

CHAPTER III

RESEARCH METHOD

In this chapter, the researcher presents the research design, the population, sample and sampling of the research, research instrument, validity and reliability testing, data collecting method, and data analysis.

A. Research design

Before conducting research the researcher should identify what the kind of the research and need to make plan how the research would be conducted. This study used an experimental research design especially used pre-experimental design with quantitative approach. The design of this research used one group pretest- posttest design. The requirement of this design is stated by Ary (2010: 302), pre-experimental design does not have random assignment of subjects to groups or other strategies to control extraneous variables. It means in this research, the researcher does not have an authority to choose the sample.

In this case, the researcher used pre-experimental design means using one class as single group who get the treatment and the group get pre-test and post-test to know the result of treatment. The pre-test and post-test were given to take the score of the students' ability before and after being taught using Instagram's photo content. The researcher only uses one class as the subject of the study without control group or comparison group. Furthermore, conforming to why using pre-experimental research because the researcher was not visible to have random assignment to determine the sample of the research. That is why in this study the

researcher just take one group or class and uses pre-test and post-test to see the result of the treatment.

The One Group Pretest- Posttest Design as follows:

Table 3.1: The Illustration of Research Design One Group Pre-test Post-test

Pre-test	Treatment	Post-test
Y1 (DV)	X (IV)	Y2 (DV)

X : Instagram's Photo Content (Independent Variable)

Y1 : Students' achievement in writing descriptive text before taught by using instagram's photo content (Dependent Variable)

Y2 : Students' achievement in writing descriptive text after taught by using instagram's photo content (Dependent Variable)

The procedures of experimental research that use one group pre-test and post-test design in this study are described as follows:

1. Administering pre-test (Y1) with a purpose of measuring students' descriptive writing ability before applying instagram's photo content.
2. Applying experimental treatment teaching descriptive writing by using instagram's photo content.
3. Administering post-test (Y2) with a purpose of measuring students' descriptive writing ability after applying instagram's photo content.

This research intended to investigate the effectiveness of using instagram's photo content towards students' descriptive writing ability at first grade of SMKN 1 Boyolangu. The use of the treatment is aimed at proving whether the increase

scores possibly got by the researcher. Thus, the effectiveness of that treatment is known the increase score when the students taught using instagram's photo content by comparing pre-test and post-test score.

B. Population, Sample and Sampling

1. Population

Population is entire subjects where data is collected. Seltman (2015) as cited in Dewi (2017: 39) stated population as the entire set of actual or potential observational units. In other word, population is all subjects where the data will be gathered. The population of this research is the whole students of the first grade students of SMKN 1 Boyolangu in the academic year 2018-2019 that consist of twenty four classes. The total population of the first grade at SMKN 1 Boyolangu in the academic year 2018-2019 consists of 832 students.

3. Sample

Sample is 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 focuses on one class and using purposive sampling to consider some qualifications. According to Perry (2005:57 as cited in Prastiyo: 2018) purposeful sampling strategy is used to indicate that the sample is chosen to answer the research question as relevant as possible. By using purposive sampling, the researcher considers some suggestions from certain people who know well which sample is appropriate to be chosen by giving qualification. That is why, one of the good criterion is X-Chemical Engineering. The reason because

that class is suitable as subject of research. In addition, English teacher who handles X-Chemical Engineering suggests to take that class too as subject of sample to be researched by some reasons:

1. This class is taught by descriptive text.
2. The class is cooperative enough.
3. The characteristics of the students has assumed as homogeneous in writing, means not too good and not too bad.

Table 3.2 Sample of Research

Sample of X-Chemical Engineering		Total Participants
Male	Female	
5	31	36 participants

3. Sampling

The technique in taking sample is called sampling (Sugiyono, 2015: 81). 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 take some representatives or typical cases from population.

Purposive sampling is a type of nonprobability sampling where the researcher consciously selects subjects for addition in a study to make sure that the elements would have certain characteristics pertinent to the study. Purposive sampling is sample which is taken because the researcher believes that X-Chemical Engineering could give sufficient information. The researcher used purposive sampling. The class consisted of various background of schools and

English proficiency. Some of them are joining English course, any others are graduated from excellent and ordinary schools. Besides, the english teacher give recommendation to this class. Thus, the researcher believes that X-Chemical Engineering class of SMKN 1 Boyolangu can give sufficient information because of its heterogenous class.

C. Research Instrument

Research instrument refers to the instrument or tool to collect the data. Instrument which used by the researcher was writing test or essay test. The students were given two kind of tests. The first test was pre-test and second test was post-test. Both of the tests were descriptive text as the level of students in their grade or level and by considering with core competence and also basic competence. The topic chosen in every tests were different to avoid bias as they can remember on the previous topic given.

