CHAPTER III
RESEARCH METHOD

In this part, the researcher describe about research methodology that use in conduction the research. It purposed to answer the problem of the study. This chapter consist of: research design, approach, population and sample, data collecting procedur, instruments of the study, and instrument try out.

A. Research Design

This study used quantitative design. It was quantitative design because quantitative was the data that from of number using statistic data. According to Donald Ary "Quantitative research a ginnery employing operational definitions to generate numeric data to answer predator mined hypothesis or questions."[90] Creswell stated that a quantitative study, consistent with the quantitative paradigm, was an inquiry into social or human problems based testing a theory composed of variables, in order to determine whether predictive generalization of the theory hold true.[91]

Design of this research applied quasi - experiment design. Quasi-experimental design were similar to random experimental design in that they involve manipulation of an independent variable but differ in that subject were not random assign to treatment groups. Because the quasi-experimental design did not provide full control, it was extremely important that writer be aware of the threats to both internal and external validity and considers these factors in

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[90] Ary Donald,et…all. *Introduction To Research In Education eight, Canada: Wadsworth (Engage Learning), 2010,p.648*
[91] John W.Creswell, *Qualitative and Quantitative Approach,California: SAGE Publications, inc,1994,p.2*

their interpretation. Although true experiments were preferred, quasi-experimental design were considered worthwhile because they permit writer to reach reason able conclusions even though full control was not possible.[92]

Tabel 3.1

The scheme of Quasi Experimental Design

Subject	Per-test	Treatment	Post-test
A	Y1	X	Y2
B	Y1	-	Y2

Y_1—X—Y_2

Where:

C : experimental group

D : control group

Y_1 : Pretest

Y_2 : Posttest

X : Treatment

Because both of experiment group and control group take some pre test and post test, and the study will do at the same time.

B. Population and Sample

1. Population

Population was all cases, situation, or individuals who share one or more characteristics.[93] The population of this research was all the students of the

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[92]Donald Ari, Lucy Chesar Jacobs, Chris sorensen, Asghar Razavieh, *introduction to research in education*, Eight Edition, 2010, p. 316
[93] David Nunan, Research Methods in Language Learning, p. 231.

tenth grade student of SMA Muhammadiyah 1 Palangka Raya. The number of population were about 105 students. It is classified into five classes.

Table 3.2

The Number at Tenth Grade Students of SMA Muhammadiyah 1 Palangka Raya

No	Classes	The Number of Students
1	X-1	21
2	X-2	21
3	X-3	21
4	X-4	21
5	X-5	21
	The Total Number	105

2.   Sample

The small group that was observation called a sample. A sample was a portion of group of a population.[94] Sample was part of population.[95] To take the sample, the writer used randomized. Member of sample in this technique was units, then each unit taken the smallest of thesame unit.[96] In this study, the writer took X-1 and X-2 classes. The reasons why the writer took X-1 and X-2 classes as the sample of the research because those classes have represent the average English achievement of the whole of population and also they have classroom Lcd, the important fasilities that the writer need.

The writer determined the population into two groups. They were X-1 as experimental group and X-2 as control group.

[94]Donald Ari, Lucy Chesar Jacobs, Chris sorensen, Asghar Razavieh, *introduction to research in education,* Eight Edition, 2010, p. 148.

[95]Deni,Darmawan,*Metode Penelitian Kuantitative,* Bandung: PT. Remaja Rosdakarya, 2013,p.138.

[96] Ibid,p.148.

Tabel 3.3 the number of sample

No	Classes	Groups	Number of the students
1	X-1	Experimental	21
2	X-2	Control	21
Total			42

C. Data Collection Procedure

The procedure to collected the data consiste of some steps as follows:

1. The writer observed on Saturday, November,07, 2015 the school by headmasters' permission.

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

   a. The number of the class.

   b. The number of the students.

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

4. The writer gave pre test Monday, April 2th 2016, to the students consist of X-1 as the experiment class and X-2 as the control class, writer gave writing test to the students' in the form of Essay test consist of five items.

