CHAPTER III RESEARCH METHOD

A. Research Approach

For this study, researcher uses the quantitative approach, because the result of this study had been presented and processed statistically by using T-Test formula. Furthermore, this study conducted the experiment study. Experiment is carried out in order to explore the strength of relationship between variables.¹

This study was hoped to know the relation possibility that happen one with other after treatment. And to find out the effectiveness and the implementation of storytelling to stimulate students' oral use past tense.

B. Source of data/Participant and Setting

1. Determine the source of data

Source of data in the research is the subject in which data can be obtained. It means that the data can be obtained in three categories, are:

- a. Place
- b. Person
- c. Paper
- 2. Population and Sample
 - a. Population

Population as quoted by Arikunto from encyclopedia of educational Evaluation is a set or collection of all elements consisting one or more attribute of interest. Besides, the population is all the subject of the research in this study. ² The population that was used to conduct the experiment in this study is the eight year students of MTs Sumber Payung Bataal Barat Ganding Sumenep Madura in the academic year

¹David Nunan, *Research Methods in Language Learning* (Cambridge: university Press, 1992) p.24-25.

²Suharsimi Arikunto, *Prosedur Penelitian*, (Jakarta: Rineka Cipta, 2006), p. 129.

2009/2010. The numbers of students are 90 students which are divided into three classes that every class consists of 30 students.

b. Sample

Sample is a representative of population. She also said, that sample can be taken between 10 %15%-25%, if the number of population is more than $100.^3$ Because of the number of population is only 90 students, the researcher take a take 3 classes of whole population of 90 students as experimental, control and try out class. Because of the participants are not more than 100 students, the researcher used total population.

3. Setting

The researcher did the research at MTs Sumber Payung Bataal Barat Ganding Sumenep Madura. It is located exactly at east java Jl.Guluk-guluk No.63 Bataal Barat ganding Sumenep 69362, (0328) 821432. She conducted the research from 28th of January to 18th of February 2010.

C. Research Variables

Variable is the object of research or something that become the concern by researcher to be studied to get any in formations and then make a conclusion of that object.⁴ In this study, there are two variables; they are Independent variable (x) and Dependent variable(y).

a. Independent variable

This variable also called as stimulus, predictor and antecedent variable. In other word, Independent variable is variable that influences or those to be cause of change or emergence the Dependent variable.⁵ Independent variable of this research is Stimulating students through storytelling. In this case, the researcher stimulate students by giving short story after explaining the material as further example of simple past tense.

b. Dependent variable

This variable also called as out put, criteria and consistent variable.

³*Ibid.* p 130.

⁴Sugiyono, *Statistika Untuk Penelitian*, (Bandung : Alfabet, 2007), p.2. ⁵*Ibid*. p.4.

In other word, Dependent variable is variable that is affected or that become effect because of the existence of Independent variable.⁶ Dependent variable in this research is students' oral use of simple past tense. In this case, students tell their own story by using simple past tense as the implementation of teacher's stimulus to students.

D. Technique of data collection

For the data collection, the researcher uses any techniques, they are:

1. Observation

Observation is monitoring, supervision and registration about object of research systematically by using the whole of sense. According to sutrisno Hadi (1986) that had been quoted by Sugiyono, Observation is one of complex process which is consist of biological and psychological process.⁷ In other word, observation is an activity to observe something by using sense toward a particular object.

The researcher observes three times are as a preliminary research, the second one is while conducting the experiment process and the last is after the experiment by using check list. Beside that, the researcher also observes the event in both of classes during the lesson and the treatment applied.

In the treatment process, the researcher gives different treatment. For the experimental group will be taught by using storytelling in teaching past tense. Here, the control group will be taught without storytelling.

2. Experimental Test

Test is the way of performing evaluation in the form of assignment. In other word, test is questions or exercises which are used to measure competence, knowledge, intelligence, ability and talent which is possessed by individual or group.⁸ To do the test based on the instruction that were

⁶Sugiyono, *Loc.cit*.

⁷Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R & D*, (Bandung: Alfabeta, 2008), p. 145.

⁸Suharsimi Arikunto, *Prosedur Penelitian suatu Pendekatan Praktek*, (Jakarta: Rineka Cipta,1996), p.36.

given such as : cycle one of word in front of answer choice, explaining, correct and incorrect, multiple choice, matching item forms and answer verbally.⁹ In this case, the researcher uses the oral test to know the implementation and the effectiveness of storytelling in mastery the past tense.

