CHAPTER III
METHOD OF RESEARCH

This chapter discussed research design, research setting, population and sample, research variable and indicator, method of data collection, and technique of data analysis.

A. Research Design

Research design played an important role in a research because the quality of research greatly depended on the design. In this research, the researcher used the form of quantitative approach to analyze the data. Quantitative is broadly used to describe what can be counted or measured and can therefore be considered objective.[1]

In this research, researcher used an experimental research with the form of true experimental design. Experimental research is a technical term with a precise meaning, for the simple possible case is using the sample of two comparison groups: experimental group and control group.[2] An experimental group was a group which was given treatment by using movie as medium while the control group was a group which was given treatment without movie. This research used pre-test and post-test control group design.

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[1]Michael J Wallace, *Action Research for Language Teacher,* (Cambridge: Cambridge University Press, 1998), p. 38.

[2]Keith F. Punch, *Research Method in Education,* (London: SAGE Publication Ltd: 2009), P. 215.

The design of the experimental could be described as follows:

$$E = O1\,X\,O2$$
$$C = O3\,Y\,O4$$

Adopted from Arikunto.[3]

Where:

E   = Experimental group

C   = Control group

01   = Pre-test for experimental group

02   = Post-test for experimental group

03   = Pre-test for control group

04   = Post-test for control group

X   = Treatment by using movie

Y   = Treatment without using movie

From the design above, subjects of research were grouped into an experimental group (top line) and a control group (bottom line). The quality of subjects was first checked by pre-testing them (01 and 03). Then, the experimental treatment was taught by using movie, while the control group was taught without movie. The test was held in the form of composition. The result of post-test (02 and 04) were then computed statistically.

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[3]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* (Jakarta: PT Rineka Cipta, 2006), p. 86.

B. Research Setting

1. Subject and place of the research

This research was conducted in SMA N 8 Semarang, located at Jalan Raya Tugu Semarang, 50185. The subjects of this research were the tenth grade students of SMA N 8 Semarang in Academic Year of 2015/2016. This research was conducted in the second semester. Due to limitation of time, the researcher did not take all students as the subjects of the research, but drew a sample.

2. Time of the research

This research was conducted from 3rd to February 19th, 2016.

3. Procedures of the research

In collecting data, there were some procedures of the research, those steps were:

a. Preliminary visit (meet the administration officer)

The writer visited the school to get information about teacher and students as participants. To gain the information, the writer asked the administration officer.

b. Contact the headmaster

The writer asked permission to the headmaster of SMA N 8 Semarang by giving the permission letter.

c. Contact the English teacher

After received research permission from the headmaster of the school, the researcher met the English

teacher and asked for the data of students, and asked guidance for the writer conducted the research. The researcher explained about test and material that will be given to the students.

d. Give the pre-test

In this section, the researcher gave the pre-test to experiment and control group. The researcher gave an assignment to write a narrative text about fairy tale. The students had to use at least 75 words in 35 minutes.

e. Give the treatment

In this session, the experimental group received a new treatment using movie as an aid in teaching narrative text writing, but the control group did not get the new treatment in teaching narrative text writing.

f. Give the post-test

In this section, the researcher gave the post-test to measure the improvement of students' understanding on narrative text writing. The researcher gave an assignment to write a narrative text about Frozen. Students had to use at least 75 words in 35 minutes. Students had to pay attention to the five aspects of writing which would be used in the assessment.

C. Population, Sample, and Sampling Technique

1. Population

   According to Encyclopedia of Educational Evaluation as quoted by Arikunto, population is a set (or collection) of all elements possessing one or more attributes of interest.[4] The population of this research was the tenth grade students of SMA N 8 Semarang in Academic Year of 2015/2016.

   The total number of the population was 325 students which were divided into nine classes.

Table 1

List of the population

No	Class	Total Students
1	X A	36
2	X B	36
3	X C	36
4	X D	36
5	X E	36
6	X F	37
7	X G	36
8	X H	36
9	X I	36
Total		325

2. Sample

   Sample is part of that can represent all the population observed. It is called sample research when we want to

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[4]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* p. 130.

generalize the sample research result.[5] The researcher selected two groups of students from the population as sample in this research. In this research, there were two classes as sample, where X G as the experimental group that consist of 36 students and X E as the control group that consist of 36 students.

