CHAPTER III

RESEARCH METHOD

In this chapter, the writer described about research metod used in conducting the research. It is purposed to answer the problem of the study. This chapter consisted of research design,   present, place of the study, population and sample of the study, instrument of study, data collection procedures, and data analysis.

A. Research Design

In this study, the writer used a quantitative approach because this approach is qualified to collect statistical data to answer the problems of this study. Then, the writer measured the students' score by the tests; pre-test and post-test. According to Creswell:

"a quantitative study, consistent with the quantitative paradigm, is an inquiry into a social or human problems based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether predictive generalizations of the theory hold true". [56]

In this study, the writer used quasi-experimental design. Quasi-experimental design are similar to randomized experimental research in that involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment group.[57] There were many situations in

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[56] John W. Creswell, *Qualitative and Quantitative Approach,* 1994, California: SAGE Publications, Inc, 1994, p. 2

[57] Ibid, p.316.

educational research in which is not possible to conduct a true experiment. Neither full control over the scheduling of experimental conditions nor the ability to randomize can be always realized.[58]

In a typical school situation, schedules cannot be disrupted nor classes reorganized to accommodate a research study. In such a case, one uses groups already organized into classes or other preexisting intact groups. The nonrandomized control group, pretest − posttest design is one of the most widely used quasi-experimental designs in educational research.[59]

Table 3.1

The Scheme of Quasi Experimental Design

Nonrandomized Control Group, Pretest-Posttest Design

Subject	Pre-test	Treatment	Post-test
E	Y1	X	Y2
C	Y1	-	Y2

Where:

E: Experimental Group

C: Control Group

X: Treatment

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[58] *Ibid*, p.282

[59] Donal Ary,Lucy cheser Jacobs, Chris Sorensen, and Asghar Razavich, *Introduction to Research in Education Eight Edition,* p.148.

Y1: Pretest

Y2: Posttest

In this study, the writer took the eleventh grade students of SMA Muhammadiyah Palangka Raya as the subjects of the study. The subjects were divided into two groups, the first group become experiment group that thought by youtube video and the second group become control group is not given the treatment.

B. Population and Sample of the Study

1. Population

The large group about which the generalization is made is called a *population*. A population is defined as all members of any well-defined class or people, events, or objects.[60] The large group about which the generalization is made is called a population. A population is defined all members of any well-defined class or people.[61] In this research, the researcher takes SMA muhammadiyah Palangka Raya students to the population of his study.

The Population of the researcher are all the students of second year students of SMA Muhammadiyah Palangka Raya. It consisted of eleventh classes. The number of the population of the students was 118 students. It showed in the table below.

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[60] *Ibid,* p.148.

[61] *Ibid*, p. 148.

Table. 3.2.

Number of Second Year Students in SMA Muhammadiyah

PalangkaRaya

NO.	CLASS	NUMBER
1	XI IPA-1	27
2	XI IPA-2	25
3	XI IPS-1	21
4	XI IPS-2	23
5	XI IPS-3	22

2. Sample

A sample is a portion of a population.[62] In this study, the writer takes two classes to be the sample. The first class is experiment group. This class will be treatment with using youtube video. The second class is control group with handout.

The sample of this study is XI IPA 1 as an experiment class and XI IPA 2 as a control class which each class consist of 27 and 25 students. The number of student is 52 students. In this study, the writer uses cluster

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[62] *Ibid*, p. 148

sampling because the unit chosen is not an individual but a group of individuals who are naturally together or grouped by the school.[63]

Cluster sampling is a sampling in which intact groups, not individual. Cluster sampling is sometimes used in educational research with the classroom as the unit of sampling. The reason to take the two classes was because the score of population are heterogeneity. According to the teacher, the class XI IPA1 and class XI IPA2 have represented average English achievement of whole the population. Another reason was the two classes have same sillabus. Then, the two classes tend to have the same level of ability. Another reason was because the two classes were more difficult to comphrehent writing material than the other two classes. So, it helped the writer to choose that class as sample of the study. The sampling shown in following table:

