

CHAPTER III

RESEARCH METHOD

In this chapter discusses (a) research design, (b) approach and type of the study, (c) place and time of the study, (d) population and sample of the study, (e) data collecting procedure, (f) instrument of the study, (g) data analysis procedures.

A. Research Design

The design of this study is correlation; it is caused of this study concerned about correlation between grammar mastery and writing ability. Because of that, the it is used the correlation design of this study. This design is to find out whether there is correlation, searched the level of correlation then the clarity obtained from the theory. “Correlation means the extent to which the two variables vary directly (positive correlation) or inversely (negative correlation)”¹.

B. Approach and Type of Study

The present study is purely quantitative. The main purpose of the research is to find out the correlation between the grammar mastery and the writing ability in narrative text. Therefore, the research is naturally quantitative and Creswell elaborates it as a type of educational research that involved the researcher’s decision

¹ Sambas ali muhidin and maman abdurahman, *Analysis Korelasi, Regresi, Dan Jalur Dalam Penelitian*, bandung: pustaka setia, 2007,p.105

to determine what to be studied, to ask particular and narrowed questions, to gather numeric (numbered) data from subjects, to process the collected data statistically, and to investigate them objectively or without any bias.

The most appropriate method to fulfill the research's objectives is by implementing correlational research design. Johnson explains that in this design, the level of relationship or connection between the scores of two or more variables which are collected more or less at the same time is investigated by using statistical test. The particular type of correlational research that was applied was the explanatory design since according to Creswell, it is intended to "explain the association between or among variables".

C. Place and Time of The Study

This research was conducted at MTs An-Nur Palangka Raya, at Tjilikriwut Km 01, Palangka Raya Central Kalimantan on July to September 2016.

It was chosen MTs An-Nur for the research because English at MTs An-Nur has been taught to the students starting from first year to the third year. The students have been learnt about grammar. Ideally, what have been taught to the students, it could make them be able to use English both in spoken and written forms.

Based on the observation and practice teaching in MTs An-Nur, the students have learned about tenses, they have many vocabularies, and ever heard and see the person, thing and animal. Sometimes they write just as they can and do not pay

attention in detail with they are grammar. Writer want knew there is or there is no correlation between grammar mastery of students an writing ability of students.

D. Population and Sample of The Study

Population is the large group about which the generalization in made of all the ninth grade students at MTs An-Nur Palangka Raya total of students are 72 students².

Sample is the small group the observed. Sample is half of numbers and characteristic in the population. In this study, the writer used purposive sample, the sample was taken based on the certain purpose. The writer taken sample classes A and B classes at ninth grade students of MTS An-Nur Palangka Raya.

Table 3.1 The population of student at ninth grade of MTs An-Nur Palangka Raya

No	Classes	Total
1	IX A	23
2	IX B	24
3	IX C	25
Total		72

E. Data Collecting Procedure

The study will be aim at investigation at the correlation between students' Grammar Mastery and Writing Ability at Ninth Grade Students Of MTs An-Nur

² Ibid, p.148

Palangka Raya. To collect the data in this study, the writer used several procedures in collecting the data, as follows:

1. Tryout

Tryout is a test ascertain the qualification of applicants, as for an athletic team or theatrical role. An experimental performance of a play before its official opening³. Try out is trying something to find out about it, “a trial of progesterone failed to relieve the pain”. Try out is a procedure that ascertains effectiveness, value, proper function, or other quality.

The writer triedout the test instrument before it was applied to the real sample in the study. The writer using tryout for know the validity of tests items. In this study the writer trying out the test at C class, and the result of the tryout there are 5 tests is not valid. The test type was Grammar test.

2. Test

Tests are valuable measuring instruments for educational research. A test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned⁴. The writer measured the students' grammar and their writing ability. According to J.B. Heaton test is geared to the

³ Houghthon Miffin, Dictionary of the English Language (Fifth Edition), American Heritage. 2011

⁴Donald Ary, Lucy Cheser Jacob, Chris Sorensen, Asghar Razavieh.Introduction to Research in Education, (Eighth Edition).(Canada: Wadsworth Cengage Learning, 2010).p.201.

teacher taken place, whereas in the latter case the teaching is geared to the test, standardized test and public examination⁵.

