

CHAPTER III

METHODS OF INVESTIGATION

This chapter were explained research design, object of the study, population and sample of the study, variables of the study, hypotheses, instruments of the study, method of collecting data, and method of analyzing data.

A. Research Types

This study used the quantitative approach which measures central tendency, variability, relationship, and relative position. The measures of central tendency were used to determine the typical or average score; measures of variability indicate how spread out a group of scores; measures of relationship indicate to what degree two sets of scores are related; and measures of relative position describe a subject's performance compared to performance of all other subjects.

According to Dornyei, "Quantitative research involves data collection procedures that result primarily in numerical data which is then analyzed primarily by statistical method."¹ The purpose of this study is to know the effect of cartoon movie towards students' writing ability on simple present tense.

¹Zoltan Dornyei, *Research Method in Applied Linguistics Quantitative, Qualitative A Mixed Methodologies*, p. 24.

B. Research Design

The first research design was about deciding object of the study and sample of the study. Then this study were identified the research variables. Brown states that in the simplest terms, a variable is something that may vary, or differ. Generally, there are two variables; dependent and independent variables.²

After identifying research variables, the research proposes hypothesis. The hypothesis has a significant correlation between students' mastery of simple past tense and their ability in writing anecdote. Then the research used the instrument that prepared in this research. The research instruments are simple past tense test and written test of anecdote. The research will be prepared the instruments for two cycles just in case the first cycle is not satisfactory yet. Those instruments are using during research planning. However, the sequence of research is not always based on the planning. The next preparation is to choose method of collecting data and analyzing data. In collecting data, the research uses correlation action research to gather the data which will be analyzed by using correlation coefficient analysis. The reseacrch will be analyzed students' progress by comparing through their achievement both in simple past tense and written test.

²Brown, J. D, *Understanding Research in Second Language Learning*, 1988, Cambridge: Cambridge University Press, p. 7.

C. Population and Sample

MtsN 2 Palangkaraya is one of the best schools in the level Islamic Junior High School in Palangka Raya. Therefore the research observes students eighth grade in MTsN 2 Palangkaraya as the population of this study. There were 8 classes for seventh grade level, 8 classes for eighth grade level and ninth grade level. The object in this study is the second year students of MTsN 2 Palangkaraya.

According to Arikunto, if the subject of research less than 100 subjects, it was taken all subjects. So the research was including the research of population.³ This research used the eighth grade students of MTsN 2 Palangka Raya as the population. The total number of population 288 students. The type of test were vocabulary test using multiple choice and writing test about anecdote text.

The research observes this institution as the object of the study to identify the correlation between students' mastery of simple past tense and their ability in writing anecdote by means of applying writing anecdote in the mastery of simple past tense.

1. Population

According to Gay population is the group of interest of the researcher, the group to which she or he would like the result of the study to be

³ Arikunto Suharsimi, *Prosedur Penelitian: Suatu Pendekatan Praktek*: Edisi Revisi V, Jakarta: PT. Rineka Cipta, 2002, p. 112.

generalized. He also says that the defined population has at least one characteristic that differentiates it from other groups. Furthermore, he adds that the two important points about populations are; first, population may be virtually any size and may cover almost any geographical area. The second is that the group the researcher would really like to generalize to is rarely available.⁴ For that reason, the term population is generally a realistic choice, not an idealistic one. The population of this research is the Eighth grade of students in MTsN 2 Palangkaraya.

2. Sample

After knowing population of the study, the next step was determining sample of the study. The samples here were student's Eighth grade class C, and E. The sample is taken by cluster random sampling, means that the process of selecting a sample in such a way that the drawing of samples on the cluster basis which all individuals in the defined population have an equal and independent chance of being selected for the sample.

D. Research Variables

According to Christensen, a variable is any characteristic of an organism, environment or experimental situation that can vary from one organism to another, from one environment to another or from one experimental situation to

⁴Gay, L.R., *Educational Research: Competencies for Analysis and Application*, 1981, Ohio: Merrill Publishing Company, p. 85.

another.⁵ Furthermore he elaborated that there were two variables, independent and dependent. The independent variable was one of the conditions which were manipulated by the experimenter, and the dependent variable was the one that measures the influence of the independent variable. The independent variable in this study was the student's mastery of simple past tense; the dependent variable was the ability in using simple past tense in writing anecdote.

E. Data Collecting Techniques

In this research writer divides test into two tests in collecting data:

1. Students' mastery of past tense

This research collected the data from the students by the test about past tense to know the students' mastery of past tense. The test was multiple choice test.

2. Students' Achievement in Writing Anecdote Text

In this section, students were asked to write their own experience based on some topics were given. The topics were about amusing incident, unusual events, or unforgettable experience. Students were free to choose one topic they were interested in. They were asked to write their own experience in the form of anecdote at least 3 paragraphs in 60 minutes.