The kinds of test:

a. Pre-test

Before teaching new material (simple past tense) through storytelling, researcher gives a test to the students by taking a previous material. This test is given to the experimental and control group with the same test. This test is given before the experiment was run.

b. Post-test

To get a complete data for this experiment, the researcher gave a post test to end the experimental and control group. It is given in order to know the ability of the students after they are taught through storytelling. For the last, the score obtains from the pre test and post test score.

3. Interview

To complete unrecorded data from test and observation, the researcher also use interview. Interview is meeting with somebody for formal consultation or examination or meeting with somebody whose views are requested.¹⁰ In interview process the researcher ask students' opinion, suggestion about the teaching method and hoping for the next teaching method.

In this research, the researcher interview 10 students from experimental. The kind of interview is structured it held twice meetings. The researcher doesn't record the interview process, but only takes a note from the interviewee answer.

⁹Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan*, (Jakarta: PT.Bumi aksara, 2007), Ed.Rev p.54

¹⁰As. Hornby, *Oxford Advanced Learner's Dictionary*, (London: Oxford University Press, 1987), p. 447.

E. Instrument of The Research

1. Observation Scheme

Table 1

No	Activities	Check list					Grade
а	Preliminary research	1	2	3	4	5	
	- observe the teacher's teaching process						
	- observe the classroom atmosphere						
	- specific the aim of the research						
	- chose the appropriate material						
b	Process of treatment						
	- student's participation to attend the						
	classroom						
	- student's seriousness of the teachers						
	explanation						
	- Student's activeness during the						
	teaching and learning process.						
c	After experiment						
	- students' mastering to the material						
	- students' motivation in learning						
	English						

The criteria of the interview's score, as follow:¹¹

In Which	Percentage
1) : Poor	0 % - 39 %
2) : Fair	40 % - 59 %
3) : Average	60 % - 74 %
4) : Good	75 % - 84 %
5) : excellent	85 % - 100 %

¹¹ Duriyatun Nazikah, Using Flash Cards to Improve Young Learners' Understanding on Concrete Nouns (A Classroom Action Research with the First Graders of MI Raudla Tusshuban Tawangrejo Winong Pati in The Academic Year of 2008/2009), p. 55.

1. Test

To find out the effectiveness and the implementation of storytelling to stimulate student's oral use of past tense, the researcher provided any tests, one of them is try out test. Try out test is conducted before the pretest administered. The quality of the data, whether it is good or bad, is based on the instrument used. A good instrument fulfills two important qualifications, such as reliability, validity, normality and homogeneity of the test. So, before the test was used an instrument to collect the data, it had been tried out first to the student in tries out class. In this case, the test has many categories, as follow:

a. Validity of the test

Test is said to be valid if measures accurately what it is intended to measure.¹² Furthermore, validity is the most important variable in judging the quality of measurement of an instrument before we use. Validity shows whether an instrument is valid in this study. There were three ways to look at the validity of a test. They were content validity, construct validity, and criterion-related validity. After the test had been constructed, the researcher analyzed and determined that the test represented proficiency in speaking skill. Arikunto states that a test has content validity when the test measures a certain purpose which reflects the material given.¹³

In this Study, the type of the test validity was content validity since in this research; the materials which were given to the students were suitable to the curriculum so there was no statistical analysis.

b.Reliability of the Test

Reliability is necessary characteristic of any good test: For it to be valid at all, a test must first be reliable as a measuring instrument .in other word, reliability is of primary importance in the use of both

¹²Arthur Hughes, *Testing For Language Teachers* (Cambrige: University Press,2003), 2nd edition, p.55.

¹³Suharsimi Arikunto, *op.cit.*, p. 169.

public achievement and proficiency test and classroom test.¹⁴ It means that when we give the same test to the same students on two different occasions, the test should yield similar result. Test reliability was affected by a number of factors such as students' condition, rater, and test administration.

c.Normality Test

It is used to know the normality of the data that is going to be analyzed whether both groups have normal distribution or not. To find out the distribution data is done normality test with the Chi-square. Step by step Chi-square test is as follows:

1) Determine the range (R); the largest data reduced the smallest.

2) Determine the many class interval (K) with formula:

 $K = 1 + (3,3) \log n$

3) Determine the length of the class, using the formula:

$$P = \frac{rangeR}{numberof class}$$

4) Make a frequency distribution table

5) Determines the class boundaries (bc) of each class interval

6) Calculating the average Xi (\overline{X}), with the formula:

$$\overline{X} = \frac{\sum f_i x_i}{\sum f_i}$$

7) Calculate variants, with the formula:

$$S = \sqrt{\frac{\sum f_i (x_i - \overline{x})^2}{n - 1}}$$

8) Calculate the value of Z, with the formula:

$$Z = \frac{x - x}{s}$$

x = limit class

$$x = Average$$

¹⁴JB.Heaton, Writing English Language Test, (London: Longman group, 1975), p.155.

