

CHAPTER III RESEARCH METHOD

In this chapter the researcher explained about the research methodology. Its' purpose is to answer the problem of the study. This consists of place and time of the study, research design, population and sample, data collecting technique, data analysis technique, research instrument, instrument validity and instrument reliability.

A. Place and Time of The Study

The researcher conducted the research at SMA N 1 Kotawaringin Lama, with the number of students are 58, which located at Jl. Pangkalan Muntai Km.2 Kotawaringin Lama, Kabupaten Kotawaringin Barat. The research was conducted from 26th March 2016 up to 9th April 2016.

B. Research Design

In this study, the researcher used quantitative correlation method. Correlation research methods are used to assess relationships and patterns of relationship among variables in a single group of subject.¹ The main object of this study is to discover the correlation between two intended variables, students' skill in writing recount text which it figures out how much the understanding of past tense affects their skill in writing recount text.

¹ Donal Ary, at all. *Introduction to Research in Education, (Eighth Edition)*.(Canada:Wadsworth Cengage Learning,2010).p.351.

C. Population and Sample

1. Population

The first step in selecting sample is to determine the population.²

A population is define as all members of any well-defined class of people, events or objects.

Table 3.1

Number of Eleventh Grade of SMA N 1 Kotawaringin Lama.

No.	Class	Number of Student
1.	XI-IPA	23
2.	XI-IPS I	17
Total		40

In this study the population was the eleven class of SMA N 1 Kotawaringin Lama academic year 2015/2016, the total are 40 students.

2. Sample

A sample is a portion of a population.³ Random sampling technique was used to determine the number of the sample of this study because the writer thaught the random sampling technique is the best way totake the sample. The meaning of random is “withaout purpose or by accident”. Random sampling is purposeful and methodical. A sample selected randomly is not subject to tthe biases of the researcher.⁴

In this study, there were two classes as the sample as follows:

²Ibid, p.149.

³Ibid,p.148.

⁴Ibid,p.151.

Table 3.2

Number of Sample

No.	Class	Number of Student
1.	XI-IPA	22
2.	XI-IPS I	18
Total		40

D. Data Collecting Techniques

In this reserach researcher divided test into two tests in collecting data:

1. Students' mastery of past tense

To know the students'mastery of past tense, researcher collected the data from the students by the test about past tense. The test is multiple choice test. The total of test items were 25 items.

2. Students' achievement in writing recount text

To know their writing achievement in writing past recount text, researcher asked the students to construct at least 3 paragraphs about their holiday or their yesterday's activities.

Similar to scoring system of speaking tests, there are also two scoring systems of writing tests, i.e. analytic system and holistic system. The first is scoring the learners' writing ability by separating the components of writing skill into sub skills, and the rater scores each

component, and then sums the sub scores into final score.⁵ The latter is scoring/judging the learners' writing ability on the basis of the rater's general impression on the learners' performance without necessarily separating the writing components. Thus, the rater directly comes to a single score without totaling the sub scores such that in the analytic system.

For classroom evaluation learning is best served through analytic scoring in which as many as six major (or five) elements of writing are scored, thus enabling learners to home in on weaknesses and to capitalize on strengths. The six major elements of writing, then cover organization, logical development of ideas, grammar, punctuation/spelling/mechanics, and style, and quality of expression, whereas the five major elements cover content, organization, vocabulary, syntax, and mechanics.

Analytic scale for rating composition tasks suggested by Brown and Bailey in HD Brown covers some points as follows:⁶

Table 3.3
Scoring Rubric of Writing (HD Brown)

No.	Elements of Writing	Category/Rating Scale	Description
1.	Organization, Introduction, Body, and Conclusion	20 – 18 17 – 15 14 – 12 11 – 6 5 – 1	Excellent to Good Good to Adequate Adequate to Fair Unacceptable Not college level work

⁵Pandiya, *Jurnal Pengembangan Humaniora* Vol. 13 No. 1, April 2013, p.47.

⁶Ibid, p.48

2.	Logical of Development of ideas, Content	20 – 18 17 – 15 14 – 12 11 – 6 5 – 1	Excellent to Good Good to Adequate Adequate to Fair Unacceptable Not college level work
3.	Grammar	20 – 18 17 – 15 14 – 12 11 – 6 5 – 1	Excellent to Good Good to Adequate Adequate to Fair Unacceptable Not college level work
4.	Punctuation, Spelling, and Mechanics	20 – 18 17 – 15 14 – 12 11 – 6 5 – 1	Excellent to Good Good to Adequate Adequate to Fair Unacceptable Not college level work
5.	Style and Quality of Expression	20 – 18 17 – 15 14 – 12 11 – 6 5 – 1	Excellent to Good Good to Adequate Adequate to Fair Unacceptable Not college level work

In this study, the researcher applied inter-rater; two raters would employed to score the students' writing test. The two raters were the writer self and one the native speaker of English. The first rater is the writer herself, and the second rater is the English teacher of SMA N 1 Kotawaringin Lama, the researcher chose the second researcher because the second rater is expert in oral or written English.