Table 3.3

The Number of Sample of the Eleventh Grade Students of SMA

Muhammadiyah Palangka Raya

No.	Classes	Number of Students
1)	XI IPA 1	27
2)	XI IPA 2	25
Total Number		52

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[63] *Ibid*, p. 154

In order to take a smallest group, the writer would like to use cluster sampling. Cluster sampling is a sampling technique where the entire population is divided into groups, or cluster, and a random sample of these clusters are selected. In cluster sampling, instead of selecting all the subjects from the entire population right off, the researcher takes several steps in gathering his sample population. First, the researcher selects groups or clusters, and then from each cluster, the researcher selects the individual subjects by either simple random or systematic random sampling. The researcher can even include the entire cluster and not just a subset from it.[64]

C. Research Instrument

The data were very important in the study. They helped the writer in order to find the aims of the study. They are to measure the effectiveness of YouTube video on the ability of report text at the eleventh grade students of SMA Muhammadiyah Palangka Raya. The technique to get them is:

1. Test Type

The type of the test used to collect the data is in the form of writing test, especially report writing test using and without youtube video as teaching media. Types of test used to collect the data is in the form of a writing test in particular the report text. In the process of writing to use youtube video as a medium of learning. The test consists of instructions and statements are

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[64]Sukardi, *Metodologi Penelitian Pendidikan Kompetensi dan Praktiknya* (Jakarta:PT. Bumi Aksara,2007), P.61.

discussed in the subject they are writing about animals. The experiment class chooses the topics based on youtube video and the control class is without youtube video. Then, the writer asked the students to develop the topic into a text containing about 75-100 words. The allocated time to do each writing test is 60 minutes.

2. Test Construction

The test construction is based on the objective of the study. The study is aimed at finding the effect of using youtube video in writing report text. To investigate the effectiveness of using youtube video, the subjects were assigned to write report text with using youtube video and without using youtube video. There were two tests Pre-test and Post-test. The result of the two tests was investigated using statistical analysis and the outcomes were compared to see the effects of using a youtube video on writing.

3. Try Out

The writer was given try out to the test instruments before it applied to the real sample. The try out was given to the XI IPS 1 class of SMA Muhammadiyah Palangka Raya. It consisted of 21 students. The instruments try out was held at on April 24, 2015. If the result is valid, it means that the test item as the instrumentation of this study is suitable to be given.

The procedures of the try out were:

1. The writer prepared the instruments.

2. The writer was given try out the instrument to the respondents

3. The writer collecting and scoring the students' answer

4. The writer analyzed the result of students' test

5. If the result is valid, it means that the test items as the instrumentation of this study are suitable to be given.

4. Research Instrument Validity

Validity is a measurement which shows the grades of number of an Instrument. A valid Instrument must have high validity, it means that an Instrument which lacks validity is said to be invalid instrument.

An instrument is called a valid one when it can measure something which is wanted by covering the variable studied exactly. The method used in measuring the validation of the instrument is called content validity. A test or a measurement can be called a content test when it measures the special purpose which is equal with the material or content given.

Validity refers to the extent to which the results of an evaluation procedure serve the particular uses for which they are intended. Validity of a test is the extent to which the test measures what is intended to measure.[65]

a. Face Validity

The types of face validity, if the test items look right to other testers, teacher, indicators and test. The types of test items, which would use in this

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[65]Norman E. Gronlund, *Measurement And Evaluation In Teaching (Fifth Edition)*, New York: Macmilan Publishing Company,1985, p. 11.

research, can be suitable to the others at the same level in Islamic Senior High school.

For face validity of the test items as follow:

1) The test uses written test in essay test instruction.

2) The evaluation test based on scoring system.

3) Kind of the test is writing recount text.

4) The Language of items use English

5) The test is suitable with syllabus of English writing for eleventh grade students at SMA Muhammadiyah Palangka Raya.

b. **Content Validity**

This kind of validity depends on a careful analysis of the language being tested being testes and of the particular course objective. The test should be so constructed as to contain a representative sample of the course, the relationship between the test items and the course objective always being apparent.[66] The instrument which is using test, the testing of content validity is done by asking the opinion of the judgment experts about the instrument is able to try out or not.

c. Construct Validity

Construct validity was concerned with the extent to which a test measures a specific trait or construct.[67] It is related to the theoretical

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[66] J. B. Heaton, *Writing English Language tests* (New York: Longman, 1974), P. 154.
[67] Donald Ary, *Introduction to research in Education*; third edition, 1985, p 218

knowledge of the concept that wants to measure. The meaning of the test scores is derived from the nature of the tasks examines are asked to perform.[68]

It is capable of measuring certain specific characteristics in accordance with a theory of language behavior and learning. This type of validity assumes the existence of certain learning theories or constructs underlying the acquisition of abilities and skill.[69] After the Instrument checked by the judgment experts, continued testing of construct validity. It is conducted by field test. In order to find the validity, product moment Correlation will use as the formula to calculate from the try-out test result (see in appendic 10).