3. Sampling Technique

In this research, the researcher used cluster random sampling toward class of sample, because it is the technique in which all person of population may have the same opportunity to be chosen as the sample. Cluster random technique is also a technique to choose sample by random each class (population) and it is based lottery. In this case, the researcher took two classes, X G and X E as the sample. Each class has 36 students. The two classes were given the same material but with different way. X G as the experimental group was taught by using movie and X E as control group was taught without using movie.

D. Variable and Indicator

All experiments have one fundamental idea behind them: to test the effect of one or more independent variables on a dependent variable, it is possible to have more than dependent

[5]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* p. 131.

variable in experiments.[6] There are two types of variables, dependent variable (Y) and independent variable (X). The dependent variable is the variable of focus or the central variable on which other variables will act if there is any relationship. Independent variable is selected by researcher to determine the relationship with the dependent variable.

In this research, there were two variables, those variables were:

1. The Independent Variable (X)

Independent variable is variable that influences or becomes the cause of change or emergence the dependent variable.[7] Independent variable in this research was the use of movie as a medium in the teaching narrative text writing. The experimental group taught narrative text writing using movie while the control group taught narrative text writing without the aid of movie.

The indicators are as follows:

a. The researcher prepares the movie and tools, such as laptop, speaker, LCD, projector, then play the movie.

b. Students write the social function, generic structure, language features of narrative.

c. Students explain the content of narrative.

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[6]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* p. 119.

[7]Sugiono, *Statistika untuk Penelitian,* (Bandung: Alfabeta, 2007), p. 4.

d. Students compose the narrative text with their own words.

2. The Dependent Variable (Y)

Dependent variable is variable that was affected or that became the result because of the existence of the independent variable.[8] Dependent variable of this research was the improvement of students' ability on narrative text writing. According to Douglas Brown, the indicators from the improvement of students understanding on narrative text writing can be seen from 5 aspects. Those are follows:[9]

a. The Content Mastery

b. The Organization Mastery

c. The Vocabulary Mastery

d. The Grammar Mastery

e. The Mechanic Mastery

E. Method of Data Collection

The researcher must uses instrument in order to get the better data. The instrument of the research is a tool or facility that is used by researcher for collecting the data in order to get better result; it can be occurred complete and systematic.

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[8]Sugiono, *Statistika untuk Penelitian,* (Bandung: Alfabeta, 2007), p. 4.

[9]H Douglas Brown, *Language Assessment Principles and Classroom Practice,* (San Francisco: Longman, 2004), p. 246.

To make this research successful, the researcher uses some instruments to collect data, they are follows:

1. Test

   A test is a method of measuring a person's ability, knowledge or performance in a given domain.[10] Test is an examination or trial to find its quality, value, composition, etc.[11] The researcher used test as the first method of collecting data. The test was used to collect students' writing that must be analyzed to identify students' understanding on narrative text writing. The form of test in this research is a subjective test based on the instruction. Students were given a free chance to think as much as possible. They can freely express and organize their ideas in written form related to the material of fairy tale narrative text. In this research, the researcher used pre-test and post-test.

2. Documentation

   Documentation method is used to look for the data concerning matters or the variable that are taken in the form of the note, transcript, book, newspaper, magazine, inscription, notulen, legger, agenda, etc.[12] The researcher used

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[10]H Douglas Brown, *Language Assessment Principles and Classroom Practice,* p. 3.

[11]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* p. 223.

[12]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik,* p. 274.

documentation to get the data that related with object research such as the English subject schedule, the list of name that included in the population and the documentation of students' activities in learning process.

F. Technique of Data Analysis

1. Scoring Technique

   In this research, the researcher used a writing test to measure students' ability in narrative text writing especially in fairy tale. According to Douglas Brown, there are five major items or categories in analytic scoring writing test, namely content, organization, vocabulary, grammar, and mechanic.[13]

   a. The Content Mastery

      Content is the substance of the writing; the ideas expressed. It contains of reasonable sentences (supporting sentences) that support to the main idea.

   b. The Organization Mastery

      It refers to the organization of the content with idea development, focuses on central idea with appropriate elaboration and conclusion.[14]

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[13]H Douglas Brown, *Language Assessment Principles and Classroom Practice,* p. 246.

