CHAPTER III
RESEARCH METHOD

A. Research Method

Research refers to "systematic inquiry". Inquiry that is characterized by sets of principles, guidelines for procedures and which is subject to evaluation in terms of criteria such as validity, reliability, and representativeness.[1] In this research, the writer used experimental design. This study used pre-test and post-test to measure changes in the period before and after receiving a treatment. There were two groups in experimental research; experimental class that received new treatment and control class that received conventional treatment.

Referring to this research, the experimental class was taught recount text by using movie and control group received recount material without using movie medium. Both experimental and control class were consisting of tenth graders of SMK Farmasi YPIB Brebes. Pre-test and post-test were used to measure both classes' change in the period before and after receiving the treatment.

The design of the experiment could be described as follows:[2]

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l[1] Graham Hitchcock and David Hughes, *Research and the Teacher*, (London: Routledge Falmer, 1995), p.5

[2] Suharsimi Arikunto, *Prosedur Penelitian* ..., p. 86.

Pattern:

E	**0_1**	**X**	**0_2**
C	**0_3**	**Y**	**0_4**

Where:
E = experimental group
C = control group
0_1 = pre-test for experimental group
0_2 = post test for experimental group
0_3 = pre-test for control group
0_4 = post test for control group
X = treatment using movie
Y = treatment without using movie

Subjects of the research were classified into an experimental group and a control group. The quality of subjects was first checked by pre-testing them (0_1 and 0_3). Then, the experimental treatment (taught by using movie) was applied to the experimental group. This treatment was symbolized as "**X**". While, the control group was taught recount text without using movie medium. This treatment was symbolized as "**Y**". The test was held in the form of written. Then, the results of post-test (0_2 and 0_4) were computed statistically.

B. Research Setting

1. Subject and Place of the Research

This study was conducted at SMK Farmasi YPIB Brebes which is located at Terlangu Jatibarang Brebes. The subject of this study was the tenth graders in the academic year of 2014/2015.

2. Time of the Research

This research was conducted from May 14th to May 30th 2015 on the second semester in the academic year of 2014/2015. It is counted since the proposal is submitted until the end of the research.

Table 3.1
List of Time of Study

No.	Activity	Month/ Week			
		May			
		2nd	3rd	4th	5th
1.	**Experimental Class**				
	a. Pre-Test		√		
	b. Treatment			√	
	c. Post-Test				√
2.	**Control Class**				
	a. Pre-Test		√		
	b. Explaining			√	
	c. Post-Test				√

C. Source of Data, Population, Sample and Variable

1. Population and Sample

Population is the whole subjects of research[3]. Subject in this research was the tenth graders of SMK Farmasi YPIB Brebes. The number of the population was 210 students divided into six classes; two classes of Nursing, two classes of Pharmacy and two classes of Health Analyst.

The research is an experimental, so the writer needs to take two classes that will be an experimental and control class

[3] Suharsimi Arikunto, *Prosedur Penelitian…..,* p. 116.

as the sample from six classes of the population. To determine the two classes, the writer used *Random Sampling Technique*. This kind of sampling technique allows each member of the population to be the sample of the research[4]. The consideration that the researcher tried to complete in preliminary research was the sample that will be a good and valid research.

The criteria of something can be compared is that two things have the similar characteristic. The writer took class X Pharmacy A and Pharmacy B, because based on the result of the test from the first semester, these two classes had similar average achievements and considered as homogenous class. The pharmacy A was consisted of 30 students and was taught by using movie medium while pharmacy B was consisted of 26 students and was taught without using movie medium.

2. Variable

Variable is a certain attribute, characteristic, value of human, object, or activity that has specific variation which has been determined by the researcher to be observed and concluded[5]. There are two types of variables based on the term of causation:[6]

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[4] Sugiyono, *Metode Penelitian Pendidikan,* (Alfabeta: Bandung, 2013), p. 118.

[5] Suharsimi Arikunto, *Prosedur Penelitian…*, p. 131.