The writer applied individual test based on how to do the test criteria. Since, the writer want to measure the students' ability both grammar and writing narrative text and of course the test is individual test. The type test include;

- a. Grammar test use multiple choice and.
- b. Writing test topic is narrative text

3. Documentation

There some documents in this study, that are: According to Arikunto Suharsimi documentation is way of getting information or data through notes, transcripts, books, newspaper, magazines, agenda, etc⁶. In this study the writer use document likes English book, syllabus, and lesson plan from the teacher. And documentation provides the researcher with information that is used to support the available data. In other words, it can be stated that documentation is used to collect data through printed materials.

⁵ J.B. Heaton, Language Testing. (England:Logman, 1974).p.1.

⁶ Arikunto Suharsimi, Prosedur Penelitian: Suatu Pendekatan Praktek, p. 206.

F. Instrument Of The Study

The instrument of this study consists of three sections. They are instrument try-out, objective tests form multiple-choice that to measure grammar tests and subjective test is designed to measure the writing test.

1. Instrument Try-Out

The writer tried-out the test instrument before it was applied to the real sample in the study. The test type was multiple choice for know the students mastery of grammar. Try out was intended to measure validity and reliability of the test items.

The tryout of the test was held on May, 2016. It was administered to different students that were students of IX-C 25 students were taken as the subjects of the try out. And the result of the tryout that are 5 items is not valid. 3 items is very high and 2 items is very low.

The analysis of the validity and reliability were the next step conducted after the tryout had been administered.

a) Validity

Validity is defined as the extents to which the instrument measures what it purpose to measure.⁷ Validity is the most important characteristic to consider when constructing or selecting a test or measurement technique. A valid test or measure is

⁷ Michael J. Miller, Ph.D., *Reliability and Validity*, Western International RES 600: Graduation Research Methods, p.3.

one which measures what it is intended to measure.⁸ Validity is defined as the extent to which scores on a test enable one to make meaningful and appropriate interpretations⁹.

Validity is the most important consideration in developing and evaluating measuring instruments. Historically, validity was defined as the extent to which an instrument measured what it claimed to measure. The focus of recent views of validity is not on the instrument itself but on the interpretation and meaning of the scores derived from the instrument¹⁰.

Three types of validation are important in the role as a classroom teacher: content validity, face validity, and construct validity¹¹.

1) Content Validity

Sudijono in Mayasarah states content validity of a learning result test is the validity that is gained after doing the analysis, investigation or examination of the content that is contained in the learning result test¹². Djiwandono in Mayasarah states content validity demands a content suitability between a skill being measured and a used test to measure. Dornyei states content validity concerned expert judgment

⁸Postlethwaite,T.Neville, *Educational research: some basic concepts and terminology*, Hamburg University, Series Editor, 2005, p. 39.

⁹Donald Ari, Lucy Chesar Jacobs, Chris sorensen, Asghar Razavieh, *introduction to research in education*, Eight Edition, 2010, p. 224.

¹⁰ Ibid, p. 225.

¹¹ H. Douglas Brown, *Teaching by Principles an Interactive Approach to Language Pedagogy (second edition)*,p.388.

¹² Mayasarah, *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

about test content.¹³ In this study content validity, the writer construct the test based on what material in syllabus.

2) Face Validity

Face validity is almost always perceived in terms of content: if the test samples the actual content of what the learner has achieved or expects to achieve, then face validity will be perceived. Ary et al. state face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which examinees believe the instrument is measuring what it is supposed to measure.¹⁴ The writer formulate the question test in English language to proved the content validity. The writer formulate the test adapted from MELAB instruction.

3) Construct Validity

Dornyei states construct validity showed how the test results conformed to a theory of which the target construct was a part.¹⁵ Djiwandono in Mayasyarah states the construct validity is to show the finding score that reflect the same construct with the target skill of its measuring.¹⁶

In this study, the validation of instrument was mainly directed to the content validity. According to Sudijono in Mayasyarah, validity of learning result test is the

¹³Zoltan Dornyei, *Research Method in Applied Linguistics Quantitative, Qualitative A Mixed Methodologies*, p.51

¹⁴ Donal Ary, Lucy Cheser Jacobs, Chris Sorensen, and asghar Razavieh, *Introduction to Research in Education eight edition*, p.228.

¹⁵ Zoltan Dornyei, *Research Method in Applied Linguistics Quantitative, Qualitative A Mixed Methodologies*, p. 51.

