

CHAPTER III METHODOLOGY OF RESEARCH

A. Location and Time of Study

1. Location of Study

To collect the data for writing paper, the writer hold a field research at MA (Islamic High School) Ashhabul Maimanah Sampang Susukan-Serang. The school is located on Jl. KH. Syanwano No.1 Susukan, Tirtayasa Serang. The writer chooses this school as research place.

2. Time of Study

In order to the research run correctly, the writer is necessary to some steps of time. The research schedule in this paper will be explained below:

Table 3.1. Research Schedule

No	Kegiatan	Month/Years															
		March '17				Apr '17				May '17				June '17			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Submission of title																
2	Submission of Research proposal																
3	Seminar of proposal																
4	Guidance of paper																
5	Data Collecting																
6	Data Analyzing																

7	Writing of research result														
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B. The Method

In this research the writer uses quantitative method. This method attempted a statistical procedure which is very useful from different purposes in research and apart from examining relationships among variable, it is also used for examining the reliability and validity of data collection procedure.¹ The researcher uses quasi-experimental method. The writer took one class as an experiment class, the class will be given the pre-test with treatment continually and it is finished by doing the post-test. Meanwhile, the experimental design can be described, as follows:

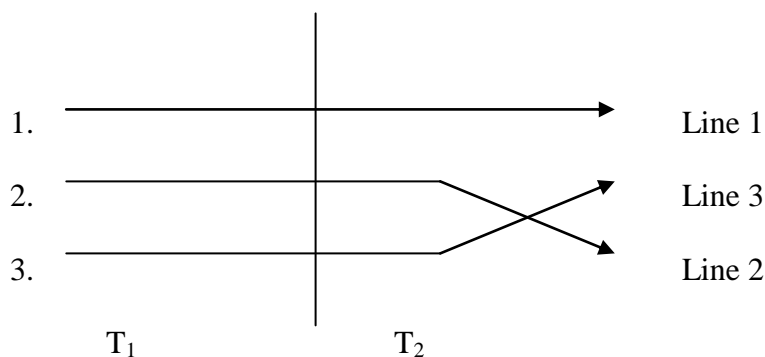
$T_1 X T_2$

T_1 = Pre-test (before experiment)

X = Treatment

T_2 = Post-test (after experiment).²

Furthermore, to find out if the treatment (X) has effect or not to students' vocabulary mastery, the writer uses the following curves:



¹ Herbert W.S. 2000, *Second Language Research Method*, (New York: Oxford University Press, 2000), p. 222

² Hatch, E and Farhady, H. *Research Design and Statistics for Applied Linguistics*, (Los Angeles: Newbury House Publishers. INC, 1982), p. 24

Explanation:

Line 1, it means there is no effect from treatment (X)

Line 2, it means that there is negative effect from treatment (X)

Line 3, it means that there is positive effect from treatment (X).³

C. The Population and the Sample

1. The Population

Population is defined as a set (or collection) of all elements possessing one or more attributes of interest.⁴ In this case the target of this study is the tenth grade of science class in academic year 2017-2018 of MA Ashhabul Maimanah Susukan Serang, which consist of 40 students.

Year	Class X		Class XI		Class XII		Sum
	Science	Social	Science	Social	Science	Social	
2017/2018	40	40	32	54	21	61	248

1. The Sample

Sample is part or representative population being researched. Suharsimi Arikunto point out how to take the sample of the research. He says if the population is less than 100, it's better to be taken whole of them.⁵

³ Ibid., p. 25

¹⁷ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek*, (Jakarta : Rineka Cipta, 2006), p. 115

¹⁸ *Suharsimi*, p. 120

Based on the population above, the writer has taken the sample of the research whole of the population, because the population is less than 100. So the sample is as much as 40 students as respondent for the research. Hence, the researcher uses the quasi-experiment, so the writer took the science class as experimental class and social class as control class.

D. Research Instrument

There are three instruments used in this research, they are: interview and test (pre test and post test) and observation.

1. Interview

Interview is technique in collecting of data that can be done through dialogue between interviewer and interviewee. The researcher interviews an English teacher to find out the further information of teaching technique especially in using authentic material and the students' condition. In this research it is necessary to be underlined that interview is one of the additional instruments.

