures, etc, being tested beside that the content of instrument has also to relevant with the purpose of the test. In this case, the content of the test should refer to the "School Based Curriculum (SBC)". Based on the standard competence in syllabus of SBC, it is mentioned that the first grade of Senior High School are expected able to comprehend the meaning and create a simple short essay in the form of descriptive text. Based on the standard competence above, the students are expected to be able to make a simple text in the form of descriptive text.

In this research, the content of items in testing used descriptive text. It was suitable for the first grade students of SMK PGRI 1 Tulungagung.

Table 3.2

Matrix of Content Validity

Construct	Dimension	Variable	Sub-variable	Indicators	Instruction	Item
menyusun teks deskriptif lisan dan tulis, pendek dan sederhana, terkait tempat wisata dan bangunan berrsejarah terkenal, dengan memperhatikan fungsi sosial,	Create a descriptive text about tourism place with correct generic structure and grammar.	1. Generic structure 2. Grammar	1.1 identification 1.2 description 2.1 simple present tense	1. student can create a good descriptive text about tourism place with correct generic structure	1. Write your full name and your class. 2. Make descriptive text using fishbone diagram.	1

struktur teks, dan unsur kebahasaan, secara benar dan sesuai konteks				and grammar	3. Write at least three paragraph 4. Write a paragraph consist of identification and description. 6. Pay attention to content, organization, vocabulary, language use, mechanic.	

b. Face Validity

The test is said to have face validity if it measures what is supposed to measure. This research was done to know the effectiveness of using fishbone method to improve the students' ability in writing descriptive text, so the test should in the form of writing test. Related to this research, the writer asked the students to write a descriptive text. It showed that the test was valid based on face validity.

c. Construct Validity

Construct validity of a test as the extent to which a test is measuring the psychological construct it is intended to measure. Specially, construct validity of

experiments is defined as the validity of the inferences made about a construct based on the measured, treatment, subjects, and settings used in an experimental study. In this research, the test had high construct validity since it contained prompt in form of guided instructions to measure students' skill in writing a descriptive text.

Besides, the writer tried to check the empirical validity by using SPSS 16.0 after trying out the instrument (pre-test and post-test). In this research, the writer used SPSS 16.0 for windows to know the validity of test instruments. It can use corrected item-total correlation formulation. The criteria of validity of the instrument can be divided into 5 classes as follows (Ridwan: 2004):

1. If the item-total correlation score 0.00 – 0.20: less valid

2. If the item-total correlation score 0.21 – 0.40: rather valid

3. If the item-total correlation score 0.41 – 0.60: enough valid

4. If the item-total correlation score 0.61 - 0.80: valid

5. If the item-total correlation score 0.81 – 1.00: very valid

2. Reliability

According Lodico et.al (2006:87), reliability refers to the consistency of score, that is, an instrument's ability to produce "approximately" the same score for individual over repeated testing or across different ratters.

Furthermore, Ary, et.al (2010:236) stated that reliability of a measuring instrument is the degree of consistency with which it measures whatever it is

measuring. This quality is essential in any kind of measurement. On a theoretical level, reliability is concerned with the effect of error on the consistency of scores.

Reliability is the consistency of the instrument in producing the same score on different testing occasions or with different raters. To get reliable the writer used inter-rater reliability. Inter- rater reliability is achieved when two scorers or two raters do the scoring (Isnawati: 23). Two rater in this research were the English teacher and the writer herself. This research, the researcher also used SPSS 16.0 for window to know the reliability of test instruments. The criteria of reliability instrument can be divided into 5 classes as follows as follows (Ridwan : 2004), those are:

1. If the cronbach alpha score 0.00 – 0.20: less reliable

2. If the cronbach alpha score 0.21 – 0.40: rather reliable

3. If the cronbach alpha score 0.41 – 0.60: enough reliable

4. If the cronbach alpha score 0.61 - 0.80: reliable

5. If the cronbach alpha score 0.81 – 1.00: very reliable

In this research, the researcher uses SPSS 16.0 for window to know the reliability of test as instruments intended to use. The result of reliability testing by using SPSS 16.0 can be seen from the table:

Table 3.3

Result of Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.836	2

Based on table above, that the test can said reliable or not can be seen through cronbach's alpha. The score of cronbach's alpha 0.836 it means reliable.

