

CHAPTER III

RESEARCH METHODOLOGY

In this chapter, the researcher illustrates how this study is conducted with the subject of research design. It consists of research design, setting of the research, subject of the research, research variables, research instrument, technique of data collection, research procedure, and data analysis technique.

3.1 Research Design

Based on research questions before, the researcher would discuss about the effectiveness in teaching writing descriptive text using *Edmodo Application*. The method of this research is quantitative method. Quantitative method which related to true experimental design with pre-test and post-test procedures. According to Ary et al (2010:266) experimental research is a study of scientific investigation in which the researcher manipulates and observes the effect of one variable to another variable. Creswell (2012:295) states that traditional approach to control all variables that influences another variable. It means when independent variable influence dependent variable, so independent variable as cause and dependent variable as an effect.

One of the experimental designs is true experimental design. True experimental design includes random assignment of participants to groups. In this study, the researcher aims to find out the effectiveness of *Edmodo Application* in teaching writing descriptive text at seventh of junior high school by comparing two groups who are taught by using *Edmodo Application* and who are not. The researcher uses pre-test and post-test to two groups, namely experimental and control groups. According to Ary et al (2010:270) the experimental group gives the treatment and control group without treatment. Both of these groups are given pretest and posttest. The purpose of pretest is to measure students' ability in writing descriptive text and the purpose of posttest here is to know students' ability and to find out the improvement both of two groups in writing descriptive text after getting treatments.

The experimental group was taught through *Edmodo Application* in teaching writing and the control group was taught through English book as usual that the teacher used in teaching writing. So, both of them were taught the same material of descriptive text. Besides that, the questionnaire is given after the experimental class got the treatment. The purpose of questionnaire is to know how the response students after gave the treatment by using *Edmodo Applicatio*, so the researcher know are the students creative, interested, effective and etc.

Table 3.1 The Design of Experimental and Control Class

Group	Pre Test	Treatment	Pos Test
EC	Y1	X	Y2
CC	Y3	-	Y4

Note:

EC = Experimental Class

CC = Control Class

X = The treatment by using Edmodo Application

Y1 =Pretest before the treatment in Experimental Class

Y2 =Posttest after the treatment in Experimental Class

Y3 = Pretest for Control Class

Y4 = Posttest for Control Class

3.2 Setting of the research

The setting of the study is SMP MUHAMMADIYAH 10, it is located at Jl. Sutorejo 98-100, DukuhSutorejo, MulyorejoSurabaya in Junior high school in 2017/2018 year.

3.3 Subject of the research

3.3.1 Population

Generally, population is an individual who consist from any groups. It is called "Population". According to Creswell (2012;142) Population is a large or small group of individual who have the same characteristics. Ary et al (2010:54) stated Population is the large group that made by generalization. In this research, the researcher took the students of seventh grades in SMP Muhammadiyah 10 Surabaya which located at Jl. Sutorejo 98-100, DukuhSutorejo, Mulyorejo Surabaya in Junior high school in 2017/2018. The population was all of Students at Seventh grades of Junior high school in SMP Muhammadiyah 10 Surabaya, which was divided into three classes, such as, VII-A, VII-B and VII-C.

3.3.2 Sample

According to Ary et al (2010;148) sample is a target of population. It means from a population; the researcher took a target to be observed. Creswell (2012;142) states sample is a subgroup of target population that had chosen by the researcher to make the research. Moreover, there are two kind of sampling techniques. Ary et al views there are probability sampling and non-probability sampling. Probability sampling is a technique sampling that has an equal chance to every element in population to be selected. There are four methods in probability sampling, such as simple random sampling, stratified sampling, multi stage cluster sampling, and systematic sampling. Whereas, Non-probability is a technique sampling that has not equal chance to every element in population to be selected. Creswell added there are 2 methods in non-probability sampling, such as convenience sampling and snowball sampling.

In this research, the researcher chooses non-probability sampling. One of technique sampling is snowball sampling so it takes the sample from population use snowball sampling. Creswell (2012; 146) states that in snowball sampling, the researcher asks participants to identify others to become members of the sample. It means that before the researcher will held the research, the researcher also identify other to become member of sample. For example, the researcher survey to the school and the researcher asks to the headmaster or English teacher to identify all

the class (seventh grades if Junior high school) which is used to the research. Then the Headmaster and English teacher help the researcher to determine experimental and control class based on situation and characteristics. So it is can be called “Snowball Sampling”. Whereas, Dr. Sugiyono (2014; 85) states that snowball sampling is a technique that start from small to large.