[14]J. Michael O'Malley and Lorraine Valdez Pierce, *Authentic Assessment for English Language Learners; Practical Approaches for Teachers,* (Great Britain: Longman, 1996), p. 142

c. The Vocabulary Mastery

Vocabulary plays important role in writing, it is the basic thing that should be owned by students. The lack of vocabulary means the failure in the communication. Students cannot make a communication especially in writing if they master little vocabulary. It means that uses varied and precise vocabulary appropriate for purpose.

d. The Grammar Mastery

Brown states that grammar is the system of rules governing the conventional arrangement and relationship of words in a sentence.[15]

e. The Mechanic Mastery

Mechanic is absence of errors in spelling, capitalization, and punctuation.[16] Mechanics connecting with the appropriate punctuation or spelling that is used in writing. Mechanic will make students' writing well and reasonable to be read. The examples of mechanic are capital letter, quotation, comma, semicolon, and others.

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[15]H Douglas Brown, *Language Assessment Principles and Classroom Practice,* p. 362.

[16]J. Michael O'Malley and Lorraine Valdez Pierce, *Authentic Assessment for English Language Learners; Practical Approaches for Teachers,* p. 142

Table 2

Percentage of the Element of Writing[17]

No	Element of Writing	Score
1	The content of mastery	30
2	The organization mastery	20
3	The vocabulary mastery	20
4	The grammar mastery	25
5	The mechanic mastery	5
Total		**100**

Table 3
Scoring Guidance and the Explanation of Criteria[18]

No	Categories	Score	Criteria
1	Content	30-27	**Excellent to very good:** knowledgeable • substantive •thorough development of thesis •relevant to assigned topic.
		26-22	**Good to average:** some knowledge of subject • adequate range • limited development of thesis • mostly relevant to topic, but lacks detail.
		21-17	**Fair to poor:** limited knowledge of subject • little substance

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[17]H Douglas Brown, *Language Assessment Principles and Classroom Practice,* p. 246.

[18]Arthur Hughes, *Testing for Language Teachers,* (New York: Cambridge University Press, 2003), p. 104.

No	Categories	Score	Criteria
			•inadequate development of topic.
		16-13	**Very poor:** does not show knowledge of subject • non-substantive • not pertinent • OR not enough to evaluate.
2	Organization	20-18	**Excellent to very good:** fluent expression • ideas clearly stated/ supported • succinct • well-organized • logical sequencing • cohesive.
		17-14	**Good to average:** somewhat choppy • loosely organized but main ideas stand out • limited support • logical but incomplete sequencing.
		13-10	**Fair to poor:** non-fluent • ideas confused or disconnected • lacks logical sequencing and development.
		9-7	**Very poor:** does not communicate • no organization • OR not enough to evaluate.
3	Vocabulary	20-18	**Excellent to very good:** sophisticated range • effective word/ idiom choice and usage • word form mastery

No	Categories	Score	Criteria
			•appropriate register.
		17-14	**Good to average:** adequate range • occasional errors of word/ idiom form, choice, usage *but meaning not obscured.*
		13-10	**Fair to poor:** limited range • frequent errors of word/ idiom form, choice, usage •*meaning confused or obscured.*
		9-7	**Very poor:** essentially translation, little knowledge of English vocabulary, idioms, word form • OR not enough to evaluate.
4	Grammar	25-22	**Excellent to very good:** effective complex constructions • few errors of agreement, tense, number, word order/ function, articles, pronouns, prepositions.
		21-18	**Good to average:** effective but simple construction • minor problems in complex contractions • several errors or agreement, tense, number, word order/ function, articles, pronouns, prepositions *but meaning seldom obscured.*

No	Categories	Score	Criteria
		17-11	**Fair to poor:** major problems in simple/ complex construction • frequent errors of negation, agreement, tense, number, word order/ function, articles, pronouns, prepositions, and/ or fragments, run-ons, deletions •*meaning confused or obscured.*
		10-5	**Very poor:** virtually no mastery of sentence construction rules • dominated by errors • does not communicate • OR not enough to evaluate.
5	Mechanic	5	**Excellent to very good:** demonstrates mastery of conventions • few errors of spelling, punctuation, capitalization, paragraphing.
		4	**Good to average:** occasional errors of spelling, punctuation, capitalization, paragraphing *but meaning not obscured.*
		3	**Fair to poor:** frequent errors of spelling, punctuation, capitalization, paragraphing • poor handwriting •*meaning*

No	Categories	Score	Criteria
			confused or obscured.
		2	**Very poor:** no mastery of conventions • dominated by errors of spelling, punctuation, capitalization, paragraphing • handwriting illegible • OR not enough to evaluate.