¹⁶ 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.

validity that is gained after doing the analysis, investigation or examination of the content that is contained in the learning result test. Related to the writing test, the content validity was check by examining and the test use to measure the objectives. The writer was used inter-rater method (test of validity). Inter-rater was two raters who score the students' writing to get the score compositions as possible. The writer used product moment correlation as the formula to calculate the validity from the test result¹⁷.

b) Reliability

The reliability of a measuring instrument is the degree of consistency with which it measures what everits measuring. This quality is essential in any kind of measurement¹⁸. It is use to prove that the instrument approximately believe is use as the tool of collecting the data because it is regard well. The reliable instrument is the constant.

Reliability correlate with the instrument can give the same result to the object that is measure repeatedly in the same time, Heaton states:

“Reliability is necessary characteristic of any good test: for it to be valid data all, a test must first be reliable as a measuring instrument. If the test is administrated to the same candidates on different occasion (with no language

¹⁷Anas Sudijono, *Pengantar Statistik Pendidikan*, Jakarta: PT. RajaGrafindo Persada,1997,p. 193.

¹⁸DonalAry, Lucy Chesar Jacob, Chris Sorensen, AsgharRazavieh.*Introduction to Research in Education*, (Eighth Edition), Canada: Wadsworth Cengage Learning, 2010).p. 236

practice work taking place these occasion) then, to the extent that is procedures differing result, it not reliable”¹⁹.

To know the reliability of the instrument test, the writer is use the Alpha's frame. The formula is²⁰.

$$r_{11} = \frac{\left[\frac{K}{K} \right] - \left[\frac{\sum st}{st} \right]}{K}$$

Where :

R₁₁ : Coefficient of test reliability

K : Number of item

St : Total Variants

$\sum st$: Result of total variants score each item

The steps in determining the reliability of the test are :

a. Measuring the variants score each item with the formula :

$$S_i = \frac{SX_1^2 - (SX_i)^2}{N}$$

b. Then sum the all item variants with the formula:

$$SS_i = S_1 + S_2 + S_3 + \dots \dots \dots S_N$$

¹⁹J.B. Heaton, *Writing English Language*, (England: Longman, 1974).p.155.

²⁰Riduwan, *Metodedan Teknik Menyusun Tesis*, Bandung: Alfabeta, 2008, p. 88.

- c. Measuring the total variants with the formula:

$$S_t = \frac{(\sum X_t)^2}{\sum X_1^2 - \frac{N}{N}}$$

Where :

S_t = the total variant

\sum_t^2 = the square of table X

$(\sum t)^2$ = the sum of x table square

N = the number of testes

- d. Calculating the instrument reliability using *Alpha*.
- e. The last decision is comparing the value of r_{11} and r_t

$r_{11} > r_{table} = \text{Reliable}$ $r_{11} < r_{table} = \text{NotReliable}$

- f. To know the level of reliability of instrument, the value of is interpreted based on the qualification of reliability as follows:²¹

0.800 – 1.000 : Very High Reliability

0.600 – 0.799 : High Reliability

0.400 – 0.599 : Fair Reliability

0.200 – 0.399 : Poor Reliability

0.00 – 0.199 : Very Poor Reliability

²¹ Abdul Qodir, *Evaluasi Pembelajaran Bahasa Inggris*, Solo: El Torros, 2009, p.88.

Interpreter reliability is a measure of reliability used to assess the degree to which different judge or raters agree in their assessment decisions. Interpreter reliability is useful because human observes will not necessarily interpret answers the same way; rater may disagree as to how well certain responses or material demonstrate knowledge of the construct or skill being assessed.

An interpreter reliability analysis using the kappa statistic will perform to determine consistency among raters, the interpreter reliability for the raters was found to be $\kappa = 0,68$ ($p < .0.001$), 95% *CI* (0.504, 0.848) . A more complete list of how κ might be interpreted as follows.²²

2. Grammar Test

The writer applied objective test for grammar. Tests are objective when personal feelings are not considered in the scoring process. The techniques used in objective tests make scoring entirely dependent on the achievement of the tests. Objectivity by itself does not make the test valid and validity is an important feature for any test. For the test to be valid, it should first test exactly what it is intended to test and second should test that very well.

²² Landis, J. R., G. G, *The Measurement of observer agreement for categorical data*, Biometrics, 1977, p.159-174.

According to Heaton objective tests need much time and efforts to write since the examiner has to provide the answers as well as the questions. An objective test is reliable because it gives stable scores.