3.4 Research Variable

In this research, there are two variables; those are dependent and independent variables.

3.4.1 Dependent Variable

According to Creswell (2012;115) dependent variable is a characteristic that influenced by Independent variable. It means that dependent variable is a variable that cannot stand alone without a media or method to do it. In this research, the dependent variable is the effectiveness.

3.4.2 Independent Variable

“According to Creswell (2012;116) Independent variable an attribute or characteristic that influences or affects an outcome or dependent variable”. It means that independent variable is a variable that can stand alone without another variable. In this research, the independent variable is the writing descriptive text using Edmodo Application.

3.5 Research Instrument

3.5.1 Pretest

In this research, pretest is given before posttest in order that to measure the students’ ability of the two groups before giving the treatment. According to Creswell (2012:297), A pretest is used to measure the students’ ability in an experiment beforethey receive a treatment. So, both classes will be given pretest with the same topic of descriptive text which is describing people. The instrument can be seen in *Appendix 10*.

3.5.2 Treatment

After giving the pretest, the researcher gave the treatment in experimental class by using *Edmodo Application* with the topic descriptive text. Whereas, in control is not given the treatment. It purposed is to know students' development.

3.5.3 Posttest

In this research, posttest is given after pretest have done to know and find out the students' significance different between control and experimental group in writing descriptive text by using *Edmodo Application*. According to Creswell (2012; 297) A posttest is used to measure the students' ability in an experiment afterthey receive a treatment. The instrument can be seen in *Appendix 11*.

3.5.4 Questionnaire

Aftercompleted the data, the researcher gives the questionnaire to the experimental class. Questionnaire is an instrument that has some questions which related with using *Edmodo Application* in teaching Descriptive Text. In questionnaire consist of eight questions that related to the students responses about the material, media and teacher approach. The purpose of questionnaire is to know the students' response after the researcher give treatment using edmodo application.

3.5.5 Rubric Assessment

In this research, the researcher identified the students' writing using Oshima & Hogue's Idea (2007;196) about scoring rubric paragraph. There are five component, they are format, punctuation and mechanics, content, organizing, grammar and sentence structure. All of five components before have the different point. It can be seen below.

Table 3.2 Scoring Rubric of Writing (Oshima& Hogue, 2007; 196)

	Maximum score	Actual score
Format – 5 points		
There is a title	1	
The title is centered	2	
The first line is indented	2	
Total	5	
Punctuation and Mechanics – 10 points		
There is a period after every sentence	1	
Capital letters are used correctly	2	
The spelling is correct	5	
Commas are used correctly	2	
Total	10	
Content – 20 points		
The paragraph fits the assignment	5	
The paragraph is interesting to read	5	
The paragraph shows that the writer used care and thought	10	
Total	20	
Organization – 35 points		
The paragraph begins with a topic sentence that has both a topic and a controlling idea.	10	
The paragraph contains several specific and factual supporting sentences that explain or prove the topic sentence, including at least one example.	20	
The paragraph ends with an appropriate concluding sentence.	5	
Total	35	
Grammar and sentence structure – 30 points		
Estimate a grammar and sentence structure score	30	
Grand Total	100	

3.5.6 RPP (lesson Plan)

In this research, the teacher must teach based on RPP (lesson plan). RPP also must be valid. Then RPP is validated by Validator 1 and validator 2. The lecturer who expert as validator 1 and the English Teacher in SMP Muhammadiyah 10 as validator 2

3.5.7 Observation Checklist

In this research, the researcher uses observation checklist. There are two observation checklist are teacher and students. Teacher's observation is to know the teacher is teaching very well and based on RPP. Whereas, students' observation are to know the students active in learning process.

3.6 Data Collection Technique

The data of this research was collected through tests (tryout, pretest, and posttest) to find out the students' significance different between control and experimental group in writing descriptive text by using *Edmodo Application*. The purpose of the data (tryout, pretest and posttest are to know and find out the students' significance different between control and experimental group in writing descriptive text by using *Edmodo Application*.

