CHAPTER III

RESEARCH METHODOLOGY

In this chapter, the researcher would like to d escribe about the method that used by the researcher to conduct the research. In this chapter will include research design, time and place of the study, population and sample, variable of the study, research instruments, and data analysis technique.

3.1 Research Design

In this study, the researcher use experimental design and quantitative method as a method to do this research. Experimental research is usually divided into two classes that are involved and compared to find the impact of treatment. Based on the situation, it was suitable for using true-experimental design by doing pre-test and post-test procedures in this observation. According to Creswell (2012), in experimental research usually one variable influences another variable. It can be concluded that one variable can be as a cause and another variable as an effect. In this case, independent variable will act as a cause and dependent variable as an effect.

As the researcher has mentioned before, this research used experimental design with the purpose to find out whether webtoon, the medium of this experiment, is effective to use and able to make students being more interest to learn writing skill in SMK PGRI 13 Surabaya, especially in writing narrative text. In this case, the researcher divided two classes and compared them as the researcher explains it through this table below.

Table 3. 1 The Design of Experimental Class and Control Class

Class	Pre-test		Treatment		Post-test	
	Yes	No	Yes	No	Yes	No
Experimental Class	√		√		√	
Control Class	√			√	√	

Those two classes are experimental class and control class. Both classes were given pre-test and post-test but for experimental class, it was given the treatment using webtoon while control class was not given the treatment. The purpose of pre-test itself is to measure students' ability in writing narrative text while post-test has a purpose to know the improvement of both classes in writing narrative text.

After the treatment had given to the experimental class, the researcher shared the questionnaire to the students who had participated. Questionnaire has a purpose to know the response of interest of the students after learning by using webtoon so the researcher is able to know wether the students got interested or not.

3.2 Time and Place of The Study

This research was done from April 12th 2018 until May 11th 2018 and it was held in SMK PGRI 13 Surabaya, Jalan Sidosermo III, Sidosermo, Wonocolo, Surabaya.

3.3 Population and Sample

The population of of this research was the tenth grader of Office Administration (APK) in SMK PGRI 13 Surabaya which is located in Jalan Sidosermo III, Sidosermo, Wonocolo, Surabaya and in this research, the

researcher used random sampling for doing the sample. In this case, the researcher made some lotteries consisting of three classes (X APK 1, X APK 2, and X APK 3). Then the researcher chose the lotteries randomly to make it as an experiment class and a control class. Finally the researcher got the result, which X APK 2 (23 students) would have been experimental class while X APK 3 (23 students) would have been control class.

3.4 Variable of The Study

The experimental research is categorized of quantitative design which has any variables. There are some variables that the researcher can be used and separated into:

a. Independent variable

Independent variable is an attribute which influences dependent variable (Creswell, 2012:116). Based on the theory, the researcher had set webtoon as an independent variable that will give an influences the students' writing skills

b. Dependent variable

Dependent variable is an attribute which is influenced by independent variable (Creswell, 2012:115). Based on the theory, the researcher had set the students' writing skills as a dependent variable.

c. Control variable

Control variable is a managed variable which it avoids any external factors but it is not a central variable of concern in explaining the dependent variables or outcomes (Creswell, 2012:117). Based on the theory, the researcher had set teacher who teaches classes that are chosen in the research as a control variable.

3.5 Research Insturments

The researcher had prepared several instruments to do this research due to answer the hypothesis of the research. The research instruments are:

a. Pre-test

In this research, pre-test was given to the both classes, experimental class and control class to measure the ability of the students before getting the treatment in experimental class. In this research, pre-test was given using same topic of writing narrative text to both classes.

b. Post-test

In this research, post-test was given to the both classes, experimental class and control class after experimental class getting the treatment. Post-test was used to measure the development of the students' ability in writing narrative text.

c. Lesson Plan

For doing this research, the researcher had prepared lesson plan that was used by english teacher to teach the students in experimental class. The english teacher should teach the students using the lesson plan appropriately. Before the Lesson Plan was used, it had been validated by two validators. The first validator was the lecture of writing class and the second validator was english teacher of SMK PGRI 13 Surabaya. The lesson plan was also used as the treatment in teaching writing narrative text in experimental class. It means the lesson plan as a treatment tool was used after experimental class getting the pre-test.

d. Questionnaire

After completing the three first instruments, the researcher gave questionnaire to all students who had participated to the research. In the questionnaire, there are some questions related to the use of webtoon as medium for teaching writing narrative text. The students answered the questions based on their own responses about the medium that is used.

3.6 Research Procedure

For doing this research, the researcher must have a schedule to make this research runs well, and below is the table of reseacrh schedule that had been done by the researcher.

Table 3.2 Research Schedule

No.	Schedule	Date
1.	Meeting the headmaster and asking for permission to do the researh in SMK PGRI 13 Surabaya	Thursday, April 12th 2018
2.	Meeting the English teacher of tenth grader in SMK PGRI 13 Surabaya	Friday, April 12th 2018
3.	Giving pre-test for experimental class and control class	Friday, April 27th 2018
4.	Doing the treatment and the english teacher taught the experimental class based on the lesson plan (Meeting 1).	Friday, May 4th 2018
5.	Doing the treatment and the english teacher taught the experimental class based on the lesson plan (Meeting 2)	Friday, May 11th 2018
6.	Giving post-test for experimental class and control class	Friday, May 11th 2018
7.	Giving the questionnaire for experimental class	Friday, May 11th 2018
8.	Calculating the data that had been collected	Monday, July 2nd 2018
9.	Doing analysis of the data that had been calculated	Monday, July 9th 2018

3.7 Data Analysis Technique

The researcher used pre-test and post-test in collecting data to find out the result of the students' improvement in writing skills by using webtoon which was applied in the experimental class while there would be no treatment using webtoon in control class. The data was obtained from X APK 2 as an experimental class and X APK 3 as a control class of SMK PGRI 13 Surabaya.