Techniques used in objective tests:

1. Multiple – choice items
2. Matching items
3. True / False items
4. Rearrangements items
5. Transformation items

According to Heaton, there are some of the most common types that used to test of grammatical features of the language. The Types of the test such as.²³ Multiple Choice, Error Correction, Compliment Items, Transformation Item, items Involving the Changing of Word, Broken Sentence Item, Pairing and Matching Items, and Combination Items and Addition Item. And the writer used multiple-choice for grammar test.

Multiple – choice item (MCI) is one of the most widely used type of items in objective test.(multiple) can provide a useful means of learning and testing in various learning situations provided that it is always recognized that such items , test knowledge of grammar, vocabulary, etc. rather than the ability to use language.

²³ J.B Heaton, Writing English Language Test, (New York: Longman Group, 1988).P.34

Although they rarely measure communication. They can be proved to be useful in measuring student's ability to recognize correct grammatical forms.

3. Writing Test

The writer applied subjective test for writing test. According to Heaton, to answer a subjective test, the pupil has to use his own words and expressions; whereas to answer an objective test the pupil has to select his answer from among four or even more alternatives. Subjective tests are used to test ideas, culture, coherence and creativity.²⁴ Subjective test doesn't encourage guessing easy to write, difficult to score and suit for a small number of testee. This type of test can't be scored by a machine.

Subjective items: require students to write and present an original answer. It includes short – answer essay, extended – response essay, problem solving, and performance tasks. Advantages of subjective tests are higher learning skills are utilized by learners, for example synthesis, analysis and evaluation. Brevity and consciousness, precious of expression is developed among learners. It can quickly and easily constructed and eliminates guessing.

Disadvantages of subjective tests are subjectivity the same piece of work can get different marks, Students with poor language prowess tends to fail. Time is consumed when answering these questions, usually it is limited in scope, and thus it does not cover much content.

²⁴ Heaton , J.b (1997) .Classroom Testing . London . Longman

Techniques used in subjective tests :

1. Composition writing
2. Essay writing
3. Completion type
4. Answer – these – questions type

G. Data Analysis Procedures

In analyzing the data, the writer applied correlation product moment which developed by Carl Pearson. “Correlation product moment is used to show whether there is a correlation between X variable and Y variable.” The symbol of the correlation product moment is “r”²⁵. Data operation technique is done through the steps below:

- a) Finding the number of correlation using formula:

$$r_{xy} = \frac{(N \sum xy) - (\sum x)(\sum Y)}{\sqrt{[(N \sum X^2) - (\sum X)^2][(N \sum Y^2) - (\sum Y)^2]}}$$

Where :

r_{xy} : Table coefficient of correlation

$\sum X$: Total value of score X

$\sum Y$: Total value of score Y

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

²⁵ Drs. Anas Sudijono, *Pengantar Statistika Pendidikan*, (Jakarta: Rajawali, 2006) p. 27

N : Number of students of the study.

This formula is used in finding index correlation “r” product moment between X variable and Y variable (r_{xy})

b) To know the significance between two variables, the formula of the significance test is:²⁶

$$t_{observed} = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Where :

t = The value of $t_{observed}$

r = The coefficient of correlation of the result of $r_{observed}$

n = Number of students

The distribution of t_{table} for $\alpha = 0,05$ and the degree of freedom (n-2) with the measurements of validity using these criteria below :²⁷

Interpretation :

$t_{observed} > t_{table} = \text{Valid}$

$t_{observed} < t_{table} = \text{Invalid}$

²⁶ Ridwan and H. Sunarto, *Pengantar Pendidikan, Sosial, Ekonomi, Komunikasi dan Bisnis*, (Bandung: Alfabeta, 2011), p. 81

²⁷ Riduwan, *Metode dan Tehnik Menyusun tesis*, Bandung :Alfabeta, p. 110.

- c) To interpret the index scores of “r” correlation, product moment (r_{xy}) usually used the interpretation such as bellow:²⁸

The interpretation of correlation “r” Product Moment.

The score of “r” product moment (r_{xy})	Interpretation
0.00 – 0.199	There is a correlation between X and Y, but the correlation is very weak or little. So it is considered go significant correlation in this rating.
0.200 – 0.399	There is a correlation between X and Y, but the correlation is weak or little.
0.400 – 0.599	There is a correlation between X and Y. The value is medium.
0.600 – 0.799	There is high correlation between X and Y
0.800 – 1.000	There is very high correlation between X and Y

And also the writer used grammar scoring system as follows:

$$S = n/N \times 100$$

Where :

S = Students’ score

n = Number of true answer

N = Number of test items²⁹.