2. Phase First of Data Analysis

   a. Test of The Normality

   Test of the data normality was used to know whether the data came from normal distribution or not. The researcher used Liliefors formula. The steps of Liliefors test as follows:

   1) Hypothesis

   Hσ : the sample was from population which normal distributed.

   Ha : the sample was not from population which normal distributed.

   2) Statistical Test

$$L_o = max|F(z_i) - s(z_i)|$$

Where $z_i = \frac{Xi - X}{s}$

Explanation:

z_i = Standard value (i)

x_i = Sample of data (i)

$$F(z_i) = P(z \le z_i)$$

$$F(z_i) = \frac{TotalZ1, Z2, ..., Zn \le Z}{n}$$

3) Level significant (α) = 0,05

4) Critical Area (CA) = $\{L|L > L_{\propto;n}\}$ with n is size of sample.

5) Test decision

   Hσ rejected if Lo in critical area.

6) Conclusion

   a) Sample was from population that normal distributed, if Hσ accepted.

   b) Sample was not from population that normal distributed, if Ho rejected.

b. Test of The Homogeneity

   It was meant to get the assumption that sample of research came from a same condition or homogenous. The formula is:

   $$F = \frac{BiggestVariants}{SmallestVariants}$$

   Cited from Sugiono.[19]

The hypotheses in homogeneity test are:

Hσ: Homogeny variance $= \sigma_1^2 = \sigma_2^2$

H_a: Non homogeny variance $= \sigma_1{}^2 \ne \sigma_2{}^2$

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[19]Sugiono, *Statistika untuk Penelitian,* p. 140.

If the calculation result of $F_{count} \le F_{table}$ by 5% degree of significant so Hσ is accepted, it means the data is homogeneous or both of groups have same variance, but in the other way if $F_{count} > F_{table}$, the data is not homogeneous.

c. Test of The Average

It is used to examine the average whether experiment group and control group that has been decided having significant different average.

Hσ:$\mu_1 = \mu_2$

H_a :$\mu_1 \ne \mu_2$

The formula that is used in the t-test as follows:[20]

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

With,

$$S^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$$

Where:

$\bar{X}_1$ = Average of experiment group

$\bar{X}_2$ = Average of control group

n_1 = Number of experiment group

n_2 = Number of control group

s_1^2 = Standard deviation of experiment group

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[20]Sudjana, *Metoda Statistika*, (Bandung: Tarsito, 2005), p. 239.

s_2^2 = Standard deviation of control group

Criteria test is Hσ is accepted if $-t_{1-\frac{1}{2}a} \leq t \leq t_{1-\frac{1}{2}a}$, where $t_{1-\frac{1}{2}a}$ obtained from the distribution list t with df = $(n_1 + n_2 - 2)$ with $(1-\frac{1}{2}a)$. Values for other t Hσrejected.

3. Phase End of Data Analysis

To examine the hypothesis that have been stated, these following steps are used:

a. Test of The Normality

The test of the normality of second step is the same as the normality test on the initial data.

b. Test of The Homogeneity

The test of the homogeneity of second step is the same as the homogeneity test on the initial data.

c. Test of The Average (Right-hand Test)

Proposed hypothetical test in average similarity with the right test is as follows:

Hσ:$\mu_1 \leq \mu_2$

H_a :$\mu_1 > \mu_2$

μ_1 : Average data of experimental group

μ_2 : Average data of control group

The t-test formula is used.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

With,

$$S^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$$

Where:

$\bar{X}_1$ = Average of experiment group

$\bar{X}_2$ = Average of control group

n_1 = Number of experiment group

n_2 = Number of control group

s_1^2 = Standard deviation of experiment group

s_2^2 = Standard deviation of control group

Testing criteria that apply Ho is accepted if $t_{count} \leq$ t_{table} with determine df = $(n_1 + n_2 - 2)$ and the significant a = 5% with opportunities $(1-a)$. Values for other t Hσ rejected.