5. The writer taught of the treatment group using Questioning Strategy. (see appendix 1)

Table 3.4 Procedure in Teaching Writing (meeting 1 till 4)

Teaching process using Questioning Strategy (for experimental group)		
No.	Step of writing	Teacher's activities

1.	Pre writing activity	- Prepare of picture narrative text - The Writer explained what narrative text was and also explain parts or generic structures. - Introduce the questioning strategy (WH-Question) and it used and the following points: what, when, where, why, who, and how. - Choosed or had the students choose by themselves the topic to write about.
2.	Whilst writing activity	- Gave the pictures narrative text to the students as the instructional media for writing stage. - Asked the students to write their own narrative text based on the pictures. - The students began to write a narrative text by answering the questions give. - Discussed the answer with the students.
3.	Post writing activity	- Collecting the students' work. - Asked the students to infer what they understand about the narrative text and questioning strategy

6. The writer teach the control group without questioning strategy.(see appendix 1)

Table 3.5 Procedure in Teaching Writing (meeting 1 till 4)

Teaching procedure using brainstorming (for control class)		
No.	Steps of writing	Teacher's activities
1.	Pre writing activity	- Prepare some peace of picture show the teacher did brainstorming toward knowledge of narrative text.
2.	Whilst writing activity	- Gave the picture narrative text to the students as the instructional media for writing stage. - Asked the students to write their own narrative text based on the picture. - Discussed the answer with the students.
3.	Post writing activity	- Collecting the students' work. - Asked the students to infer what they understand about the narrative text.

7. The writer gave post test Monday, Mei 16th 2016, to the students consist of X-1 as the experiment class and X-2 as the control class, writer gave writing test to the students' in the form of Essay test consist of five items.

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

9. The writer started to analyse 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.

Questioning strategy as quasi-experimental study toward students' writing score was the concept of this study. It was limit at tenth Grade students at SMA Muhammadiyah 1 Palangka Raya in studying Narrative text.

The measure the score at tenth grades students of SMA Muhammadiyah 1 Palangka Raya in writing narrative, the research would like to used the Evaluation standard of English Subject which use by the Engish teacher at SMA Muhammadiyah 1 Palangka Raya. The minimal completeness Standard of English subject at SMA Muhammadiyah1 is 75. It meant that the students pass the test if they got 75 or more. But, they got under 75, it meant they did not pass the test.[97] We can see the standard in the following table;

Tabel 3.6 Evaluation Standard of English Subject

Interval	Interpretation
75-100	Master
0-74	Not master

D. Instrument of the Study

The data were very important in the study. The data needed to prove and support this study. By this collect data, the researcher could measure the

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[97]SMA Muhammadiyah of Palangka Raya Academic year 2015/2016.

effectiveness of questioning strategy in prewriting technique on the students' ability in writing narrative text at SMA Muhammadiyah 1 Palangka Raya. There researcher used instrument in this study to get the data, namely was test.

1. Test

Brown stated a test, in plain words was a method of measuring a person's ability or knowledge in a gave domain.[98] A test was an instrument or procedure design to elicit performance from learners with the purpose of measuring their attainment of specific criteria. Tests were almost always identifiable time periods in a curriculum when learners muster all their faculty to over peak performance, knowing that their responses are being measure and evaluate. Test was useful devices among other procedure and tasks design to assess students.[99] Test were valuable measure instruments for educational research. A test was a set of stimuli present to an individual in order to elicit respons on the basis of which a numerical score can be assigne.[100]

The test was a systematic procedure propose by the Evaluators to compare the behavior of two or more students. In fact, the test generally consist of a set of questions or tasks that must be answer by the students or the test was a group of questions or tasks to which a student was to respond. The purpose of testing was to produce a quantitative representation of the pupil trait that was design to measure.[101]

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[98]H. Douglas Brown, Teaching by Principles an Interactive Approach to Language Pedagogy, Second Edition, p.384.
[99]H. Douglas Brown, *Teaching by....,* p. 401- 402.
[100]Donald Ari, Lucy Chesar Jacobs, Chris sorensen, Asghar Razavieh, *introduction to research in education*, Eight Edition, 2010, p. 201.
[101]Sukardi, *Evaluasi Pendidikan Prinsip dan Operasionalnya.* Yogyakarta:

For the pre-test and post-test were 5 items. For the pre-test in Experiment class conducted on 2 Mei 2016 and for the pre-test in control class conducted on 2 Mei 2016. The post-test in Experimental class conducted on 16 Mei 2016 and for post-test in control class conducted on 16 Mei 2016.