The first time, the researcher will give the pretest to control and experimental group. Then, treatment is given to experimental group using *Edmodo Application* in writing descriptive text but in control group, the teacher taught writing descriptive text without *Edmodo Application* but use English book in control class. Both of these classes consist of the same material of descriptive text. After treatment, the researcher gives the posttest to both of class. The purpose of posttest is to find out the students' significance different between control and experimental group in writing descriptive text by using *Edmodo Application*. After all of the test given, the researcher gives the questionnaire to the experimental class. Questionnaire is given to students when the final step after the pretest and posttest are complete. The purpose of questionnaire is to know the students' response after treatment using *Edmodo Application*.

3.7 Research Procedure

The procedure of the research in true-experimental design is same as the other research designs. There are some procedures of the research that were applied in this research.

3.7.1 The first time, the researcher came to SMP Muhammadiyah 10 Surabaya to meet the headmaster to ask permission for doing the research in that school.

3.7.2 the researcher meet the English teacher in SMP Muhammadiyah 10 Surabaya to discuss about the class.

3.7.3 the researcher divided class into experimental class and control class.

3.7.4 the researcher did tryout test to another class in same level

3.7.5 the researcher gave the pretest to experimental and control group with same material of descriptive text.

3.7.6 the teacher gave the treatment of writing descriptive text using Edmodo Application in Experimental class.

3.7.7 the teacher taught writing descriptive text using English book in control class.

3.7.8 the researcher collect the data from them.

3.7.9 the researcher gave the posttest to experimental and control group with same material of descriptive text.

3.7.10 The last, the researcher gave questionnaires to Experimental class to know how the students' response after give the treatment using Edmodo Application in Writing Descriptive text.

Table 3.3 Research Schedule

No	Schedule	Time
1	Meet the headmaster to ask permission	Monday, 20 th March 2017
2	Meeting the English teacher	Thursday, 23 th March 2017
3	Pretest for control group	19 th – 20 th April 2017
4	Pretest for Experimental group	17 th – 19 th April 2017
5	Teaching writing descriptive text using Edmodo Application in Experimental group	25 th -26 th April 2017
6	Teaching writing descriptive text using English Book in control group	Thursday, 27 th April 2017
7	Giving posttest for Experimental group	15 th – 18 th May 2017
8	Giving posttest for Control group	Wednesday, 17 th May 2017
9	Giving Questionnaire for Experimental group	Thursday, 18 th May 2017

3.8 Validity and Reliability

Before the pretest and posttest is given to students. The researcher must get the validity test and reliability test to know the data is valid or not. So the researcher asks the one of lecturer in University and English teacher in SMP Muhammadiyah 10 Surabaya.

3.8.1 Validity

Validity is the most important to considerate research instrument is valid or not. Dr. Sugiyono (2014; 121) view's that valid is an instrument that be used to measure object that must be measured. According to Brown (2000:388) there are three kind of validity they are content validity, construct validity, and face validity.

In this research uses Content Validity. The test has to be arranged based on the main and basic competency of Indonesian curriculum that is used in SMP Muhammadiyah Surabaya which is Curriculum of 2013. The material of the test should be appropriate with English material that is taught in this school. the instrument of validity is taken by seventh grade's syllabus on second semester.

Table 3.4 Content Validity of the test

Curriculum of 2013	
Main Competency:	<p>KI 1: Menghargai dan menghayati ajaran agama yang dianutnya.</p> <p>KI 2: Menghargai dan menghayati perilaku jujur, disiplin, tanggungjawab, peduli (toleransi, gotong royong), santun, percaya diri, dalam berinteraksi secara efektif dengan lingkungan sosial dan alam dalam jangkauan pergaulan dan keberadaannya</p> <p>KI 3: Memahami dan menerapkan pengetahuan (faktual, konseptual, dan prosedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni, budaya terkait fenomena dan kejadian tampak mata.</p> <p>KI 4: Mengolah, menyaji, dan menalar dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang/teori.</p>
Basic Competency:	<p>4.7. Teks Deskriptif</p> <p>4.7.1 Menangkap makna secara kontekstual terkait fungsi sosial, struktur teks, dan unsur kebahasaan teks deskriptif lisan dan tulis, sangat pendek dan sederhana, terkait orang.</p>
Indicators:	<p>4.7.1 Memahami penggunaan Simple Present dalam descriptive text.</p> <p>4.7.2 Menjelaskan generic structure dalam descriptive text.</p> <p>4.7.3 Menyebutkan characteristic of physical appearance dalam descriptive text.</p> <p>4.7.4 Membuat descriptive text secara sederhana dan pendek sesuai dengan konteks penggunaannya.</p>