E. Data Analysis Techniques

The data of the study was the score of students' mastery of past tense test and students' writing past recount text test.

After the data of mastery of past tense and writing past recount text had been collected, the scores of the two tests were analyzed to determine whether there was correlation or not between two variables covered this study.

In finding out the correlation between students' mastery of past tense and their achievement in expressing past activities in writing, researcher applied the product moment correlation. The formula is:

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

In which:

r_{xy} : Corelation coefficient.

N : the number of the subjects

$\sum X$: the sum of the total score in grammar test

$\sum Y$: the sum of the total score in writing test

$\sum X^2$: the sum of the square total score in grammar test

$\sum Y^2$: the sum of the square total score in writing test

$\sum XY$: the sum of the multiple of the score from grammar test and writing test in each number.

When two variables are highly related in a positive way, the correlation between them approaches +1.00. when they are highly related in negative way, the correlation approaches -1.00. when there is a little relation between variables,the correlation will be near 0.

Table 3.4

The Interpretation of Correlation “r” Product Moment

The score of “r” Product Moment (r_{xy})	Interpretation
0.00-0.100	There is a correlation between X and Y, but the correlation is very weak or little. So its considered no significant correlation in this rating.
0.20-0.399	There is a correlation between X and Y, but it is weak or little.
0.40-0.599	There is a correlation between X and Y. The value is medium.
0.60-0.799	There is high correlation between X and Y.
0.8-1.000	There is very high correlation between X and Y.

Before calculated the correlation, the researcher calculated normality, homogeneity and linearity.

1. Normality

Normality is used to know the normality of the data that is going to be analyzed have normal distribution or not.⁷ Therefore, this study used SPSS 16.0 program to measure the normality of the data.

2. Homogeneity

⁷Rahayu Kariadinata & Maman Abdurrahman, *Dasar-dasar Statistik Pendidikan*, Bandung: Pustaka Setia, 2012, h. 177

Homogeneity test aimed to test the equality (homogeneity) of some samples.⁸ The homogeneity of the whole test can be estimated using SPSS 16.0 program.

3. Linearity

Linearity test aimed to determine whether the two variables significantly had a linear relationship or not. Moreover, to test the linearity of the data the writer used SPSS 16.0 program.

F. Research Instruments

In this research, researcher used test as an instrument of the research. The test divided into two: grammar test and writing test.

1. Grammar test

In grammar test, researcher asked the students to answer 25 multiple choice question with 4 alternatives answer about past tense.

2. Writing test

In writing test, researcher asked the students to construct at least 3 paragraphs about their yesterday's activities.

3. Try Out

Before the test used as an instrument to collect the data, it had been tried out first to the students in another class. The students were given 50 items of test and 45 minutes in doing the test. The tryout of the test was

⁸ Ronald E. Walpole, *Pengantar Statistik*, Jakarta: Gramedia, 1995, h. 70 (dikutip dari: statisticsanalisis.file.wordpress.com/2010/05/13/uji-homogenitas/). (Online 18 Maret 2015)

held on April, 26th 2016. It was administered to different students that were students of XI-IPS 2. 18 students were taken as the subjects of the tryout.

G. Instrument Validity

Validity is the most important consideration in developing and evaluating measuring instruments.

In this research researcher used three validities to know the instrument validity of the study, they are content validity, face validity and construct validity.

Validity is the extent to which a measure actually taps the underlying concept that it purports to measure.⁹ In this study, the validity was classified into content, face and construct.

1. Content validity

Content validity is essentially and of necessity based on the judgment, and such judgment must be made separately for each situation.¹⁰ It refers to whether or not the content of the manifest variables is right to measure the latent concept that is trying to measure.

2. Face Validity

According to Ary face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which

⁹Donal Ary, at all. *Introduction to Research in Education, (Eighth Edition)*.(Canada:Wadsworth Cengage Learning,2010).p.229

¹⁰ Ibid, p.215

examinees believe the instrument is measuring what it is supposed to measure.¹¹

3. Construct Validity

Ary Donald states that construct validity (measurement) is the extent to which a test or other instrument measures what the researcher claims it does; the degree to which evidence and theory support the interpretations of test scores entailed by the proposed use of the test.¹²

Researcher use the following formula:¹³

$$r_{bis} = \frac{M_P - M_T}{St} \times \sqrt{\frac{p}{q}}$$

In which:

r_{bis} = correlation coefficient biseral

M_P = mean score of correct responses

M_T = Mean of the score

p = Proportion of correct responses on a single item

q = Proportion of incorrect responses on the same item ($q = 1-p$).