The formula is as follows.[70]

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

Where:

r_{xy} : Index Correlation Number "r" Product Moment.

N : Number of Cases.

$\sum XY$: Multiplication Result between score X and Score Y.

$\sum X$: Total Value of Score X.

$\sum Y$: Total Value of Score Y.

Interpretation:

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[68] Mohammad Adnan Latief, *Tanya Jawab Metode Penelitian Pembelajaran Bahasa,* Malang: Universitas Malang Press, 2010, p.134

[69] *ibid*, P. 155.

[70] Riduan, *Metode dan teknik Menyusun Thesis (*Bandung: Alfabetap, 2004), P. 110.

$r_{xy} > r_t = $ Valid

$r_{xy} < r_t = $ Invalid

Riduwan in Mayasyarah states the criteria of interpretation the validity:[71]

0.800 – 1.000 = Very High Validity

0.600 – 0.799 = High Validity

0.400 – 0.599 = Fair Validity

0.200 – 0.399 = Poor Validity

0.00 – 0.199 = Very Poor Validity

5. Research Instrument Reliability

The reliability of a measuring instrument was the degree of consistency with which it measures whatever it is measuring**.** This quality was essential in any kind of measurement.[72] Reliability was concerned with how consistently we are measuring whatever we are measuring. This is the characteristic of test in the reliability. To measure the reliability of the whole test can be estimated by using the formula of Alpha method[73].

In rather reliability, there were inter-rater reliability and intra-rater reliability. Inter-rater reliability is the consistency of the judgment of several raters on how they see a phenomenon or interprete the responses of the

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[71] Mayasyarah, *The Effectiveness of Video Compact Disc as an Audiovisual Medium toward The Students' Listening Comprehension Score of The Tenth Grade Students at MAN Model of Palangka Raya*, Unpublished Thesis, p. 18.

[72] Donal Ary, Lucy Cheser Jacbos, Asghar Razavieh, *Introduction to Research in Education, second edition*, New York: Holt, Rinehart and Winston, Inc, 1985, p.206

[73]J.B.Heaton, *Language Testing ,* p.157

subject.[74] It indicates accuracy in scoring compositions of two different raters. Meanwhile, intra-rater reliabilty referred to the consistency of the rater in scoring the same paper at two different points of time. It points out an individual accuracy in scoring a particular composition.

In this study, the writer used reliability in the terms of inter-rater reliability. Inter-rater reliability estimates the reliability of two scores which are gained from two testers for the same subjects of the test.[75] Therefore, the test have be done by two testers, the score has high reliability. The first rater was the English teacher at SMA Muhammadiyah Palangka Raya. and the second rater was the researcher. To obtain inter rater reliability; the scores of the two raters were correlated using Product Moment Correlation calculation. Then, the writer got the interpretation of coefficient correlation, whether they belong to high, moderate, or weak positive/ negative inter rater reliability category. In order to find concurrent reliability used Product Moment Correlation. Sujana in Ika states the criteria of interpretation the reliability.[76]

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[74]*Ibid,* p. 367

[75] M. Soenardi Djiwandono, *Test Bahasa; Pegangan Bagi Pengajar Bahasa*, Malang: PT. Indeks Press, 2008, p.187

[76] Ika, *The effectiveness of using picture on the students' ability in writing narrative text at eight grade of SMP-8 Palangka Raya*, unpublish thesis : 2014.

Table 3.4 Inter-rater Coefficient Correlation and Interpretation

Correlation Coefficient	Interpretation
.90 to 1.00 or -. 90 to - 1.00	Very high positive or negative correlation
.70 to .89 or -.70 to - .89	High positive or negative correlation
.50 to .69 or -.50 to -.69	Moderate positive or negative correlation
.30 to .49 or -.30 to -. 49	Low positive or negative correlation
.00 to .29 or -.00 to -.29	Little if any correlation

D. Data Collection Procedures

In this study, the writer used some procedure to collect the data. The procedures consisted of some steps as follows:

1. The writer observed the school (SMA Muhammadiyah Palangka Raya) by headmasters' permission.

2. The writer asked the class with the English teacher who taught English in the class that became the class of research:

   a. The number of the class.

   b. The number of students.