To know the result of the tests, the researcher used scoring rubric. The aspects of scoring are content, organization, vocabulary, grammar, and mechanics. Those aspects has been matched with writing descriptive text. The weight of content is 3, organization is 2, vocabulary is 2, grammar is 15, mechanics is 1.5. Every chosen rate of aspect would be multiplied by weight. After that, the last sum of scores would be divided by 40 and multiplied by 100. The maximum score is 100 points and the minimum score is 25 points. Furthermore, there would be no decimal score, so if there is decimal score must be sphered into numeral number.

D. Validity and Reliability Testing

Validity and reliability of instrument are integral parts in conducting a study since the instrument which would be used must be valid and reliable before using it to collect the data. In this research the researcher ensured that the instrument (test) was valid and reliable by doing validity and reliability testing.

The researcher was adapted Wilkinson and Birmingham (2003) theory to make the steps easy to understand, the process in making valid and reliable. The first step to get validity and reliability of the instrument was the researcher reviewed the book and syllabus to draft the test. After drafting the test (pre and post test), the researcher showed both of the tests to expert validator to get feedback by considering with the validation guide. Then, the researcher revised the draft of the tests agree with the feedback given. Next, the researcher conducted the Try out to test the students in different class as the sample to get feedback from students. The class is conducted in X PM 2. The last, the researcher modified the test again after getting input or feedback from the Try out and based on that term the researcher got final draft to test to X Chemical Engineering as sample of population of this research.

1. Validity

Ary et al (2010: 225) define validity as the extent to which an instrument measured what it claimed to measure. In other words, validity is measuring what it is designed to be measured. In language testing, Brown (2004) defines validity as the extent to which inference made from assessment results are appropriate, meaningful, and useful in terms of the purpose of assessment. To measure whether

the test has a good validity, the researcher analyzed the test from content validity, face validity, and construct validity.

a. Content Validity

A test is said to have content validity if its contents constitute a representative sample of language skills, structures, etc. being tested. In order to judge whether or not the test has content validity, we need a specification of the skills or structure being tested. A comparison of test specification and test content is basis for judgment for content validity. The researcher made this test based on the course objective in the syllabus of tenth grade of SMKN 1 Boyolangu. Therefore, this is valid in term of content validity.

b. Construct Validity

Construct validity is validity which show how far the tests are suitable with the theory that becomes a foundation on composing those tests. Based on the theory above, in the test the researcher asked the students to answer the essay test based on descriptive text. The aspects of writing descriptive text guides to create a suitable instrument before tested. The composing of theory refers to generic structure, language feature, and social function of writing descriptive text. Therefore, this is valid in term of construct validity. First is generic structure which consists of identification, the researcher identified generally about the things, description, the writer describes parts, qualities, characteristics, etc of the things. Second is language feature which consists of focusing on specific participants, use of simple present tense, action and thinking or feeling verbs, use of descriptive adjectives, use of detailed noun phrase to give information about

the subject , use of adverbials to give additional information about behavior. Third is social function which presents the purpose of making descriptive text by stating descriptive text is to describe a particular person, place or thing in detail or specific and vividly. To know the result of the tests, the researcher used scoring rubric.

c. Face Validity

A test is said to have face validity if it measures what is intended to be measured. Face validity is hardly a scientific concept that is very important. A test which does not have face validity may not be accepted by test takers, teachers, educations, authorities or employers. The researcher used face validity by consulting with the advisor and English teacher who handles X-Chemical Engineering class.

2. Reliability

Reliability show whether an instrument is reliable and can be used as a device to collect the data with the stability of test scores. According to Howit and Cramer (2000: 28) reliability is the extent to which the measure will give the same response under similar circumstances. Ary et al (2010:236) also defines reliability as the degree of consistency with which an instrument measures whatever it is measuring. Thus, it can be said that a reliable test is consistent and dependable. In the other words, reliability is the consistency of the instrument in producing one the similar score on different testing occasion or with different raters.

To make sure the instrument (test) was reliable, the researcher conducted a try-out for the test but in different class (X PM 2) before truly conducting this

sample of research. It was done on Friday, 8th February 2019 in the X PM 2 class. Since the type of the test is belong to authentic testing, 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 the researcher and English teacher.

To find out the reliability of the score obtained either from the pre-test and post-test, the researcher will calculate two scores of the students to calculate the correlation between them. The formula to find the correlation coefficient is *Pearson Product-Moment*. According to SPSS Inc (2007: 187 as cited in Prastiyo: 2018)) correlation measure how variables or rank orders are related. Correlation coefficient range in value from -1 (a perfect negative relationship) and +1 (a perfect positive relationship). A value of 0 indicates no linear relationship. Here the result of tryout test after calculated using IBM SPSS 23.0, the writer got the result as follows:

Table 3.3 Reliability Pre-test

		Correlations	
		RATER1	RATER2
RATER1	Pearson Correlation	1	,881**
	Sig. (1-tailed)		,000
	N	32	32
RATER2	Pearson Correlation	,881**	1
	Sig. (1-tailed)	,000	
	N	32	32