Table 3.7 Instrument of Writing Test

Read the instructions the students writing test:

1. Choose one of the topics that you like below:

    a. The lion and the mouse

    b. The legend of toba lake

    c. The snow white

2. You will have 60 minutes to write a narrative text based on of the topic.

3. Write a narrative text consist of minimally 50 words in one paragraph.

4. You will not be grade on the appearance of your paper, but your hand writing must be read able.

5. Your essay will be judge on clarity of the writing aspects on

    - Hand writing originality

    - Appropriate content with title

    - Ordinally text

    - Diction

    - Grammar

    - Diction writing

    - Handwriting orderly

BumiAksara, 2003, p. 20

6. Your text should include the following points:

    a. Orientation

    b. Complication

    c. Resolution

Adapt from MELAB instruction.[102]

F. Validity

Validity defined as the extents to which the instrument measure what it purposed to measure.[103] Validity was the most important characteristic to consider when constructing or selecting a test or measure technique. A valid test or measure was one which measure what it was intend to measure.[104] Validity was define as the extent to which scores on a test enable one to make meaningful and appropriate interpretations.[105]

Validity was the most important consideration in developing and evaluating measure instruments. Historically, validity defined as the extent to which aninstrument measure what it claime to measure. The focus of recent views of validity was not on the instrument itself but on the interpretation and meaning of the scores derive from the instrument.[106]

Three types of validation are important in the role as a classroom

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[102] Sara Cushing Weigle, *Assessing Writing*, series editor: J. Charles Akderson and Lyle F. Bachman, New York: Cambridge University Press, 2002, p.104.

[103] Michael J.Miller, Ph.D., *Reliability and Validity,* Western International RES 600: Graduation Research Methods, p.3.

[104]Postlethwaite,T.Neville, *Educational research: some basic concepts and terminology,* Hamburg University, Series Editor, 2005, p. 39.

[105]Donald Ari, Lucy Chesar Jacobs, Chris sorensen, Asghar Razavieh, *introduction to research in education.* Eight Edition, 2010, p. 224.

[106]Ibid, p. 225.

teacher: content validity, face validity, and construct validity.[107]

1. Content Validity

Sudijono in Mayasyarah stated content validity of a learning result test was the validity that was gain after doing the analyse, investigation or examination of the content that was contain in the learning result test.[108] Djiwandono in Mayasyarah stated content validity demand a content suitability between a skill being measure and a used test to measure.[109] Dornyei state content validity concern expert judgment about test content.[110] In this study content validity, the writer construct the test based on what material in syllabus.

2. Face Validity

Face validity was almost always perceive in terms of content: if the test sample the actual content of what the learner has achieve or expects to achieve, then face validity will be perceive. Ary et al. state face validity was a term sometime used in connection with a test's content. Face validity refers to the extent to which examine believe the instrument was measure what it was suppose to measure.[111] The writer formulate the question test in English language to prove the content validity. The writer formulate the test adapt from MELAB instruction.

3. Construct Validity

Dornyei stated construct validity show how the test results conform to a

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[107] H. Douglas Brown, *Teaching by Principles an Interactive Approach to Language Pedagogy (second edition),* p.388.

[108] 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. 16.

[109] Ibid

[110] Zoltan Dornyei, Research Method in Applied Linguistics Quantitative, Qualitative A Mixed Methodologies, p. 51.

[111] Donal Ary, Lucy Cheser Jacobs, Chris Sorensen, and asghar Razavieh, *Introduction to Research in Education eight edition,* p.228.

theory of which the target construct was a part.[112] Djiwandono in Mayasyarah state the construct validity was to show the finding score that reflect the same construct with the target skill of its measuring.[113] The writer formulate the test item as a test of writing test. The test used to measure the write skill of the students at the tenth grade of SMA Muhammadiyah1 Palangka Raya in Academic year 2015/2016.

In this study, the validation of instrument was mainly direct to the content validity. According to Sudijono in Mayasyarah, validity of learning result test was the validity that was gain after doing the analyse, investigation or exam of the content that was contain in the learning result test.[114] Related to the writing test, the content validity was check by exam and the test use to measure the objective. The writer was used inter-rater method (test of validity). Inter-rater was two rater who scores the students' writing to get the score compositions as possible.The writer use product moment correlation as the formula to calculate the validity from the test result.[115]

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

Where:

r_{xy} : Index Correlation Number " r" product moment.

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[112]Zoltan Domyei, *Research Method in Applied Linguistics Quantitative, Qualitative A Mixed Methodologies*, p. 51.

[113]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. 17.

[114]Mayasyarah, The Effectiveness of Video Compact Disc as an Audiovisual Medium toward The Students' Listening Comprehention Score of the Tenth Grade Students at MAN Model of Palangka Raya, Unpublished Thesis, p. 16.

[115]Anas Sudijono, *Pengantar Statistik Pendidikan,* Jakarta: PT. RajaGrafindo Persada,1997,p. 193.

N : Number of Case.

ΣXY : Multiplication Result between Score X and Score Y.

ΣY : Total Value of Score X.

ΣY : Total Value of Score Y.

