CHAPTER III

RESEARCH METHOD

A. Research Design

The design of this research is experimental research, because the researcher wants to know the effect and relationship by implementing by stimulus. According to Gay (2000: 367), the experimental method is the only method which can test truly hypothesis concerning cause and effect relationship. It represents the most valid approach to the solution or educational problems, both practical and theoretical, and to the advancement of education as a science. He also states that an experimental typically involves two groups; an experimental and a control.

In experimental group was taught by using hero quest strategy and the control group was taught by conventional one. The treatments were given to experimental group about five meetings. At the end of treatment the researcher gave the students post-test.

In this research, the researcher used *posttest-only control design* (Sugiyono (2013;:114). The design of this research can be represented as:

Table 3.1 Research Design

Group	Treatment	Post-test
Experiment	X	Y
Control	-	Y

Where:

E   : Experiment group

C   : Control Group

X   :Treatment for experiment group by Hero Quest Strategy

O1   : Post-Test

This design had two classes where the researcher randomly choosed. The first, one class was the experimental class that received a treatment (X) or Hero Quest strategy in teaching writing process, while another class was the control class that receives no treatment. The effect of giving treatment was posttest result (O_1:O_2).

B. Population and Sample

1. Population

Gay (2000: 122) states population is the group of interest to the researcher, in the other words, population is the total number of students on a research.

This research would be done at SMAN 01 Gunung Talang, Solok. which consists of five classes of class X IPS. The population of this research is 177 students. The distribution of the population can be seen in the table below.

Table 3.2. Population of the Research

No	Class	Number of students
1	X IPS 1	36
2	X IPS 2	35
3	X IPS 3	35
4	X IPS 4	35
5	X IPS 5	36
	Total	**177**

Source: English teacher at class X IPS SMAN 01 Gunung Talak, Solok

2. **Sample**

According to Gay (2000:121) sampling is the process of reflecting a number of individuals for a study in such way that the individual represent the large group which it is selected. He also states that a good sample is the one that representative of the population from which is selected. To choose these classes which class would be a sample, the researcher choose cluster sampling technique.

Gay (2000:129) stated that clustering sampling technique was sampling that select group or population as sample randomly. The sample in this research was class X IPS 2 and X IPS 3. Before researcher took the sample, the researcher knew first the normality and homogeneity of those classes whether those classes came from normal distribution or not, as indicated by the table below:

Table. 3.3 The Result Of Testing Normality Student's Writing Score of X

Senior High School 01 GunungTalang, Solok.

Tests of Normality

Kelas		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Nilai	X IPS1	.115	36	.200[*]	.941	36	.054
	X IPS2	.129	35	.148	.966	35	.339
	X IPS3	.124	35	.194	.953	35	.139
	X IPS4	.118	35	.200[*]	.949	35	.103
	X IPS5	.138	36	.080	.956	36	.163

a. Lilliefors Significance Correction

Source: calculation of SPSS

Table. 3.4 The Result Of Testing Homogeneity Student's Writing Score of X

Senior High School 01 GunungTalang, Solok.

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Nilai	Based on Mean	1.566	4	172	.186
	Based on Median	1.356	4	172	.251
	Based on Median and with adjusted df	1.356	4	170.247	.251
	Based on trimmed mean	1.528	4	172	.196

Source: calculation of SPSS

Based on the table above, it can be seen the significance level is higher than 0,05. It can be said that those classes is normal and homogenous. The number of the students that was as sample as follows:

Table 3.5 The Number of Sample

No	Class	Number of the Students
1	X IPS2	35
2	X IPS3	35
TOTAL		70

Source: English Teacher's of Senior High School 01 Gunung talang, solok.

C. Instrument

Instrument is a tool to collect data from the sample. Instrument of this research is writing test that was used to collect the data about the improvement of student's writing skill after applying Hero Quest Strategy.