** . Correlation is significant at the 0.01 level (1-tailed).

Table 3.4 Reliability Post-test

		Correlations	
		RATER1	RATER2
RATER1	Pearson Correlation	1	,918**
	Sig. (1-tailed)		,000
	N	32	32
RATER2	Pearson Correlation	,918**	1
	Sig. (1-tailed)	,000	
	N	32	32

** . Correlation is significant at the 0.01 level (1-tailed).

From the tables above, it can be seen that the result of correlation coefficient in pre-test (tryout) is 0.881 or close with 1 means there is perfect positive relationship between two variables. Then, the result of post-test (tryout) is 0.918 or close with 1 means there is also perfect positive relationship between two variables. Those mean that the instrument is reliable to be tested.

E. Data Collecting Method

The data collection method serves the way how the researcher gets the data which is needed. To measure the effectiveness of using instagram's photo content in descriptive text, the researcher uses instruments. The instruments are pre-test and post-test. It can be seen clearly below:

1. Pre-Test

Pre-test is given to the students to know their achievements in writing descriptive text before being taught by using instagram's photo content. The form of pre-test is essay. Pre-test had done on February 21st, 2019. In that day, the researcher came to X Chemical Engineering and asked the the students to write an

essay in type of descriptive text by topic “Your Favorite Tourism Place in Indonesia”. The number of students who got pre-test was completely 36 students. After finishing the test or students’ work, the researcher used scoring rubric to calculate the score of pre-test.

2. Treatment

After administering the pre-test, the researcher gave the students treatment. The first treatment had done on February 21st 2019. In that date, the researcher shared the material about Descriptive text and the introduction of using Instagram’s Photo Content. The second treatment had done on February 28th 2019. The teacher asked the students to make a descriptive text based on picture upload on Instagram. The third treatment had done on March 14th 2019. The teacher reviewed the material and asked the students to make a descriptive text based on topic given (favorite beach). Teaching Instagram consisted of some steps. The steps in teaching students’ writing ability through Instagram as teaching media are as following:

- a. The researcher started the lesson by greeting and praying. After that checked the students’ attendance list. The researcher explained the learning goal. In the first step, the researcher explained in general about learning descriptive text through Instagram’s photo content, how to use Instagram, features available in Instagram, how to apply this media in the learning process, how to make Instagram classroom, etc.
- b. The researcher explained about the materials that would be discussed. Learning process in descriptive text beginning with observing process. The researcher

provided some images, video, announcements, or file that match with materials of descriptive text.

c. The researcher explained about the meaning, generic structure, and give the example of descriptive text. Before the researcher explained the material about it, the researcher incorporated some suitable material into Instagram.

e. After that, the researcher asked them to make a descriptive text based on picture upload on Instagram.

f. After finishing up drafting, the writing must be checked by the researcher and given some feedback about generally errors that has done by the students based on their writing.

g. The students rewrite the writing based on correction by the researcher.

Furthermore, the complete steps of Instagram's Photo Content could be seen in lesson plan of research in appendix 6.

3. Post-Test

Post-test is done after the students get treatments is taught by using instagram's photo content in teaching descriptive writing. From the score of this test, the researcher is intended to find out the effectiveness of using instagram's photo content in teaching descriptive writing. The form of post-test is essay. Post-test had done on March 14th 2019. In that date, the researcher came to X Chemical Engineering again and asked them to write an essay in type of descriptive text by topic "Your favorite beach in Indonesia". The number of students who got post-test was completely 36 students. After finishing the test or students' work, the

researcher used Brown version scoring rubric to calculate the score of post-test. The result of the scoring then is compared with pre-test.

F. Technique of Data Analysis

Data analysis is used by researcher to analyze the collected data. The data is taken from students' score in pre-test and post-test. Then, to investigate the effectiveness of using instagram's photo content in writing descriptive text. The collected data would be analyzed by using *Paired Samples T Test* in IBM SPSS Statistic 23.0.

When the sample size is large or at least 30, the z test is used. However, the z test is inappropriate when the sample size is less than 30. In such a case, t test is caled for. In relation with this, Bluman states that t test is a statistical test for the population mean, and is used when the population is normally distributed or approximately normally distributed, σ is unknown, and $n < 30$ (1998: 378).

There are some steps in analyzing data in SPSS 23.0 version. Firstly, the researcher input the data in SPSS statistics to know the frequency of pretest and posttest score. After that, by using this application the researcher knew the mean, median, mode and standard deviation. After comparing the data, the researcher knew pair sample statistics. Then, the researcher found pair sample correlation from two kinds of test. The researcher analyzed the result of significant one-tailed. After the researcher knew the result of significant one-tailed from SPSS statistics, the researcher could give the conclusion that the use of instagram's photo content is effective or not toward student's writing achievement in descriptive text.