CHAPTER III

RESEARCH METHOD

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

A. Research Design

To conduct this study the researcher uses quantitative research approach. Quantitative research is methodology to study phenomena by collecting numeric data in the field, then analyze it by using statistic program. According to Perry (2005:75) quantitative mainly comes from pshycology field and emphasis by statistic to make generealization from samples of populations.

To investigate the effectiveness of Place Based Education (PBE) in teaching writing and to enhance students' writing achievement in descriptive text, the researcher uses research design namely Pre-Experimental design. According to Perry (2005) states that this research design is the overal structural designs used include the variables, techniques, treatments, and others. In this research, the treatment is conducted by using Place Based Education strategy in teaching writing descriptive. In this case, the researcher uses 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. Furthermore, conforming to why using pre-Experimental research because the researcher is not visible to have random assignment to determine the sample of the research. The requirement of

this design is stated by Donald (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.

This reserach is focused on the effectiveness of using Place Based Education strategy toward seventh grade students' achievement in descriptive text. The independet variable is Place Based Education and the dependent variable is students' achievement in descriptive text. In this case, the indepedent variable influences the dependent variable, to know the result whether the dependent is influenced well positively, the researcher use pre-test and post-test to measure that. The design of the research can be summarized as follows:

Table 3.1: The Illustration of Research Design

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

X : Place Based Education strategy (Independent Variable)

Y1 : Students' achievement in writing descriptive text before taught by using Place Based Education strategy (dependent Variable)

Y2 : Students' achievement in writing descriptive text after taught by using Place Based Education strategy (dependent Variable)

B. Population and Sample

1. Population

Population is entire subjects where data is collected. Seltman (2015) as cited in Dewi (2017: 39) states population as the entire set of actual or potential observational units. In other word, population is all subjects where the data will be gathered. In this research, the population of data is all of seven grade students of SMP Negeri 1 Kalidawir in period 2017/2018 which consists of 284 students. Those are divided into nine classrooms. Class A, B, C, D, E, F, G, H, I. It can be seen in the table 3.2 below:

Table 3.2 Population of Research

NO	Class	Gender	
		Male	Female
1	VII A	18 students	16 students
2	VII B	14 students	15 students
3	VII C	19 students	13 students
4	VII D	17 students	15 students
5	VII E	14 students	16 students
6	VII F	16 students	16 students
7	VII G	18 students	14 students
8	VII H	16 students	16 students
9	VII I	16 students	16 students
Total students		284 students	

2. Sample

Sample is the representative of population. Arikunto (2016, as cited in Fifah, 2016) states 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) purposeful sampling strategy is used to indicate that the sample is chosen to aswer the research question as relevant as possible. By using puposive 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 seven A. According Vice Head master of Curriculum in SMP Negeri 1 Kalidawir recommended seven A to be the sample of population. The reason because that class is suitable as subject of research. In addition, English teacher who handles seven A 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 3.3 Sample of Research

Sample of VII A		Total Participants
Male	Female	
18 Students	16 students	32 participants

C. Research Instrument

Research instrument refers to the instrument or tool to collect the data. Instrument which used by the researcher was writing test. Test used to

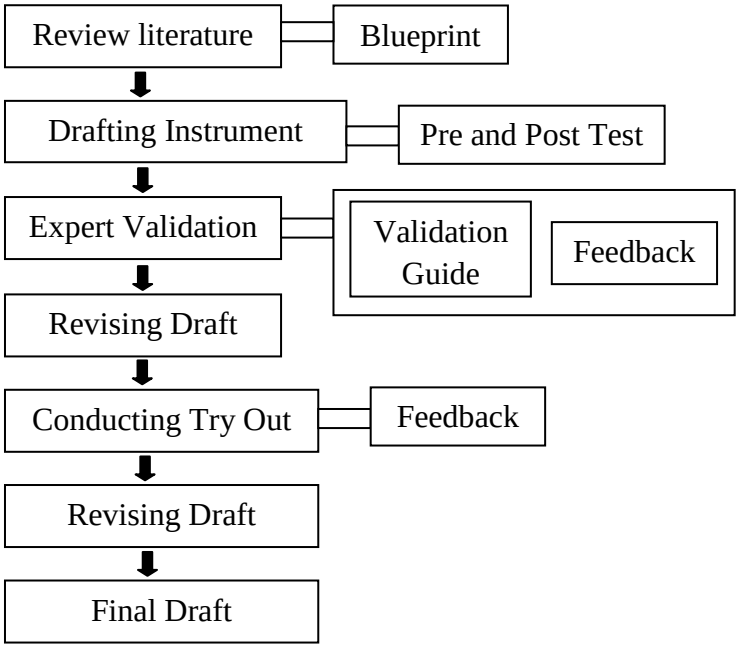
measure the students' achievement in writing descriptive text before and after being taught by using Place Based Education strategy. Students were given two kind of tests. The first test was pre-test which distributed on November 17th 2017 and second test was post-test which distributed on November 24th 2017. 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. In pre-test was description of My School Library and in post-test was the description of My School Computer Laboratory.

