

CHAPTER III

THE RESEARCH METHOD

A. Research Design

This research consists of two variables; they are Independent Variable and Dependent Variable. L. R. Gay., states that:

Independent variable is frequently manipulated that includes method of instruction, type of reinforcement, arrangement of learning environment, type of learning materials, and length of treatment. Dependent variable also called the criterion, effect, or outcome variable, shows the result of the study, the change or difference in groups that occurs as a result of the independent variable.¹

It means that in this research independent variable (X) refers to the Creative Problem Solving (CPS) method and dependent variable (Y) refers to the speaking ability. The type of this research is quasi experimental research that is testing an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable.² In addition, an experimental is the quantitative approach that provides the greatest degree of control over the research procedures.³ In this research, the researcher used a quasi – experimental design with nonequivalent control group. Quasi experimental situation in which the researcher assigns, but not randomly, participants to groups because the experimenter cannot artificially create groups for the experiment. While true experiment are experimental situation in which the

¹L. R. Gay. *Educational Research Competencies for Analysis and Application*. New Jersey: Prentice – Hall. 2000. p. 15.

²John W. Creswell. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. New Jersey: Pearson Education. 2008. p. 299.

³Gay, L. R., *Op. cit.* p. 15.

researcher randomly assigns participants to different conditions (or levels) of the experimental variable.⁴ In this research, researcher used a quasi experimental design to know the significant effect of using the Creative Problem Solving method toward students' speaking ability of the second year at State Islamic Junior High School 094 Tembilahan.

In conducting this research, the researcher took two classes; one class was as an experimental class taught by using the Creative Problem Solving method and the other was as a control class taught without using the Creative Problem Solving method. In the experimental class, the students were given pre-test at the beginning of the teaching learning in order to know the students' speaking ability. Then, there was a post-test at the end of the teaching learning processes in order to know the effect of using the Creative Problem Solving method toward speaking ability. So, design of this research can be illustrated as follows⁵:

Experimental group	0 ₁ -----X-----0 ₂
Control group	0 ₃ -----0 ₄

Notation:

0₁ = pre-test of experimental class

0₂ = post-test of experimental class

0₃ = pre-test of control class

0₄ = post-test of control class

X = Treatment by using Creative Problem Solving method

⁴ Creswell, John W. *Op cit.* p. 645 and 648

⁵ Bruce W. Tuckman. *Conducting Educational Research Fifth Edition.* New York: Harcourt Brace College Publisher. 1999. p. 141

B. The Location and Time of the Research

This research was conducted at the second year students of State Islamic Junior High School 094 Tembilahan. The research had been done for two months, started on July 17th until August 28th 2013.

C. The Subject and the Object of the Research

The subject of the research was the second year students of State Islamic Junior High School 094 Tembilahan. The object of this research was using Creative Problem Solving method and students' speaking ability in recount text.

D. The Population and Sample of the Research

The population of this research was the second year students of State Islamic Junior High School 094 Tembilahan in 2013/2014 academic years. It had nine classes, which consisted of 188 students. The population was large enough to be all taken as sample of the research. Based on Suharsimi Arikunto, if the population of the research is large enough approximately more than 100 persons, so the researcher only takes them 25% for sample of population⁶.

⁶Suharsimi Arikunto. *Prosedur Penelitian Suatu Penekatan Praktik*. Jakarta: PT Rineka Cipta. 2006. p. 134

Table III.1
The Population of the Second Year Students at State Islamic Junior High School 094 Tembilahan 2013/2014

No	Class	Total
1	VIII ¹	20
2	VIII ²	20
3	VIII ³	21
4	VIII ⁴	20
5	VIII ⁵	19
6	VIII ⁶	21
7	VIII ⁷	23
8	VIII ⁸	22
9	VIII ⁹	22

The writer took only two classes after doing clustering sample randomly. The sample was taken by using lottery of a rolled paper in two classes, experimental group and control group. The specification of the sample can be seen on the table below.

Table III.2
The Sample of the Second Year Students at Islamic State Junior High School 094 Tembilahan 2013/2014

No	Class	Population	Sample
1	VIII ¹	20	Experimental Class
2	VIII ²	20	Control Class
Total		40	40

The population is relatively large, then the writer only took 25% of them, based on the limitation of the research, the writer took only two classes. They are VIII¹ as an experimental class and VIII² was a control class. The

total number of the research was 40; 20 students for experimental class and 20 students for control class.