[6] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R&D*, (Bandung: Alfa Beta, 2008),p.61.

a. Independent variable (x)

Sugiyono said that, independent variable can be called stimulus, predictor, or antecedent. Independent variable is variable which has the influence or the cause of change or make the existence of dependent variable. So, the independent variable in this research is the use of movie as a teaching medium. The experimental class writes the recount text based on movie story while the control class writes recount text without the aid of movie (by using example text only).

b. Dependent Variable (y)

Dependent variable is variable that measures the influences of the independent variable[7]. The dependent variable in this study is the students' achievement in writing recount text.

3. Indicators

Based on the variables above, we can make indicators that support the variables. The schema of indicators variables are stated as belows.

[7] Larry B Christensen, *Experimental Methodology,* (Massachusetts: University of South Alabama, 2001), 8th Ed, p.145.

Table 3.2

Indicators of Variable

Variable	**Indicators**
(Independent Variable) The use of movie as teaching medium	• Preparing the movie and the tools like; video player, laptop, LCD, etc. • Playing the movie in class for learning activity • Guiding the students to make some notes about the orientation, events and re-orientation based on the movie. • Stop playing the movie when the students finished making an outline.
(Dependent Variable)	Students achievement in recount text
Sub-Variable	**Indicators**
• Students ability in understanding recount text	• Identifying variation of sentence structure in recount text • Identifying rhetorical steps of recount text • Identifying communicative purpose of the recount text
• Students ability in writing recount text	• Making correct recount text

D. Technique of Data Collection

To get the accurate data, in this study the writer used two ways in the collecting data, they were as follow.

1. Test

Test is an instrument to collect the data that gives response about the question in the instrument, and the students have to show their ability.[8] In another word, test means a question which is used to measure competence, knowledge, intelligence, and ability of talent which is possessed by individual or group to collect data.[9] Wiersma and Jurs define test as "a set of items or questions to be presented to one or more students under specified conditions."[10]

The researcher gathered the data by analyzing the test based on the material of recount text. The researcher gave the test twice (pre-test and post-test) in both experimental and control class.

Before the researcher explained recount text material by using movie as a teaching medium, the writer gave pre-test to experimental and controlled class in same way. It was given before the experiment run.

Post-test was given to the experimental class and the controlled class. The test was in order to know students'

[8] Purwanto, *Evaluasi Hasil Belajar*, (Yogyakarta: Pustaka Belajar, 2009), p. 65.

[9] M. Chabib Thoha, *Teknik Evaluasi Pendidikan* (Jakarta: PT Raja Grafindo Persada, 2001), p. 43.

[10] William Wiersma an Stephen G. Jurs, *Educational Measurement and Testing*, (Massachusetts: Allyn an Bacon, 1990), 2nd Ed, p.8.

understanding and score on recount text after they are taught in a different way.

2. Documentation

Document is a piece of written or printed material that provides a record of evidence or event an agreement, ownership, identifications etc. Documentation is the accumulation, classification and dissemination of information[11]. It refers to the archival data that helps the writer to collect the needed data. In this study, documentation is used to get the data that related to the object research such as students name list and students' scores.

E. Scoring Technique

Brown stated that there were five major categories in analytic scoring writing test. They are content, organization, vocabulary, grammar and mechanic.

Content is the substance of writing or the idea which is expressed. The content mastery has value 30 in the percentage of scoring. Organization means that students be able to write reasonable sentences that support the main idea. If they write paragraph without state the main idea, the readers will be confused to determine the main topic of the text. This category has value 20 in the scoring.

[11] John Eastwood, *Concise Oxford Dictionary*, 8th Ed. (London: Oxford University Press, 2004), p. 256.

Vocabulary is the choice of idioms, words, lexical item to give a particular tone or flavor to writing. It plays a very important role in writing because it is the basic thing that should be owned by students. The percentage of scoring for this category is 20.

Grammar is the system of rules governing the conventional arrangement and relationship of words in a sentence[12]. Mechanic is 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. The score percentage of grammar mastery is 25 while mechanic is 5.

Table 3.3

Analytic Scoring of Writing[13]

Category	Score	Criteria
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 subjects; adequate range; limited development of thesis; mostly relevant to topic; but lacks detail.
	21-17	Fair to poor: limited knowledge of subjects; little substance; inadequate development of topic.

[12] H. Douglas Brown, *Teaching by Principle* (San Francisco: Longman, 2001), p.362.