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 score uses rate from 1-2-3-4 and the way to calculate, the researcher uses weighting as what the scoring rubric has been existed before. The weight of content is 3, organization is 2, vocabulary is 2, grammar is 15, mechanics is 1.5. Every chosen rate of aspect will be timed to its weight. After that, the last sum of scores will be divided to 40 and timed to 100. For maximum score, C(4x3)+O(4x2)+V(4x2)+G(4x1.5)+M(4x1.5) : 40 x 100 = 100 points. For the minimum score, C(1x3)+O(1x2)+V(1x2)+G(1x1.5)+M(1x1.5) : 40 x 100 = 25 points. Furthermore, there will be no decimal score, so if there is decimal score must be sphered into numeral number. The scoring rubric can be seen in two last sub chaper in data collecting method.

D. Validity and Reliability Testing

Validity and reliability of instrument are integral parts in conducting a study since the instrument which will 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 way to make valid and reliable instrument can be figured as the table 3.1 below:

Figure 3.1 Process in making valid and reliable instrument



Based on figure 3.1, the first step to get validity and reliability of the instrument is the researcher review the book and syllabus to draft the test. After drafting the test (pre and post test), the researcher shows both of the tests to expert validator to get feedback by considering with the validation guide. Then, the researcher revises the draft of the tests agree with the feedback given. Next, the researcher conduct the Try out to the test to students in different class as the

sample to get feedback from students. The class is conducted in VII B. The last, the researcher revises the test again after getting input or feedback from the Try out and based on that term the researcher get final draft to test to VII A as sample of population of this research.

1. Validity

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 assesment results are appropriate, meaningful, and useful in terms of the purpose of assesment. Before conducting the research, the researcher will make sure that the instrument had three kinds of validity as follows;

a. Content Validity

Content validity is correspondnce between curriculum objectives and objectives being assesed. The instrument in this research achieved content validity if the test is designed based on core competence and basic competence. The researcher will conduct consultation with the expert as the way to validate the test that has been set up.

Table 3.4 Standard of Assesment

Core Competence	4. Mengolah, menalar, dan mengaji dalam ranah konkret dan ranah abstrak terkait dengan pengembangan dari yang dipelajarinya di sekolah secara mandiri, dan mampu menggunakan metoda sesuai kaidah keilmuan.
Basic Competence	4.1 Menyusun teks interaksi transaksional lisan dan tulis sangat pendek dan sederhana yang melibatkan tindakan memberi dan meminta informasi terkait dengan pemaparan bangunan publik yang dekat dengan kehidupan siswa sehari-hari, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan yang benar dan sesuai konteks.
Indicator	4.4.1 Siswa dapat menulis dengan baik dan tepat teks tulis pendek dan sederhana sesuai topik yang di tentukan
Testing Objective	Untuk mengukur prestasi dalam menulis peserta didik dalam Descriptive Text
Test Item	Essay
Material	Descriptive Text
Test Score	100

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. Construct validity refers to the composing of instrument. The instrument is constructed by concerning to the aspects of writing descriptive text.

The aspects of writing descriptive text guides to creat a suitable instrument before tested. The composing of theory refers to generic structure, language feature, and social function of writing descriptive text. In this case, the researcher presents syntheses of some writing experts to give view about descriptive text. First is generic structure

which consists of Identification, the writer identifies 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.

The aspects above are being the foundation to make appropriate instruments. Then, consult it to eligible experts to make sure the instrument is valid. The experts are English teacher who handles VII A class and English lecturer of IAIN Tulungagung who handles writing class.

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. In this test, there are some aspects to be considered from this test to make a good test based on the validity.

1) The instruction must be clear for the students
2) In this test, the students can write an essay with the familiar topic that students can reach.
3) Time allocation must be adequated. The teacher gives about 60 minutes to write an essay of descriptive text.

2. Reliability

Reliability is the consistency of the instrument in producing one the similar score on different testing occasion or with different raters. 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.

The reliability of the test or instrument can be seen from the result of conducting Try out test in different class (VII B). 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) 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.