Similar to scoring system of speaking tests, there were also two scoring systems of writing tests, analytic system and holistic system. The first was scoring the learners' writing ability by separating the components

⁵Christensen, L.B, *Experimental Methodology* (8th ed), 2001, Massachusetts: Allyn and Bacon, p.40.

of writing skill into sub skills, and the rater scores each component, and then sums the sub scores into final score.⁶ The latter was 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 was best server 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:⁷

Scoring Rubric of Writing (HD Brown)

No .	Elements of Writing	Category/Rating Scale	Description
1.	Organization, Introduction, Body, and	20 – 18	Excellent to Good
		17 – 15	Good to Adequate
		14 – 12	Adequate to Fair

⁶Pandiya, *Jurnal Pengembangan Humaniora* Vol. 13 No. 1, April 2013, p.47.

⁷Ibid, p.48

	Conclusion	11 – 6 5 – 1	Unacceptable Not college level work
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

F. Data Analysis Techniques

The data of the study will be the score of students' mastery of past tense test and students' achievement in writing anecdote text test.

In finding out the correlation between students' mastery of past tense and their ability in writing anecdote text, the product moment correlation will be applied in this research. 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 were 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 was a little relation between variables, the correlation will be near 0.

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 considred no

	significan 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.

G. Research Instruments

In this research, the writer will use test as an instrument of the research. The test devided into two: grammar test and writing test. In the grammar test, the writer will ask the students to answer 50 multiple choice question with 4 alternatives answer about simple past tense. The students were asked to write their own experience based on some topics given. The topics are about amusing incident, unusual events, or unforgettable experience. Students were free to choose one topic they were interested in. They were asked to write their own experience in the form of anecdote at least 3 paragraphs. Before the test uses as an instrument to collect the data, it tried out to the students in another class. The students were given 50 items of test and 45 minutes in doing the test.

H. Instrument Validity

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

In this research the writer will use 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.⁸ 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.⁹ 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 examinees believe the instrument is measuring what it is supposed to measure.¹⁰

3. Construct Validity

Ary Donald states that construct validity (measurement) was the extent to which a test or other instrument measures what the researcher

⁸Donal Ary, at all. *Introduction to Research in Education, (Eighth Edition)*.(Canada:Wadsworth Cengage Learning,2010).p.229

⁹ Ibid, p.215

¹⁰ Ibid, p.288

claims it does; the degree to which evidence and theory support the interpretations of test scores entailed by the proposed use of the test.¹¹

This study used the following formula:

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

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 :¹²

Interpretation:

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

To classify validity of the test the writer use the criteria of correlation

coefisien biseral as follow:¹³

Interval	Criteria
0,80 – 1,000	Very High

¹¹Ibid, p.288

¹²Riduwan, *Metode dan Tehnik Menyusun tesis*, Bandung :Alfabeta, p. 110.

¹³Riduwan, *Metode dan Teknik Menyusun Thesis*, Bandung : Alfabeta, 2004, p. 120

0,60 – 0,799	High
0,40 – 0,599	Fair
0,20 – 0,399	Poor
0,00 – 0,199	Very Poor (invalid)

And also this study used grammar scoring system as follows:

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

Where :

S = Students' score

n = Number of true answer

N = Number of test items.¹⁴

I. Instrument Reliability

Reliability was the degree of consistency with which it measured whatever it was measuring. To be able to make valid inferences from a test's scores, the test must first be consistent in measuring whatever was being measured.¹⁵

This study used the following formula K-R 21:¹⁶

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

In which:

¹⁴ Depdikbud, *Kurikulum Pedoman Khusus Bahasa Inggris Madrasah Tsanawiyah*, Jakarta: Direktorat Jendral Agama dalam, 2004.

¹⁵ Donal Ary, at all. *Introduction to Research in Education, (Eighth Edition)*. (Canada: Wadsworth Cengage Learning, 2010). p.238

¹⁶ Suharsimi Arikunto, *Manajemen Penelitian*, (Jakarta: Rineka Cipta, 2000), p.227.

r_{11} = Instrument Reliability

k = number of items on the test

M = mean total of the score

$$V_t = \text{Variance of scores on the total test.}^{17} V_t = \frac{(\sum x^2) - \frac{(\sum x)^2}{N}}{N}$$

In which :

V_t = Variance of scores on the total test

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

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

N = mean total score of the test item.

The interpretation of reliability coefficient test (r_{11}) generally:¹⁸

If r_{11} same or higher than 0,70 it means that the result of the test which was being tested the reliability declared that the test have high reliability (= *reliable*).

If r_{11} lower than 0,70 it means that the result of the test which was being tested the reliability declared that the test have not high reliability (*un-reliable*).

1. Difficulty Level

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

¹⁷ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik, Edisi Revisi*, ..., p.157.

¹⁸ Anas Sudijono, *Pengantar Evaluasi Pendidikan*,, p. 209.

¹⁹ *Ibid*, p. 372.

To find out the difficulty level of each item in the past tense test, it 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.

The Criteria of Difficulty Level

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

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

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

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

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.

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

3. Normality

Normality was used for estimating parametric or non parametric test to use analyze the data. Normality is a test normal to whether or not the distribution of data. Therefore, this study used SPSS 17.0 program to measure the normality of the data.

4. Homogeneity

Homogeneity test aimed to test the quality (homogeneity) some samples. The homogeneity of the whole test can be estimated using SPSS 17.0 program.