Interpretation:

$r_{xy} > r_t$ = Valid

$r_{xy} < r_t$ = Invalid

According to Riduwan in Mayasyarah, he states the criteria of interpretation the validity:[116]

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.

G. Reliability

Reliability indicate how consisten a test measure whatever it does measure.[117] The reliability of a measure instrument was the degree of consistency with which it measure whatever it was measure.[118] Reliability was concern with the effect of such random error of measure on the consisten of score. But some

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[116]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.

[117]Donald Ari, Lucy Chesar Jacobs, Chris sorensen, Asghar Razavieh, *introduction to research in education,* Eight Edition, 2010, p. 224.

[118]Ibid, p. 236.

error involved in measures were predictable or systematic.[119]

Reliability procedures were concern with determining the degree of in consistency in score cause by random error.[120] A reliable test was consistent and dependable.[121] Scores reliability was the consistency of scoring by two or more scores.[122]

A simple way to determine the reliability of rating was to has two or more observer independent rate the same behavior and than correlate the observers' ratings. The result correlation was call the interrater.[123] It indicated accuracy in scoring composition of a rater in correct the students' test score twice.

In this study, the writer used inter-rater to correct the student's score. The rater were the writer self, and Lydia Shanti, S.Pd teacher of English in SMA Muhammadiyah1 Palangka Raya. The writer used analytic scoring. In analytic scoring, scripts were rated on several aspect of writing or criteria rather than gave a single score. Depending on the purpose of the assessment, scripts might be rate on such feature as content, organization, cohesion, register, vocabulary, grammar, or mechanic.[124]

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[119] Ibid, p.238.
[120] Ibid, p.239.
[121] H. Douglas Brown, Teaching by Principles an Interactive Approach to Language Pedagogy, Second Edition, p. 386.
[122] Ibid, p. 387.
[123] Donald Ari, Lucy Chesar Jacobs, Chris sorensen, Asghar Razavieh, *introduction to research in education,* Eight Edition, 2010, p. 256.
[124] Sara Cushing Weigle, *Assessing Writing,* series editor: J. Charles Akderson and Lyle F. Bachman.New York: Cambridge University Press, 2002, p. 114.

H. Data Analysis Procedures

To analyze the data the researcher did some procedure below:

a. Collecting the students' score of pretest and posttest

b. Arranging the obtained score into the distribution of frequency of score table.

c. The calculating mean, median, standard deviation and standard error of variable X_1 from the experiment group.

d. The calculating the mean, standard deviation, and standard error of variable X_2 from the control group.

e. The calculating the standard error from the difference mean between variable X_1 and X_2

f. The writer used manual calculation t-test and SPSS 18 to answer the problem of the study with formula:

a. It calculated the standard error of the difference between X-1 and X-2 as follow:[125]

$$SE_{M1} - SE_{M2} = \sqrt{(SEm1)^2 + (SEm2)^2}$$

b. Then, it inserted to the formula to get value of $t_{observed}$ as follow:[126]

$$T_0 = \frac{M1 - M2}{SEm1 - SEm2}$$

Which the criteria:

If **$t_{observed}$ (the value) $\geq t_{table}$, it means H_a was accepted and H_0 was rejected.**

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[125] Triwid syafarotun Najah, p.97
[126] Ibid,

If $t_{observed}$ **(the value)** $\leq t_{table}$**, it means H_a was rejected and H_o was**

accepted

where:

M1 $-$ M2   : Differentiation of Two Means.

SEm_1- m_2 : The Standard Error of the Difference between Two Means.

With the criteria:

SEm_1- m_2 $_:$ If t_{test}> t_{table} : Ha is accepted and Ho is rejected.

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

g. Interprets the result of $t_{test.}$ Previously, it accounted the degrees of freedom

(df) with the formula:[127]

Df = (N1 + N2- 2)

Where:

Df: Degrees of freedom

N1: Number of subject group 1

N2: Number of subject group 2

2: Number of variable

After that, the value of t_{test} consulted on the t_{table} at the level of

significance 1% and 5%. In this study, the writer used the level of

significance at 5%. If the result or t_{test} was higher than t_{table}, it meant H_a was

accepted. But if the result of t_{test} was lower than t_{table}, it means H_o was

accepted

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[127] Anas Sudijono, *Pengantar Stastistik Pendidikan,* Jakarta: Rajawali Press, 2012, p.285.

h. After calculated the data by using manual, then calculated the result t_{test} to test the hypothesis of the study by using SPSS 18 program.

i. Then, interpretation was made to answer the research problem.

j. The last, discussed and concluded the result of data analysis.