Arikunto (1991:64) says that one of the characteristics of test validity is content validity. It means the test is valid if it fixes with the material that has been given to the students and it is based on the Curriculum and syllabus. The researcher used the Curriculum or syllabus and teaching material to construct the test.

Table 3.6 Blue Print of Writing Test

No	Basic Competence	Topic	Indicator	Test
1	Arrange of descriptive writing test, short and simple, about people, animal and thing, with pay attention social function, structure of the text, and substance of feature language that true and appropriate with context.	Descriptive Text (people)	1. Write *Descriptif* Based on Hero Quest who have you make.	Choose one of the following topics that you like! Then, draw your hero figure, identify and transform it into paragraph based on the topic you have choosen! 1. Your parent 2. Your teacher 3. Your idol

According to Gay (2000:191), validity is the most important quality of a test. It is the degree to which a test measures it was supposed to measure and consequently, permitted appropriate interpretations of test scores. To be able to test the hypothesis and got better result, a test should have internal and external validities:

First, Internal Validity; the teacher teach the same class (experimental and control class), the students are ask to join the class while activities are going on, students' loss is control by tightening the absent list, contamination in experimental class is controls by not telling the students about the research.

Second, External Validity; the researcher divides the students into two classes (experimental and control classes), the teacher constructs the situation of experimental class just as the daily situation, this research follows the school schedule, not tell the experimental students that they are as the object of research.

In this research, the researcher used a written test. The written test was done on post-test toward two classes (experimental and control classes). The students in experimental class are taught writing through Hero Quest Strategy and the students of control class are taught through Conventional One.

The researcher used Jacob's criteria (1981:90) in scoring the students' paragraph because it would be easy for researcher to score the students paragraph. It can be seen as shown in the following table

D. Procedures of doing research

There were some steps to do the research such as preparation, application, and finishing.

1. Preparation

The writer used two classes to collect the data, the writer taught the students used Hero Quest Strategy to teach the student in English activities for experimental class, and the conventional technique for control class. In this step, this research prepared the steps such as:.

a. Determined place and time of the research

b. Determining population and sample of the research

c. Preparing the lesson plan arranged by curriculum

d. Explaining to the students about the planning in learning process

e. Preparing the post test

2. Application

The procedures of teaching writing in the classroom can be seen as follow:

Table.3.6.The Procedures of Teaching

No	Learning Activities	Time
1.	**PRE TEACHING** **Apperception** 1. Greeting 2. Praying 3. Checking students attendance 4. Asking sudents about the last material	*10 minutes*

	Motivation 1. Teacher are given the picture 2. Encouraging students by asking questions with picture: a. Do you know about the picture? b. What do you think about the picture? 3. Students respond teachers' questions based on their experience. 4. Teacher introduces the learning objectives to students 5. Teacher writes a topic of the lesson on the whiteboard	
2.	**WHILST TEACHING** **Observing** 1. Teacher introduces topic based on the syllabus. 2. Teacher introduces a lesson by showing the picture to the students **Questioning** 3. Teacher leads students to give comment or ask question based on the picture, such as: a. *Who is he/she?* b. *What does he looks like?* c. *How about his?* **Exploring** 4. The teacher uses facilitated whole and small group instruction: students can work alone, in pairs, or in cooperative groups 5. Students responses can be written directly onto a teacher set hero quest outline or on the student's own hero outline (monitor this stage closely. Students sometime draw figures that are too small to fit all they want to write in their outlines, making them difficult to read) 6. Students compose paragraph based on their completed outline that contain an introduction, body, and conclusion. 7. Distribute copies of Hero quest instructions and outline sheet. Use visually appealing handouts or overheads to review the instruction as a class before getting started.	*70 minutes* *10 minutes* *15 minutes* *30 minutes*