The result of try out score from rater 1 and 2 can be seen in the following table (3.5)

Table 3.5: Reliability Statistic

Pre-test Tryout		Post-test Tryout	
Rater 1	Rater 2	Rater 1	Rater 2
58	55	58	61
50	55	75	83
70	66	70	70
55	59	49	46
40	48	65	65
71	66	71	66
75	70	63	75
43	41	58	54
76	71	70	79
83	75	74	75
55	48	70	55
70	78	63	66
66	68	58	46
70	71	54	58
65	66	54	50
83	83	70	74
79	75	79	86
83	79	61	66
70	74	65	75
45	41	49	55
59	59	66	66
66	65	74	84
70	68	61	66
65	65	74	84
78	70	74	74
66	71	74	84
70	70	75	75
61	56	71	71
66	66	66	71

After the score of pre-test and post-test (tryout) calculated using IBM SPSS 16.0, the writer got the result as follows:

Table 3.6: Reliability Pre-test

Correlations

		RATER_1	RATER_2
RATER_1	Pearson Correlation	1	.925**
	Sig. (2-tailed)		.000
	N	29	29
RATER_2	Pearson Correlation	.925**	1
	Sig. (2-tailed)	.000	
	N	29	29

**. Correlation is significant at the 0.01 level (2-tailed).

Table 3.7: Reliability Post-test

Correlations

		RATER1	RATER2
RATER1	Pearson Correlation	1	.838**
	Sig. (2-tailed)		.000
	N	29	29
RATER2	Pearson Correlation	.838**	1
	Sig. (2-tailed)	.000	
	N	29	29

**. Correlation is significant at the 0.01 level (2-tailed).

From the tables above, it can be seen that the result of correlation coefficient in pre-test (tryout) is 0.925 or close with 1 means there is perfect positive relationship between two variables. Then, the result of post-test (tryout) is 0.838 or close with 1 means there is also perfect positive relationship between two variables. Those mean that the instrument is relieble to be tested.

E. Normality and Homogeneity Testing

Normality and homogeneity testing are calculated and analysed to determine either parametric or non-parametric testing. In order with the result of both tests can be seen in chapter 4.

1. Normality Testing

Normality tests are used to determine whether a data set is well modeled by a normal distribution or not. Normality test is intended to show that sample data come from a normally distributed population to know the normality, the researcher used *One-sample Komogorov-Smirnove test* in IBM SPSS Stastitic 16.0 by significant level (0.050). Testing of the normality is conducted by the rules below:

- If the significant value > 0.050, it means that the data distribution is normal
- If the significant value < 0.050, it means that the data distribution is not normal
- If the data distribution is nirmal, next the researcher goes to homogenity testing

2. Homogeneity Testing

Homogeneity testing is intended to make sure that the collected manipulation data in analysis is truly taken from population which is too

different each other. It is also conducted to know whether the data has homogeneous varience or not. To know the homogeneity, the researcher used *Levene* statistic with IBM SPSS Stastitic 16.0.

F. Data Collecting Method

The data collection method serves the way how the researcher get the data which is needed. To measure the effectiveness of using Place Based Education strategy 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 Place Based Education strategy. Pre-test had done on November 17th, 2017. In that day, the researcher came to seven A and asked the the students to write an essay in type of descriptive text by topic My School Library. The number of students who got pre-test was completely 32 students. After finishing the test or students' work, the researcher used scoring rubric to calculate the score of pre-test. The aim of calculating is to know the result of pre-test before being taught by using Place Based Education strategy or the treatment.

2. Treatment

After administering the pre-test, the researcher gave the students treatment. The first treatment had done on November 18th 2017. In that date, the researcher shared the material about Descriptive text and the introduction of using Place Based Education strategy. The second treatment had done on November 21st 2017. The teacher and students went to the Science Laboratory to have Place Based Education strategy. The teacher gave the students freedom to move around and moving their senses to observe the things in Science Laboratory. Then, the students wrote it down into the paragraph about what they got inside or the outside of the Laboratory. The third treatment had done on November 24th 2017. The teacher and students went to Computer Laboratory to have Place Based Education strategy. The teacher gave the students freedom to move around and moving their senses to observe the things in Computer Laboratory. Then, the students wrote it down into the paragraph about what they got inside or the outside of the Laboratory. All of the treatment, the students did individually to build independent personality and to avoid some cheatings. The procedure of teaching by using Place Based Education simply are done by combining classroom and the real object (outdoor), like state below;

a. The students get warming up about writing descriptive text and the introduction of Place Based Education program.

b. The teacher decides the object that going to be described. It refers to the topic of descriptive text.

c. Teacher brings the students to go to the object.

d. The students make a note what things that contains to the object. the students work individually by moving their senses. They may ask someone else who know about the description of the object. This is pointed to the place keeper.

e. Bring them back to the classroom and let them write the informations that has been goten beyond into their papers.

f. After finishing up drafting, the writing must be checked by the teacher and give 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 teacher.