E. The Technique of Collecting Data

In order to get data that are required in this research, the writer employed the procedures that can be seen in the following:

a. Pre – Test

Pre test was a test that was done at the beginning of the research in order to know the students' ability before the treatment.

b. Treatment

The treatment was conducted for experimental class only. The form of treatment was using the Creative Problem Solving method. The treatment was done by the researcher as the teacher. In this method, the researcher introduced the concept of Creative Problem Solving method in teaching speaking and involved students in teaching learning stages: define main idea of the topic from story of the students, share information and select the most relevant information from the story, make a problem statement, think up new and varied ideas addressing the problem statement (brainstorming), discuss the potential solution or create action plan for implementing the solution. This treatment was given for six meetings.

c. Post – Test

After giving the treatment for six meetings, where there researcher taught by using the Creative Problem Solving method for experimental class the post test was administered for both groups, experimental and control class.

Moreover, both pre – test and post – test were done by recording the students’ oral presentation. The recordings were given to two raters to assess the students’ speaking. The recordings were also written in the form of script for each student.

To assess the students’ speaking, the writer used oral language scoring rubric based on the criteria of speaking, accent, grammar, fluency, vocabulary, and comprehension.

Table III.3
Speaking Assessment of Students’ Test

No.	Aspect Assessed	Score			
		1	2	3	4
1	Grammar				
2	Vocabulary				
3	Pronunciation				
4	Fluency				
5	Comprehension				
Total					
Maximum Score		20			

Adopted from Rubric’s Assessment of Lesson Plan of MTs N Tembilahan⁷

Explanation of Score:

1 : Incompetent

2 : Competent Enough

3 : Competent

4 : Very Competent

$$\text{Final Score} = \frac{\text{Total Score}}{\text{Maximum Score}} \times 100$$

⁷Himon Karya. “Rencana Pelaksanaan Pembelajaran Bahasa Inggris Kelas VIII (semester ganjil) 2013/2014”. Tembilahan. Unpublished. 2013/2014.

F. The Reliability and Validity

The test used for testing students' speaking ability has to have reliability and validity. According to Gay, reliability is the degree to which a test consistently measures whatever it is measuring.⁸ It means that reliability has to do with accuracy of measurement. This kind of accuracy is reflected in obtaining similar results when measurement is repeated on different occasions or with different instruments by different person. The characteristic is termed consistency. To obtain the reliability of speaking test the researcher used inter rater reliability, because the researcher has two raters in order to score the students' speaking ability. Gay said that inter judge reliability can be obtained by having two (more) judges independently score to be compared to the score of both judges. Then, the scores of the rater 1 were correlated with the scores of the rater 2. The higher correlation is the higher the inter judge reliability. The following table describes the correlation between the scores of rater 1 and the scores of the rater 2 by using Pearson product moment correlation formula through SPSS 16 Version:

⁸ L. R Gay. *Op.cit.* p. 169

Table III. 5
Correlations

Correlations		
	RATER.1	RATER.2
RATER.1 Pearson Correlation	1	.672**
Sig. (2-tailed)		.001
N	20	20
RATER.2 Pearson Correlation	.672**	1
Sig. (2-tailed)	.001	
N	20	20

From the output above, it was found that r calculation was 0.672 correlated to r table, $df=38$. Because $df=38$ was not found from the r table, so the researcher took $df=40$ to be correlated either at level of 5% or 1%. At level of 5% r table was 0.304, while at level of 1% r table was 0.393. Thus, the r observation was obtained higher than r table, either at level of 5% or 1%. So, the researcher concluded that there was a significant correlation between scores of rater 1 and scores of rater 2. In the other words, the speaking test is reliable. The reliability of speaking test is moderate.

Validity generally refers to appropriateness of a given test on any its component parts as measure of what it is purposed to measure. It means that the test will be valid to the extent that is measured what it is supposed to measure. Validity and reliability of test items are related in terms that a test is possible to be reliable without being valid for specifiied purpose, but it is impossible a test to be valid being reliable. In other words, the materials of the test have been taught at the second year students of State Islamic Junior

High School 094 Tembilahan. It was familiar materials and near to the students' daily life. It was appropriate to the students' knowledge, insight and experience. Moreover, the materials were taken from the book guide for the students and other related resources. Here the researcher prepared some topics based on the topics discussed at the time. The topic was be chosen randomly by students and they presented it in front of class. The voice of the students was recorded.

G. Technique of Data Analysis

In order to a find out whether there is a significant effect of using Creative Problem Solving method toward the second year students' speaking ability, the data were statistically analyzed. In analyzing the data, the writer used score of post-test of experimental and control class. These score were analyzed by using independent sample T-Test from SPSS 16.0 version.

The t – table was employed to see whether there was a significant difference between the mean score of both experimental and control group. The t - obtained value is consulted with the value of t – table at the degree of freedom ($df = (N_1+N_2) - 2$) statically hypothesis:

H_a : $t_0 > t - \text{table}$

H_o : $t_0 < t - \text{table}$

H_a is accepted if $t_0 > t - \text{table}$ or there is effect of using Creative Problem Solving method toward students' speaking ability.

H_o is accepted if $t_0 < t - \text{table}$ or there is no effect of using Creative Problem Solving method toward students' speaking ability.