St = Standard deviation of the test score,

¹¹ Ibid, p.288

¹² Ibid, p.288

¹³ Sumarna Surapranata, *Analisis, Validitas, dan Interpretasi Hasil Tes*, (Bandung: PT. Remaja Rosdakarya, 2006), p. 61.

$$St = \sqrt{\frac{\sum x^2 - \frac{(\sum X)^2}{N}}{N}}$$

Table 3.5

**To classify validity of the test the writer use the criteria of correlation
coefisien biseral as follow:¹⁴**

Interval	Criteria
0,80 – 1,000	Very High
0,60 – 0,799	High
0,40 – 0,599	Fair
0,20 – 0,399	Low
0,00 – 0,199	Very Lowest

According to Sumarna Surapranata, if the test item has validity $\geq$ 0,30 (a good test item) it can be use as a research instrument, meanwhile if the test item has validity $<$ 0,30 it can not be use as a research instrument.¹⁵

¹⁴ Sugiyono, *Metode Penelitian Pendidikan*,, p. 257.

¹⁵ Sumarna Surapranata, *Analisis, Validitas, dan Interpretasi Hasil Tes*,..., p. 64.

H. Instrument Reliability

Reliability is the degree of consistency with which it measures whatever it is measuring. To be able to make valid inferences from a test's scores, the test must first be consistent in measuring whatever is being measured.¹⁶

The writer use the following formula K-R 21:¹⁷

$$r_{11} = \left[\frac{k}{k-1} \right] \left[1 - \frac{M(k-M)}{kVt} \right]$$

In which:

r_{11} = Instrument Reliability

k = number of items on the test

M = mean total of the score

Vt = Variance of scores on the total test.¹⁸

$$Vt = \frac{(\sum x^2) - \frac{(\sum x)^2}{N}}{N}$$

In which :

Vt = Variance of scores on the total test

$(\sum x^2)$ = sum of the squared scores.

$(\sum x)^2$ = sum of X

¹⁶Donal Ary, at all. *Introduction to Research in Education, (Eighth Edition)*.(Canada:Wadsworth Cengage Learning,2010).p.238

¹⁷ Suharsimi Arikunto, *Manajemen Penelitian*, (Jakarta: Rineka Cipta, 2000), p.227.

¹⁸ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,Edisi Revisi*, ...,p.157.

$\bar{N}$ = mean total score of the test item.

1. Difficulty Level

The difficulty level of a test is, therefore, indicated by the percentage of the students who get the items right. Thus, the more difficult an item is, the fewer will be the students who answer correctly.¹⁹

To find out the difficulty level of each item in the past tense test, the researcher used the following formula:

$$P = \frac{B}{JS}$$

In which:

P= index of difficulty

B= the number of students who answer the item correctly

JS= the total number of students.

Table 3.6

The Criteria of Difficulty Level

Interval	Criteria
0,00-0,30	Difficult
0,31-0,70	Medium
0,71-1,00	Easy

¹⁹ *Ibid*, p. 372.

After computing the difficulty level of all items and consulting to the criteria of the difficulty level, the following data was obtained as follow:

Table 3.7

Result of the Difficulty Level of Past Tense Items

Criteria	Number of Item
Medium	3, 4, 5, 6, 8, 10, 21, 23, 25, 26, 27, 29, 31, 33, 35, 40, 43, 44, 48
Easy	9, 12, 28, 38
Difficult	1, 2, 7, 11, 13, 14, 15, 16, 17, 18, 19, 20, 22, 24, 30, 32, 34, 36, 37, 39, 41, 42, 45, 46, 47, 49, 50

2. Discriminating Power

The index of discrimination tells us whether those students who performed well on the whole test tended to do well or badly on each item in the test.

To figure out the discriminating power of each item of the past tense test the following formula was used:²⁰

²⁰ Suharsimi Arikunto, *Dasar-dasar Evaluasi Pendidikan, Edisi Revisi*, (Jakarta: Bumi Aksara, 2011), p. 213-214.

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B} = P_A - P_B$$

In which:

D = discrimination index.

BA = number of students in upper group who answered the item correctly.

JA = number of students in upper group.

BB = number of students in lower group who answered the item correctly.

JB = number of students in lower group.

PA = proportion students in upper group who answered the item correctly.

PB = proportion students in lower group who answered the item correctly.

Tabel 3.8

The Criteria of Discrimination Index

Interval	Criteria
0,00-0,20	Poor
0,21-0,40	Medium
0,41-0,70	Good
0,71-1,00	Satisfactory