Based on the table above, it shows that basic competency is suitable with the main competency of English subject of seventh grades of Junior high school. So it is can be called valid because basic competency and main competency match.

Beside that, the researcher asks the lecturer and English teacher who expert in writing test to measure validity of the test. They are Sofi Yuniarti, SS, M.Pd. as the English lecturer of Muhammadiyah University and Endah Kusuma Wardani, S.Pd as the English teacher of SMP Muhammadiyah 10 Surabaya. (*see appendix 7*).

Table 3.5 Validity of the test

No	Name	Validity of the test		Date
		Yes	No	
1	Sofi Yuniarti, SS, M.Pd.	√		Thursday, 30 th March 2017
2	Endah Kusuma Wardani, S.Pd	√		Tuesday, 28 th March 2017

3.8.2 Reliability

A test can be a good instrument not only when it is valid but also reliable. According to Brown (2004; 20), he states that consistency and dependable of measurement. Creswell (2012; 159) states that reliability is demonstrated not only predictability but also stable and consistent. Dr. M. Soenardi (2008; 186) states that there are two Rater Reliability. They are Intra-rater reliability and Inter-rater reliability.

In this research used Inter-rater reliability to know the data reliable or not. Dr. M. Soenardi (2008; 187) added that inter-rater reliability is test that be scored by two person or two observer namely is rater 1 and rater 2 based on Instrument. It means that the researcher chooses the reliability of the rating by asking two observers namely the English teacher as the Rater 1 and the researcher as the rater 2 to give the score. It can be called “inter-rater”. Then the data is calculated using Correlation Pearson Product Moment in SPSS 20.0. The result of reliability formula shows coefficient of correlation with the criteria (Sugiyono; 2014; 184).

Table 3.6 Scale of Reliability

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

Table 3.7 Rtable of Product Moment (Sugiyono: 2014:333)

NILAI-NILAI r PRODUCT MOMENT

N	Tarf Signifikan		N	Tarf Signifikan		N	Tarf Signifikan	
	5%	1%		5%	1%		5%	1%
3	0,997	0,999	27	0,381	0,487	55	0,266	0,345
4	0,850	0,990	28	0,374	0,478	60	0,254	0,330
5	0,878	0,959	29	0,367	0,470	65	0,244	0,317
6	0,811	0,917	30	0,361	0,463	70	0,235	0,306
7	0,754	0,874	31	0,355	0,456	75	0,227	0,296
8	0,707	0,834	32	0,349	0,449	80	0,220	0,286
9	0,666	0,798	33	0,344	0,442	85	0,213	0,278
10	0,632	0,765	34	0,339	0,436	90	0,207	0,270
11	0,602	0,735	35	0,334	0,430	95	0,202	0,263
12	0,576	0,708	36	0,329	0,424	100	0,195	0,256
13	0,553	0,684	37	0,325	0,418	125	0,176	0,230
14	0,532	0,661	38	0,320	0,413	150	0,159	0,210
15	0,514	0,641	39	0,316	0,408	175	0,148	0,194
16	0,497	0,623	40	0,312	0,403	200	0,138	0,181
17	0,482	0,606	41	0,308	0,398	300	0,113	0,148
18	0,468	0,590	42	0,304	0,393	400	0,098	0,128
19	0,456	0,575	43	0,301	0,389	500	0,088	0,115
20	0,444	0,561	44	0,297	0,384	600	0,080	0,105
21	0,433	0,549	45	0,294	0,380	700	0,074	0,097
22	0,423	0,537	46	0,291	0,376	800	0,070	0,091
23	0,413	0,526	47	0,288	0,372	900	0,065	0,086
24	0,404	0,515	48	0,284	0,368	1000	0,062	0,081
25	0,396	0,505	49	0,281	0,364			
26	0,388	0,496	50	0,279	0,361			

3.9 Data Analysis Technique

After collected all of the data, the data will be analyzed by using SPSS 20.0 like normality test, homogeneity test, and independent-sample t-test. It's to compare the mean both of control and experimental class in pretest and posttest. Its purpose is to know there is a significant difference or not between the seventh grades students who were taught by using Edmodo Application and who were not.