3. The writer determined the class into experiment group and control group.

4. The writer gave pre test to the experiment group and control group. The schedule of pre test for the experiment and control group is shown in table 3.5 and 3.6.

5. The writer taught the experiment group using youtube video. The schedule of the teaching activities in the experimental group is shown in table 3.5.

Table 3.5

The Schedule of Teaching Activities in the Experiment Group

Meeting	Day/date	Time	Activity
Pre Test	Thursday, April 30, 2015	06.30-8.00	Give Pre-Test
1	Saturday, Mei 02, 2015	08.00-09.30	Introducing Report Text (Kangaroo)
2	Thursday, Mei 07, 2015	06.30-8.00	Report text (Dolphin)
3	Saturday, Mei 09, 2015	08.00-09.30	Report text (Panda)
4	Thursday, Mei 14, 2015	06.30-8.00	Report text (Penguin)
Post Test	Saturday, Mei 16, 2015	08.00-09.30	Post Test

6. The writer taught the control group without using youtube video but by using handout. The Schedule of the teaching activities in the control group is shown in table 3.6.

Table 3.6

The Schedule of Teaching Activities in the Control Group

Meeting	Day/date	Time	Activity
Pre Test	Thursday, April 30, 2015	08.00-09.30	Give Pre-Test

1	Saturday, Mei 02, 2015	06.30-8.00	Introducing Report Text (Kangaroo)
2	Thursday, Mei 07, 2015	08.00-09.30	Report text (Dolphin)
3	Saturday, Mei 09, 2015	06.30-8.00	Report text (Panda)
4	Thursday, Mei 14, 2015	08.00-09.30	Report text (Penguin)
Post Test	Saturday, Mei 16, 2015	06.30-8.00	Post Test

7. The writer gave post test to the experiment group and control group. The Schedule of post test for the experiment and control group is shown in table 3.5 and 3.6.

8. The writer gave score to the data from experiment group and the control group.

9. The writer started to analyze the obtain data from the pre test and post test using t-test.

10. The writer interpreted the analysis result

11. The writer concluded the activity of the study whether the youtube video gave effect to the students' English achievement in writing report text or not, based in the obtained data.

E. **Data Analysis Procedures**

The data of this study is students' writing scores in experimental and control class. Therefore, the data are in quantitative data. The data are analyzed by means of inferential statistics. This study used the students' writing score as data. The data was quantitative data. The data analyzed by inferential statistics. The writer would analyze the data by some procedure below:

a. The writer collected the data of the students' score both of pre-test and post-test at eight grade students of SMA Muhammadiyah Palangka Raya.

b. Tabulate the students' score into distribution of frequency in the table, then find out the mean of students' score, standard deviation and standard error of variable XI IPA 1 (Experimental group) and XI IPA 2 (Control group).

c. The writer analyzed the normality and homogeneity of pretest and posttest at experiment and control group.

d. Analyzed the data using t-test and make the conclusion of data analysis obtain. The formula:

$$t_o = \frac{Mx_1 - Mx_2}{SE_{mx_1} - mx_2}$$

Where:

$Mx_1 - Mx_2$: Differentiation of Two Means.

$SEmx_1 - mx_2$: The Standard Error of the Difference between Two Means.

With the criteria:

If $t_{test} > t_{table}$ = Ha is accepted and Ho is rejected.

If $t_{test} < t_{table}$ = Ha is rejected and Ho is accepted.

The writer used the level of significance at 1% and 5%. If the result of t_{test} is higher than t_{table}, Ha is accepted but if the result of t_{test} is lower than t_{table}, Ho is accepted.

e. The writer used SPSS 16.0 program after using t-test to answer the problem of the study, whether there is significant difference between susing Youtube video or without using youtube video.

f. The writer calculated the degree of freedom with formula:[77]

$$df = (N_1 + N_2 - 2)$$

Where:

df   : Degree of Freedom

N_1 and N_2 : Number of Cases

g. The writer determined the significant level of t observed by comparing the t observed with the t table.

h. The writer interpreted the result of the data analysis in chapter IV.

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[77] Anas Sudijono, *Pengantar Statistik Pendidikan*, p. 330.