G. **Normality and Homogeneity Testing**

1. **The Result of Normality Testing**

   a. **Normality Testing of Control Class**

   The normality testing used to check the data is normally distributed or not. The formula used to test the normality of the data was Kolmogorov - Smirnov test by the value of significant (a) = 0.050. The result can be seen below:

Table 3.4

Result Normality Control Test

One-Sample Kolmogorov-Smirnov Test

		pretest_control	postest_control
N		37	37
Normal Parameters[a]	Mean	55.11	63.51
	Std. Deviation	9.288	8.040
Most Extreme Differences	Absolute	.199	.101
	Positive	.199	.101
	Negative	-.096	-.074
Kolmogorov-Smirnov Z		1.208	.617
Asymp. Sig. (2-tailed)		.108	.842
a. Test distribution is Normal.			

Based on the table above is known that the significance value from pre-test is 0.108 and from the post-test is 0.842. Both value from pre-test and post-test are bigger than 0.05. the sig/p value on pre-test is 0.108 and it is bigger than 0.05 (0.108>0.05) means that the data is in normal distribution. Then, for post-test score the value of sig/p is o.842 and that is bigger than 0.05 (0.842>0.05) means that the data is in normal distribution. It also means that H_0 is accepted and H_1 is rejected. So, it can be interpreted that both of data (pre-test and post-test score) are in normal distribution.

b. Normality Testing of Experimental Class

The normality testing used to check the data is normally distributed or not. The formula used to test the normality of the data was Kolmogorov - Smirnov test by the value of significant (a) = 0.050. The result can be seen below:

Table 3.5

Result Normality Experimental Test

		pretest_experimental	postest_experimental
N		41	41
Normal Parameters[a]	Mean	52.39	69.20
	Std. Deviation	10.315	7.985
Most Extreme Differences	Absolute	.135	.121
	Positive	.135	.121
	Negative	-.068	-.120
Kolmogorov-Smirnov Z		.864	.772
Asymp. Sig. (2-tailed)		.444	.591
a. Test distribution is Normal.			

Based on the table above is known that the significance value from pre-test is 0.444 and from the post-test is 0.591. Both value from pre-test and post-test are bigger than 0.05. The sig/p value on pre-test is 0.444 and it is bigger than 0.05 (0.444>0.05) means that the data is in normal distribution. Then, for post-test score the value of sig/p is 0.5591 and that is bigger than 0.05 (0.591>0.05) means that the data is in normal distribution. It also means that H_0 is accepted and H_1 is rejected.

So, it can be interpreted that both of data (pre-test and post-test score) are in normal distribution.

2. The Result of Homogeneity Testing

Homogeneity testing is conducted to know whether the collected data has a homogeneous variance or not. In this research, the Levene's test is used as a formula by the value of significance (α) = 0.050. The result can be seen below:

Table 3.6

Homogeneity Testing

Test of Homogeneity of Variances

Score

Levene Statistic	df1	df2	Sig.
.171	1	76	.680

Based on the table above it is known that the sig/p value is 0.171 higher than 0.05 means H0 is accepted and H1 is rejected. So, it can be interpreted that the data is homogeneous.

H. Data Analysis

Analyzing data is a process of analyzing the acquired from the result of the research. After all the data needed in this research have been collected in writing recount form. The resercher analyzed wheter there is a significant difference between

the ability in writing achievement who are taught by using and without picture series. In conducting the test, the writer gave achievement the writing ability of the students. To describe the students achievement in writing recount text, the researcher in this research using SPSS 16 for windows with the independent t-test. If the result of t- test was bigger than at the level of significance 0.05, the null hypothesis could not be rejected, indicated that picture series was not effective toward students' writing achievement in recount text. By contrast, if significant level was bigger than t-test at the level of significance 0.05, the null hypothesis could be rejected indicating that picture was effective toward students' writing achievement in recount text. And if the significant value bigger than 0.05 means Ho is rejected and H1 is accepted. On contrary, if the significance value smaller than 0.05 means that Ho is accepted and Ha is rejected.