Furthermore, the complete steps of Place Based Education can be seen in lesson plan of research in appendix 6.

3. Post-Test

Post-test is given to the students to investigate and measure the development their achievements in writing Descriptive text after being taught by using Place Based Education strategy. Post-test had done on

November 24th 2017. In that date, the researcher came to seven A again and asked them to write an essay in type of descriptive text by topic My School Computer Laboratory. For information, the topic of post test used the last treatment topic because to make different with pre-test, which in post-test the students got Place Based Education strategy (observed directly to the object) however in pre-test they did not came to the object directly. The number of students who got post-test was completely 32 students. After finishing the test or students' work, the researcher used scoring rubric to calculate the score of post-test. The aim of calculating is to know the result of post-test after being taught by using Place Based Education strategy. In addition, the scoring rubric used is Brown version as below:

Table 3.8 Descriptive writing scoring rubric

Aspect	Score	Performance Description	Weighting
Content (C) 30% -Topic -Details	4	The topic is complete and clear and the details are relating to the topic	3X
	3	The topic is complete and clear but the details are almost relating to the topic	
	2	The topic is complete and clear but the details are not relating to the topic	
	1	The topic is not clear and the details are not relating to the topic	
Organization 20% -Identification -Description	4	Identification is complete and descriptions are arranged with proper connectives	2X
	3	Identification is almost complete and descriptions are arranged with almost proper connectives	
	2	Identification is not complete and descriptions are arranged with few misuse connectives	
	1	Identification is not complete and descriptions are arranged with misuse connectives	
Grammar 20% -Use present tense -Agreement	4	Very few grammatical, and agreement inaccuracies	2X
	3	few grammatical, and agreement but not effect the meaning inaccuracies	
	2	Numerous grammatical, and agreement inaccuracies	
	1	Frequent grammatical, and agreement inaccuracies	
Vocabulary 15% -Word choice	4	Effective word choice, word forms and appropriate word number	1.5X
	3	Few misuse of word choice, word forms but not change the meaning and sufficient word number	
	2	Limited range confusing word choice, no word forms and less word number	
	1	Very poor knowledge of words and word forms, and limited word number	
Mechanics 15% -Spelling -Punctuation -Capitalization	4	It uses correct spelling, punctuation, and capitalization	1.5X
	3	It has occasional errors of spelling, punctuation, and capitalization	
	2	It has frequent errors of spelling, punctuation, and capitalization	
	1	It is dominated by errors of spelling, punctuation, and capitalization	

(adapted from Brown (2007:214))

$$\text{Score: } \frac{3C+2O+2G+1.5V+1.5M}{40} \times 100$$

Table 3.9 Standard of Assesment

The table below states the classification of the scores

NO	Grade	Level	Range of Score
1	A	Excellent	81-100
2	B	Good	61-80
3	C	Fair	41-60
4	D	Poor	0-40

Qualification of scores: 81-100 =Exceeds the standard

61-80 = Meets the standard

41-60 = Approaches the standard

0-40 = Does not meet the standard

The result of post-test will be compared with result of pre-test, so that the researcher knows there is development or not after using Place Based Education strategy in writing descriptive text. The researcher also uses weight to know the worth aspects in descriptive text as what has been discussed before. Each unit is scored from 1 to 4 and weight based on its worth to the final draft of the descriptive text. The content is weighted 30%, it can be more worth that other aspects. The organization and grammar are weighted 20% respectively as they are more worth than vocabulary and mechanic. As there is a little anxiety arround the last two aspects vocabulary and mechanic, the small weighted is attached to them. They are weighted 15% respectively.

G. 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 Place Based Education (PBE) strategy in writing descriptive text, The collected data will be analyzed by using *Paired Samples T Test* in IBM SPSS Statistic 16.0. In this case, discussing the relationship between significant value and significant level. Significant values is the output of calculating hypothesis by *Paired Samples T-Test*. Meanwhile, significant level refers to standard level of hypothesis, it is 0.050. The interpretation can be seen as below:

1. When the significant value < significant level, the alternative (H_a) is accepted and the null hypothesis (H_0) is rejected. It means there is significant difference score on the students' writing achievement before and after being taught by using Place Based Education.
2. When the significant value > significant level, the null hypothesis (H_0) is accepted and the alternative (H_a) is rejected. It means there is no significant difference score on the students' writing achievement before and after being taught by using Place Based Education.