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

	16-13	Very poor: does not show knowledge of subjects; non-substantive; not pertinent.
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 idea 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.
Vocabulary	**20-18**	Excellent to very good: sophisticated range; effective words choice and usage; appropriate register; word form mastery.
	17-14	Good to average: adequate range; occasional errors of word or idiom form, choice, usage but meaning not obscured.
	13-10	Fair to poor: limited range; frequent errors of word or idiom form, choice, usage; meaning confused or obscured.
	9-7	Very poor: essentially translation; little knowledge of English vocabulary, idioms and word form
	25-22	Excellent to very good: effective complex construction; few errors of agreement, tense, number, word function, articles, pronouns, prepositions.
	21-18	Good to average: effective but simple

Grammar		constructions; minor problems in complex constructions; several errors of agreement, tense, number, word function, articles, pronouns, prepositions but meaning seldom obscured.
	17-11	Fair to poor: major problems in complex / simple constructions; frequent errors of negation, agreement, tense, number, word function, articles, pronouns, prepositions and 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.
Mechanics	**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 confused.
	2	Very poor: no mastery of conventions; dominated by errors of spelling, punctuation, capitalization etc. Paragraphing; handwriting illegible; too many use of "and".

F. Technique of Data Analysis

There were some steps to do the research; one of the most important steps is collecting data. It influences the result of the research.

1. The Activities of Experimental Group

a. Pre-test

Pre-test was given before the treatments. First, the researcher came to the class. Then, he explained to the students what they have to do. Last, the researcher distributed the instruments and asked them to do their best.

b. Class Activity

There were some activities in experimental group as follow.

Table 3.4
Experimental Group Activities

No.	Activities	Time
1.	a. Teacher let the students watch any movies. b. Teacher asked the students to make some notes about the information inside the movie.	2x45’
2.	a. Teacher explained what recount text is and the generic structures of it. b. Teacher played “Patch Adam” the movie and asked the students to pay attention to it. c. Teacher asked students to discuss the generic structure of the Patch Adam movie in groups.	2x45’
3.	a. Teacher explained the language	

	features of recount text. b. Teacher played movie once more. c. Teacher asked the students to analyze the language features of recount text from Patch Adam movie.	2x45’
4.	a. Teacher reminded students about the previous lesson. b. Teacher asked the students to make a recount text.	2x45’

c. Post-test

It was held after all treatments were conducted. This test was used to measure students’ achievement after they were given the treatment. The result of the test was analyzed statistically.

2. The Activities of Control Group

a. Pre-test

Pre-test was given before the treatment. First, the researcher came to the class. Then he explained to students what they have to do and asked them to do the best.

b. Class activity

There were some activities in control group as follow.

Table 3.5

Control Group Activities

No.	Activities	Time
1.	a. Teacher let students watch the movie. b. Teacher made a little discussion with students about the movie they have just watched.	2x45’
2.	a. Teacher explained the recount text. b. Teacher asked students to open the handbook and read the example of recount text. c. Teacher asked the students to discuss the generic structure in pair.	2x45’
3.	a. Teacher explained the language features of recount text. b. Teacher asked students to analyze the language features of the recount text from the handbook.	2x45’
4.	a. Teacher reminded the students the previous lesson. b. Teacher asked students to make a recount text.	2x45’

c. Post-test

It was held after all treatments were conducted. This test was used to measure students’ ability after they were given the treatment. The result of the test was analyzed statistically.

3. Pre-requisites Test

The data was analyzed through giving test to the students. It needed some steps in analyzing the data. The following steps were taken by the writer:

a. Normality Test

Normality is used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not. The normality test with Chi-square is used to find out the data distribution. the researcher used the formula as cited from Sudjana[14].

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i}$$

Where :

χ^2 = Chi-quadrate

Oi = Frequency that was obtained from data

Ei = Frequency that was hoped

K = the sum of interval class.

If the score that obtained was lower than t-table score by using 5% alpha of significance, Ho was accepted. It was meant that Ha was rejected. So the data is normal.