S = Standard deviation

- 9) Define the wide area of each interval
- (10) Calculate the frequency expository (Ei), with formula:

Ei = n x wide area with the n number of sample

(11) Make a list of the frequency of observation (Oi), with the frequency expository as follows:

class	bc	Ζ	Р	L	Ei	Oi – Ei
						Ei

(12) Calculate the chi-square (X^2) , with the formula:

$$X^{2} = \sum_{i=1}^{k} \frac{(O_{i} - E_{i})^{2}}{E_{i}}$$

- (13) Determine the degree of validity (dk). In the calculation of this data is arranged in list of frequency distribution consisting of k pieces so that the interval to determine the criteria test used formula df = k-3, where k is the number of class intervals and $\alpha = 5\%$
- (14) Determining the value of X^2 table.
- (15) Determining the distribution normality with test criteria:

If $X_{count}^2 > X_{table}^2$ so the data is not normal distribution and the other way. If the $X_{count}^2 < X_{table}^2$ so the data is normal distribution.¹⁵

d. Homogeneity Test

Homogeneity test is used to compare variant in a group of three categories data or more and its categories can be compared fairly if each categories are homogeneity. Furthermore, homogeneity of the test is used to know whether experiment class and control class, that are taken from population have same variant or not. According to David Nunan, a test should be given to both classes of students before

¹⁵Sujana, *Metode Statistika*, (Bandung: Tarsito, 1996), p. 273.

the experiment just to make sure that the both classes really are the same.¹⁶

The formula as follow: ¹⁷

$$F_{Max} = \frac{Var. higest}{Var. lowest}$$

Varian (SD²) =
$$\frac{\Sigma x^2 - (\Sigma x)^2 / N}{(N-1)}$$

The steps as follows:

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

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

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

Where:

Vb	: Bigger Varian
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Vk : Smaller Varian

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

- 3) Determine F_{table} with $\alpha = 5\%$
- 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.¹⁸

2. Interview Scheme

For interview, the researcher interviews the students only. They are the students of experimental and control class. Each class the researcher interview 10students.Here the interview scheme:

a. What did you get from this teaching process?

¹⁶David Nunan, Research Method in Language Learning (Cambridge: University Press, 1992) p. 27.

¹⁷Sugiyono, *op.cit*, 140.

¹⁸Sujana, *op cit*, p. 250.

b.What do you think about this media?

c. Are there any changes that you feel after you join this class?

d.How about you understand of the material, especially past tense by using story telling?

e. What is your suggestion for this teaching learning process?

F. Scoring Technique

There are five aspects, which are used as consideration in scoring. They are pronunciation, grammar, vocabulary, comprehension, and fluency.¹⁹ Because researcher did this research for finding students' oral use of past tense, she scored only three items, content, vocabulary and grammar. The scoring guidance is as follows:

Item analysis	Score criteria							
Grammar	50 - Excellent: effectively correct in using of simple past ter							
	Verb II.							
	40 - Good : Somewhat error, but using of simple past tense stand							
	out							
	30 – Fair: a major problem is simple. Error choosing and changing							
Vocabulary	verb I to verb II.							
	20 - Very poor: virtually no mastery of past tense (how to change							
	and choose the verb I to verb II.							
	30 - Excellent: fluent expression, ideas clearly stated, correct diction.							
	25 – Good : somewhat choppy-loosely organized but main ideas							
	stand out							
Content	20 – Fair : not fluent, ideas confused/ disconnected							
	10 - Very poor: does not communicate-no organization.							
	20 – Excellent: knowledgeable-consist of experience story							
	15 – Good: some knowledgeable							
	10 -Fair : limited knowledgeable							
	5 – very poor : does not show knowledgeable							

Table 2

¹⁹David P.Harris, *Testing English as a Second Language*, (Geogetown University: 1969),

Score the test either pre and post test. The test had been hold through oral test. The components of test that will be assessed as follows:

- 1. Grammar mastery : the lowest score is 20 and the highest score is 50.
- 2. Vocabulary mastery : The lowest score is 10 and the highest score is 30.
- 3. Content ability : The lowest score is 5 and the highest score is 10.

G. Technique of Data Analysis

To find out the differences between experimental and control class' result, the researcher analyzed the result of the test by using t-test formula.