	Associating 8. Teacher leads the students to mention definition and generic structure of descriptive text 9. Teacher guides the students to discuss about their favorite idol by individually 10. Teacher observes the students' activity	*10 minutes*
	Communicating 11. Teacher asks the students to submit their task 12. Teacher gives evaluation about this topic 13. Teacher makes sure the student understand how to describe people.	*5 minutes*
3	**POST TEACHING** 1. Review and conclude the lesson with discussion. 2. Reinforcement 3. Praying and close the class	*10 minutes*

3. Finishing

After doing the learning process, so the test was given to the student concerning material learning. Then the researcher scored based on criteria on writing by Jacob criteria, such as: content, organization, vocabulary, language use, and mechanics. The test result of both experimental and control class was processing by using T-test formula. The researcher showed findings, took conclusion and proposed some suggestions.

E. Technique of Data Collection

The data of this research was collected by giving writing test. The test was given in post-test. Post-test is the process of identifying the students' writing skill after giving the treatment. Treatment is the process of using Hero Quest Strategy in teaching and learning process to gives significant effect toward student's writing ability.

The class conducted for several meetings. And the material that was taught (descriptive text) by Hero Quest Strategy.

While, Post-test is the process of giving the test after giving the treatment. It aimed to conclude the contribution of Hero Quest Strategy in teaching and learning writing process to students' writing ability.

Moreover, writing test used to know the students' content, organization, vocabulary, language use and mechanic with Hero Quest Strategy.

F. Technique of Data Analysis

The data was described quantitatively. Technique also used to analyze the data statistical procedures by using a set of test. It is used to see the different progress of the student's writing those taught with Hero Quest Strategy and conventional technique.

1. Descriptive analysis

The researcher did normality and homogeneity test firstly before using t-test. Statistical procedure gave a way to analyze the differences between

the groups by using t-test techniques. T-test means a statistical procedure used to determine whether there is any significant different between the means of the two sets of scores. The purpose was to see difference of writing ability between experimental and control classes. In analyzing data, the researcher used t- test formula as follows:

1. This formula applied to decide mean of students' test score in experimental and control classes;

$$\overline{X_1} = \frac{\sum F_1 X_1}{\sum F_1} \text{ (Experimental class)}$$

$$\overline{X_2} = \frac{\sum F_2 X_2}{\sum F_2} \text{ (Control class)}$$

2. This formula was used to decide standard deviation of experimental and control classes;

$$S_1 = \sqrt{\frac{\sum F_1 \left(X_1 - \overline{X}_1 \right)^2}{\sum F_1}} \text{ (Experimental class)}$$

$$S_2 = \sqrt{\frac{\sum F_2 \left(X_2 - \overline{X}_2 \right)^2}{\sum F_2}} \text{ (Conrol class)}$$

Furthermore, the data analyze by using t-test formula as suggest by Sudjana (2002: 239). And the formula of t-test is:

$$t = \frac{\overline{X_1} - \overline{X_2}}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

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

Where:

    t   : The value of t calculated / observer / obtained

    $\overline{X_1}$: Mean score of experiment sample

    $\overline{X_2}$: Mean score of control sample

    n_1 : The number of subject of experimental class

    n_2 : The number of subject of control class

    S_1^2 : Variance of experimental class

    S_2^2 : Variance of control class

The t table was employed to see whether there was significant difference between the mean score of both experimental and control classes. The value of obtained was consulted with the value of t table at the degree of freedom $(n_1 - 1) + (n_2 - 1)$ and the level of confidence of 95% = 0, 05

If the value of obtained is less than the value of t table, the null hypotheses was accepted. On the contrary, if the value of t- obtained is equal or bigger than the value of t table, the alternative one is not accepted.

2. Hypothesis testing

To know the use of Hero Quest Strategy gives significant effect toward students' writing ability in Senior High School 01 gunung talang, solok,

The estimation use is a t-test. The purpose is to find differences of writing ability between experimental and control classes. If the obtained value (t-obser) is higher than the table value (t-table) with the level significance is 0.05, the proposed hypothesis is accepted.