2. Test

Test is a procedure used to collect data on subjects' ability or knowledge of certain disciplines.⁶ Test is used to measure the students' ability especially in vocabulary mastery. Meanwhile, the writer makes test of reading to all of respondents, the objective of the test is to know the students' vocabulary mastery. For this test, the writer uses multiples choice test (pre test and post test) based on the text reading, meanwhile for the number of test the writer will give 10 questions, either for experiment or control class.

3. Observation Sheet

⁶ Tarigan, Guntur, Henry. *Prinsip-Prinsip dasar Metode Riset Pengajaran dan Pembelajaran Bahasa*, Bandung:Angkasa, 1992), p. 157

The writer directly observes the situation of MA Ashhabul Maimanah Susukan Tirtyasa Serang, and finds out teaching-learning process. This technique is also expected to get general description about teaching English with authentic material in this school.

E. The Technique of Data Collecting

To support the study the writer uses a library and field research, in the library research the writer goes to some libraries to get some books, magazines, newspapers, and the other sources which is related to the subject of text, and in the field research, the writer visits a school to know students' ability in vocabulary mastery. In addition the writer will apply some tests, questionnaires to know the effectiveness of authentic material and promoting vocabulary.

In order that make clearly, the writer will explain the procedures of the research below:

1. Choosing the subject of the research
2. Choosing the experimental class
3. Giving the respondents (students) pre-test
4. Giving the respondents (students) treatment
5. Giving the respondents (students) post-test
6. Examining of the result of the test (pre test and post test) to find out the students' vocabulary mastery.
7. Testing on the hypothesis

F. The Technique of Data Analyzing

After the writer got the data from both instrument namely: interview and test, then, the writer will analyze the test (pre and post test) by using formula Pearson “r” product moment as follow:

To make the table of the Single test-single trial method.

Nu	Name	Questions										Total Score	Half I	$\sum X_2$	Half II	$\sum Y_2$	X.Y
		1	2	3	4	5	6	7	8	9	10		(1,2,3,4,5)		(6,7,8,9,10)		
		Half I					Half II										
1																	
2																	
3																	
...																	
40																	

To measure reliability and validity, the writer uses formula:

$$r_{xy} = \frac{n \sum XY - (\sum X)(\sum Y)}{\sqrt{\{n \sum X^2 - (\sum X)^2\} \{n \sum Y^2 - (\sum Y)^2\}}}$$

Explanation of the formula:

r_{xy} = Pearson r

n = Number of subject

$\sum X$ = The sum of score in X distribution

$\sum Y$ = The sum of score in Y distribution

ΣXY = The sum of the result multiply X and Yang distribution

ΣX^2 = The sum of the squared score in X distribution

ΣY^2 = The sum of the squared score in Y distribution

To count the average (mean), the writer uses formula:

$$\bar{X} = \frac{\Sigma X}{N}$$

Explanation:

\bar{X} = The average score

ΣX = Total score of the student

N = Number of student

To find out whether there is any significant effective in using Authentic material toward promoting reading, the writer uses T-Test formula:

$$t = \frac{Md}{\sqrt{\frac{\sum x^2 d}{N(N-1)}}}$$

Explanation:

t = t-test

Md = mean from deviation (d) post test-pre test

Xd = the difference of deviation and mean deviation

$\sum x^2 d$ = the sum of deviation quadrant

N = number of subject

To test the hypothesis, the writer uses t-table as the implementation of t-test with the significant level is 5 % and 1 % and using the degree of freedom (df) = n-1.

And to find out whether the hypothesis accepted or not, the writer makes the criterion if t-test (t counting) is greater than t-table so the Ho is rejected and Ha is accepted, and if if t-test (t counting) is less than t-table so the Ho is accepted and Ha is rejected.

G. The Data Validation

After data collected, then the writer will conduct of pra-analyze with determine of data validation. One of the ways to find out the data validation, the writer uses formula *correlation point biserial* (r_{pbis}) below:

$$r_{pbis} = \frac{\overline{X}_i - \overline{X}_t}{St} \sqrt{\frac{p}{q}}$$

Explanation:

r_{pbis} = Coefision of correlation point biserial

\overline{X}_i = Mean Score of subject got 1 on item (i)

\overline{X}_t = Mean score all subject

St = Standar deviasi all subject

P = Proportion of subject got 1 each item

q = 1-p⁷

⁷ Mansur and Harun Rasyid, *Penilaian Hasil Belajar*, (Bandung : Wacana Prima, 2008). p. 141