[14] Sudjana, *Metoda Statistika*, (Bandung: Tarsito, 2002), p. 272.

b. Homogeneity Test

This test is used to compare variance in a group of three categories data or more. The categories can be compared fairly if the categories are homogeneity. By:

1) Calculate variants both classes (experimental and control classes), with the formula:

$$S_1^{\ 2} = \frac{\sum (x - \bar{x})^2}{n_1 - 1} \text{ And } S_2^{\ 2} = \frac{\sum (x - \bar{x})^2}{n_2 - 1}$$

Where:

S_1^2 = Variant of experimental class
S_2^2 = Variant of control class
n_1 = the number of experimental class students
n_2 = the number of control class students
v_1 = Degrees of freedom of the biggest variance
v_2 = Degree of freedom of the smallest variance

2) Determine $F = \frac{Vb}{Vk}$

Where:

Vb : Bigger Varian
Vk : Smaller Varian

Determine dk = $(n_1 - 1) : (n_2 - 1)$

3) Determine F_{table} with α = 5%

4) Determining the distribution homogeneity with test criteria:

If $F_{count} > F_{table}$, the data is not homogeneous and the other way if the $F_{count} < F_{table}$, the data is homogeneous.[15]

c. Test of the Average

It is used to examine average whether experiment group and control group have been decided having different average[16]. T-test is used to analyze the data of this research. A t-test would be the measure you would use to compare the mean scores of the two groups.[17]

If $\sigma_1^2 = \sigma_2^2$ (has same variant), the formula is:

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

With

$$S = \sqrt{\frac{(n_1 - 1)S_1^{\,2} + (n_2 - 1)S_2^{\,2}}{n_1 + n_2 - 2}}$$

Where:

$\overline{X}_1$: The mean score of the experimental group

$\overline{X}_2$: The mean of the control group

n_1 : The number of experiment group

[15] Sugiyono, *Statistika Untuk Penelitian….*, p. 140.

[16] Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: PT. Raja Grafindo Persada, 1995) 6th Ed., p. 326-327.

[17] H. Douglas Brown, *Language Assessment: Principles and Classroom Practices,* (San Francisco: Longman, 2004), p. 205.

n_2 : The number of control group
S_1^2 : The standard deviation of experiment group
S_2^2 : The standard deviation of control groups

If = $\sigma_1^2 \neq \sigma_2^2$ (has no same variant) the formula is:

$$t^1 = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_1^2}{n_2}}}$$

The hypotheses are:

Ho : $\mu_1 = \mu_2$
Ha : $\mu_1 \neq \mu_2$
μ_1 : average data of experiment group
μ_2 : average data of control group

Criteria test is: if $t_{count} > t_{table}$ Ho is rejected and there is significant difference of average value from both of groups. Moreover, the other way if the $t_{count} < t_{table}$ Ho is accepted and there is no difference of average value from both groups.[18]

4. Data Analysis

First, the test was done in both groups, experimental and control group. Secondly, the result of the test was scored by using analytic scale. Thirdly, the mean score of the two groups were determined. Finally, the two means were compared by applying t-test formula. T-test was used to differentiate if the

[18]Anas Sudjiono, *Pengantar Statistika Pendidikan*, (Jakarta: PT. Raja Grafindo Persada, 1995), p. 272-273..

students' result of writing recount text by using movie medium and without using it was significant or not.

If $\sigma_1^2 = \sigma_2^2$ (has same variant), the formula is:

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

With

$$S = \sqrt{\frac{(n_1 - 1)S_1^{\,2} + (n_2 - 1)S_2^{\,2}}{n_1 + n_2 - 2}}$$

Where:

$\overline{X}_1$: The mean score of the experimental group
$\overline{X}_2$: The mean of the control group
n_1 : The number of experiment group
n_2 : The number of control group
S_1^2 : The standard deviation of experiment group
S_2^2 : The standard deviation of control groups

If = $\sigma_1^2 \neq \sigma_2^2$ (has no same variant) the formula is:

$$t^1 = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_1^2}{n_2}}}$$

The hypotheses are:

Ho : $\mu_1 = \mu_2$
Ha : $\mu_1 \neq \mu_2$
μ_1 : average data of experiment group
μ_2 : average data of control group

If the obtained score was higher than t-table score by using 5% alpha of significance Ho was rejected. It means that Ha was accepted. “There was a significant difference in writing achievement between the experimental and control group.”