3.9.1 Normality Test

The purpose of normality test is to know the data normal or not, the criteria of testing normality is if $P_{(value)} > \alpha$ (sig 0.05) so that H_0 is accepted. But if $P_{(value)} < \alpha$ (sig 0.05) so H_0 is refused.

H_0 = Sample of data is normal distribution

H_1 = Sample of data is not normal distribution

The criteria of the test based on p-value as below:

H_0 is accepted, if $P_{(value)} > \alpha$, so the data is normal distribution

H_1 is accepted, if $P_{(value)} < \alpha$, so the data is not normal distribution

$\alpha = \text{sig } 0.05$

3.9.2 Homogeneity Test

After conducted the data of pretest, it will be analyzed the homogeneity test by using SPSS 20.0. The purpose of Homogeneity test is to know the students' ability of both control and experimental group are homogeny or not, the researcher used Levene test of homogeneity of variances to count the pretest score of both classes.

The Hypothesis are:

$H_0 : \alpha_1 = \alpha_2$, there is no difference between experimental and control class

$H_1 : \alpha_1 \neq \alpha_2$, there is difference between experimental and control class

After find out the homogeneity, the researcher continued t-test. The purpose of t-test is to find out is there significance or not in implementation of the treatment .The data is analyzed use paired sample T-Test through SPSS 16.00.

This following is some steps to analyze the data, they are:

- Formulating the hypothesis are in the form of H_0 and H_1
- Determining the value of T_{count} on the output of SPSS analysis.
- Determining the value of T_{table} from the sttatistical table ini significance level $0.05 :2 = 0.025$ (two tailed test) with degree of freedom (df) is $n-1$
- Determining the significance value based on the output of SPSS 20.0 analysis that value should be lower than 5% significance level (<0.05)
- Determining hypothesis testing in manual way with calculating T_{count} and T_{table} :
 - If - $t_{count} < - t_{table}$ or $t_{count} > t_{table}$ and $Sig < 0.05$, so H_0 is rejected
 - If - $t_{table} \leq t_{count} \leq t_{table}$ and $Sig > 0.05$, so H_0 is accepted

f. Making conclusion

If H_0 is rejected, it means that there is significant difference of the students' ability in writing descriptive text before and after being taught by using Edmodo Application. Whereas, if H_1 is accepted, it means that there is no significant difference of the students' ability in writing descriptive text before and after being taught by using Edmodo Application.

On standarization 0.05 with formula hypothesis :

The criteria of the test based on P value as below :

H_0 Push away , if $P_{(value)} < \alpha$, so there is no effective

H_1 Push away , if $P_{(value)} > \alpha$, so there is effective

The researcher also counts T-test using manual way with calculating T_{count} and T_{table} . If $T_{count} > T_{table}$, So H_0 push away , but it if $T_{count} < T_{table}$ so that H_1 push away .

Then, the researcher also used Paired-Sample T-test to analyze the significant difference of students' skill in writing descriptive text before and after having class using Edmodo Application in experimental group.

3.9.3 Eta Squared

In this research, to support T-Test calculation. The research used to get more valid data that is able support the result of T-test. To count eta squared, the researcher uses the formula :

$$EtaSquared = \frac{t^2}{t^2 + (N_1 + N_2 - 2)}$$

The result of the eta squared can show the data is effective or not .According to Pallant (2007:236), there are three scales of calculation. It can be seen in the result of the table below:

Table 3.8 Scale of Eta Squared

Result	Categories
0,01	Low effective
0,06	Moderate
0,14	Large effective

Based on the table above shows that when the significant of Eta squared lower than 0,01 so it gives low effect. Then if the significant higher than 0,01. It gives moderate effect. But if the significant higher that 0,14. It means that large effect.