It is used to examine average whether experiment group and control group have been decided having different average.²⁰

T-test is used to analyze the data of this research. A t-test is used to measure and compare the mean scores of the two groups.²¹

The hypotheses are:

Ho=
$$\mu_1 = \mu_2$$

Ha = $\mu_1 \neq \mu_2$

 μ_1 : average data of experiment group

: average data of control group μ_2

The formula is:

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

With

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

 ²⁰Anas Sudijono, *Pengantar Statistik Pendidikan* (Jakarta: PT. Raja Grafindo Persada, 1995), 6th Ed, p. 264.
²¹Sugiyono, *op.cit*, p.121.

Where:

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

- \overline{X}_2 : mean of the 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 both groups.

Criteria test is: Ho is accepted $if - t_{(1-\frac{1}{2}\alpha)} < t < t_{(1-\frac{1}{2}\alpha)}$, where $t_{(1-\frac{1}{2}\alpha)}$ obtained from the distribution list t with $dk = (n_1 + n_2 - 2)$ and opportunities $(1 - \frac{1}{2}\alpha)$. Values for other t Ho rejected.²²

Analysis Phase End

- a. Normality Test, this step is similar to the normality test on the initial data.
- b. Homogeneity Test, this step is similar to the homogeneity test on the initial data.
- c. Test of the Average, proposed hypothesis test in average similarity with the right test is as follows:

 $Ho = \mu_1 = \mu_2$

Ha = $\mu_1 \neq \mu_2$

The formula used is as follows:

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

With

²²Sudjana., *op.cit* p. 239.

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

Where:

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

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

n1 : number of experiment group

 $n_2 \ : number \ of \ control \ group$

 s_1^2 : variant of experiment group

 s_2^2 : variant of control group

If $X_{count}^2 > X_{table}^2$ so Ho is rejected and there is no difference of average value from both of groups. Moreover, the other way if the $X_{count}^2 < X_{table}^2$ so Ho is accepted and there is significant difference of average value from both of groups.²³

Compare the result of test from control and experimental group using t-test. And the formula as follow:²⁴

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{\Sigma x_1^2 + \Sigma x_2^2}{(n_1 - 1) + (n_2 - 1)}}} \cdot \sqrt{\frac{1}{n_2} + \frac{1}{n_2}}$$

Where:

t =t-test

 X_1 = mean of experimental group.

 X_2 = mean of control group.

 $\sum x_1^2$ = standard deviation of experimental group.

 $\sum x_2^2$ = standard deviation of the control group.

 n_1 = number of students of experimental group.

 n_2 = number of students of control group.

²³*Ibid.*, p. 239.

²⁴Karnadi Hasan, *Modul Dasar-Dasar Statistika Terapan*, (Semarang: Fakultas Tarbiyah IAIN Walisongo), p. 17.

The steps:

1) Calculate the mean of group 1 and group 2

 $X_1 = \sum x1$ and $X_{2=}\sum x2$

n1 n 2

 Calculate the score of X₁ and X₂ (quarrel between each score and mean of average of group)

x1 = X1-X1 and x2 = X.2-X2

3) Calculate score of x_1^2 and x_2^2 and then sum it

$$\sum x_1^2$$
 and $\sum x_2^2$.

4) Apply the result into formula.

5) Test the significance.

- If $t_0 < t_{<0,05}$ (t- Observation result is lower than t of table in phase in certain significance, for example : 5%)= Non Significance.
- If $t_0 \ge t_{<0,05}$ (t- observation result is higher than t of table in phase of certain significance : for example 5 %) = Significance.

H. Procedure and Time Line

Ν	ACTIVITIES	January		February 2010				
0								
		27 th	28 th	3 rd	8 th	13 th	16 th	18 th
01.	Visit the school							
	and ask permission							
	for headmaster							
	and meet the							
	English teacher							
02.	Giving try out		\checkmark					

Table 3

03.	Pre Test		\checkmark				
	(Experimental an						
	control class)						
04.	Treatment I						
	(Experimental and						
	control class)						
05.	Treatment II						
	(Experimental and						
	control class)						
06.	Interview					\checkmark	
	(Experimental						
	class)						
07.	Post Test						
	(Experimental and						
	control class)						
08.	Observation		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark

For the table above, it can be concluded that the research process administered through seven steps. First time the researcher asks permission to the headmaster to do the research and gives a permission letter. Second, meets the English teacher to make research frame work and make sure the start of the research. Third, gives a try out test for the try out class. Fourth, give a pretest for both classes (experimental and control class). Fifth step, the researcher gives treatment for both classes by giving different treatments. Sixth, continues the treatment. After that, the researcher holds the interview, to ten students of each control and experimental classes. To get the result of the treatment, researcher gives a post-test to both classes. Finally, researcher observes all of activities before and after the treatment.