²⁸ Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D*, (Bandung, Alfabeta, 2011), p. 184.

²⁹ Depdikbud, *Kurikulum Pedoman Khusus Bahasa Inggris Madrasah Tsanawiyah*, Jakarta: Direktorat Jendral Agama Islam, 2004.

The procedure of data analyze ass follows the figure:

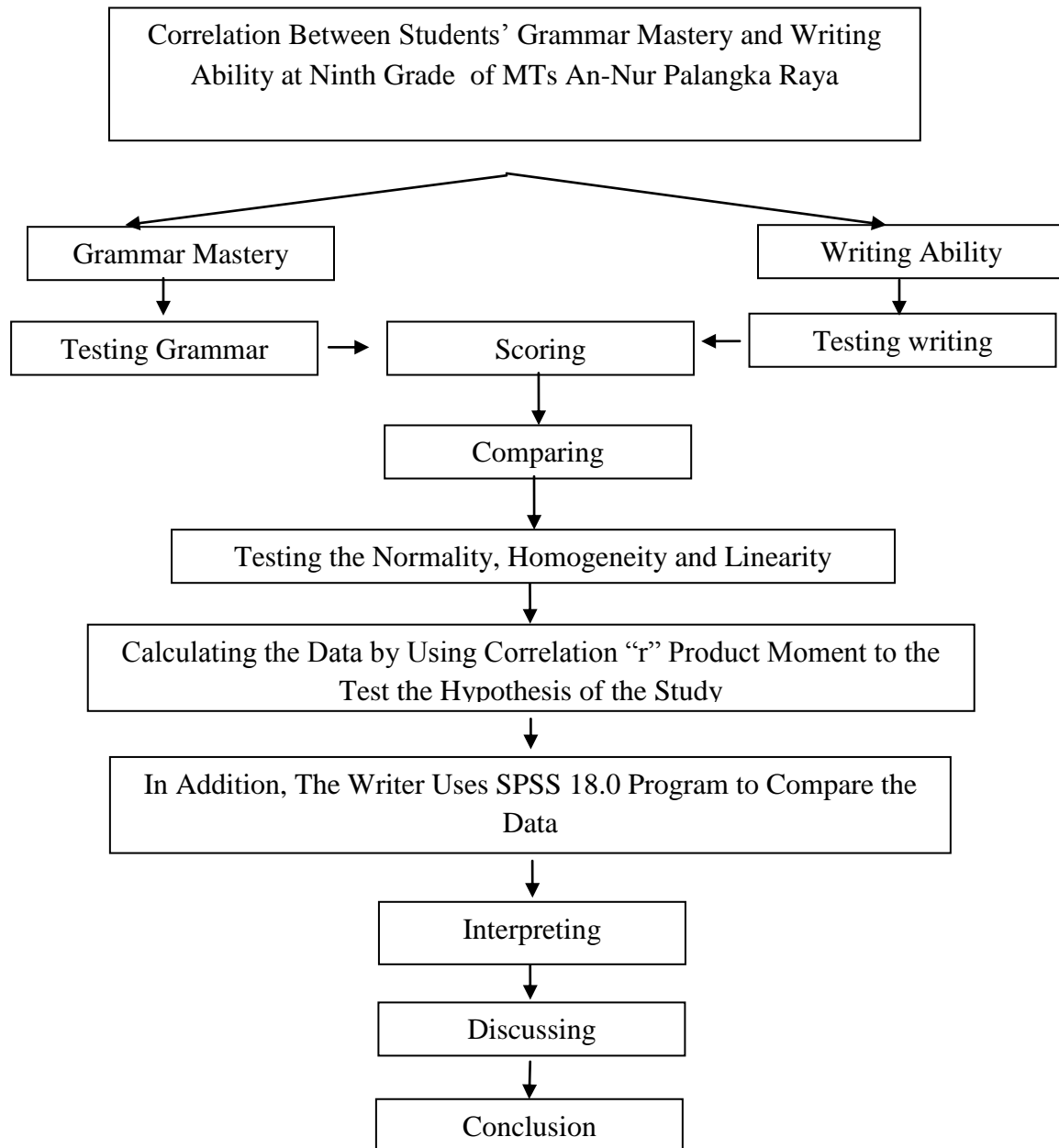


Figure 3.1 The procedure of collecting and analysis data as explain in figure.