3.7.1 Validity Test

Before doing the treatment, the researcher had prepared the lesson plan that was used as a tool in teaching writing narrative text in this research. The lesson plan must be applied for experimental class only and before it was applied, it must be validated by the experts. In this case, there are two validators who had validated the lesson plan. They are the lecture of the researcher who is an expert in teaching writing and the english teacher in SMK PGRI 13 Surabaya who is responsible for teaching tenth grader in that school, especially major of Office Administration.

Validity is important to assess whether the lesson plan is valid to use or not. According to Brown (2000:388) there are three types of validity; Content Validity, Construct Validity, and Face Validity. In this case, the researcher used Content Validity, because the measuring tool of this type of validity can be concluded as valid if it is in accordance with the curriculum content. Content Validity is only depended in the judgement of the experts and for this research, the resercher asked help from the lecture who is experts in this field to assess the lesson plan, she is Sofi Yunianti, SS, M.Pd, one of lectures in Muhammadiyah University. Another help was asked by the researcher to english teacher in SMK PGRI 13 Surabaya itself, she is Ani Dwi Widiastuti, S.Pd. Here the result of validity test that had been done by two validators.

Table 3.3 Validity Test of Lesson Plan

No.	Validator	Validity		Date
		Yes	No	
1.	Sofi Yunianti, SS, M.Pd	√		Monday. April 16th 2018
2.	Ani Dwi Widiastuti, S.Pd	√		Monday, April 23th 2018

3.7.2 Reliability Test

Because the one of the variables in this research is students' writing skill, it means that anything done in this research was about writing skill. In writing skill research, usually it should use inter-rater type to do scoring in pre-test and post-test. It means, pre-test and postest were scored by two observers that can be called as rater 1 and rater 2 and they have to involved to the research. In this case, the rater 1 of this research is english teacher and rater 2 is the researcher herself. The purpose of reliability test itself is to know whether the test scoring from rater 1 and rater 2 is reliable or not. After the data had been collected, the researcher used correlation pearson in SPSS 20 to calculate the reliability of the data.

Table 3.4 Scale of Reliability Test

Interval Coefficient	Level of Correlation
0,00 – 0,199	Very Low
0,20 – 0,399	Low
0,40 – 0,599	Moderate
0,60 – 0,799	Strong
0,80 – 1,000	Very Strong

3.7.3 Normality Test

Normality Test here has a purpose to find out whether the distribution of the data is normal or not. In normality test, the researcher used the criteria of hyphotesis that helps the researcher to make decision of the final result. The criteria of hyphotesis can be seen below.

H_0 = Significance value ($P_{(value)}$) > α (0.05) = the data distribution is normal

H_1 = Significance value ($P_{(value)}$) < α (0.05) = the data distribution is abnormal

3.7.4 Homogeneity Test

After collecting any data and calculating the normality tets, the researcher analyzed the data by using homogeneity test. It's purpose is to know if the students' ability in writing of both classes, experimental class and control class are homogeneous or not. The researcher used Levene Test of Homogenetity Test of Variances in SPSS 20 to analyze it. The Criteria of Hypothesis can be seen below.

a. H_0 is accepted and H_1 is not accepted if significance value ($P_{(value)}$) > α (0.05). It means that the students' ability of experimental class and control class is homogeneous.

b. H_1 is accepted and H_0 is not accepted if the significance value ($P_{(value)}$) < α (0.05). It means that students' ability of experimental class and control class is not homogeneous.

3.7.5 T-Test Calculation

After calculating the homogeneity test, the researcher continued the data analysis using T-Test Calculation. There are two types of T-Test that should be calculated by the researcher, T-Test using Independent Sample T-Test and Paired Sample T-test of both classes. The purpose of Independent Sample T-Test is to see whether webtoon is effective to use in teaching writing narrative text or not. Whereas Paired Sample T-Test is used to find out the significance different before and after doing the treatment in experimental class. To calculate T-test, the researcher use the criteria of hyphothesis that can be seen as follow:

a. H_0 = Sig. (2-tailed) > α (0.05). It means that there is no significance different in students' ability of writing narrative text in both classes.

b. H_1 = Sig. (2-tailed) < α (0.05). It means that there is significance different in students' ability of writing narrative text in both classes.

3.7.6 Eta Squared

Eta Squared is the last data analysis that is used in this research. Eta Squared has a purpose to measure the effect size for paired sample t-test. It means the researcher needed to know the effect of using this medium in the progress before and after doing treatment. The formula and calculation of eta squared can be seen below.

$$Eta\ Squared = \frac{t^2}{t^2 + (N-1)}$$

To know the real effect of using this medium in experimental class, there is a table of scale guidlines that helps the researcher make a decision about the effectivity.

Table 3.5 Scale of Eta Squared Effectivity (Pallant, 2007:236)

Result	Categories
0.01	Low Effect
0.06	Moderate Effect
0.14	Large Effect

Based on table 3.5, if the result of eta squared equals to or lower than 0.01 or higher than 0.01 but not higher than 0.06, it means that the data have low effect. If the result of the data equals to 0.06 or higher than 0.06 but not higher than 0.14, it means that the data have moderate effect. The last, if the result of data equals to 0.14 or higher than 0.14 it means the data have large effect.

3.7.7 Questionnaire

Questionnaire is used to know the interest of the students after doing the treatment using webtoon. In this research, there are 10 questions that had been prepared by the researcher. To know the percentage calculation of answer in each question, the researcher use this formula.

$$Result = \frac{A}{N}\ x\ 100\%$$

A = the total of answer

N = the total of students