CHAPTER III
REVIEW OF RELATED LITERATURE

This chapter discusses: (a) research type, (b) research design, (c) population and sample, (d) instrumen of the study, (e) instrument validity and reliability, (f) data collection procedure, data analysis procedure

A. Research Type

this study uses the quantitative research. This study is classified into quantitative research. Quantitative research deal with question of relationships, cause and effect, or current status of that writer can answer by gathering and analyzing numeric data. It can be further classified as experimental and non experimental.[1]

B. Research Design

In this study, the writer use quasi-experimental design. Quasi-experimental design are similar to randomized experimental research in that involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment group. There are many situations in educational research in which is not possible to conduct a true experiment. Neither full control over the scheduling of experimental conditions nor the ability to randomize can be always realized. It is not possible to randomly assign subjects to treatment groups.[2] This design is compatible with the writer's purpose which wants to evaluate the effectiveness of experiential learning method in teaching speaking. To observe the data about the students' achievement in speaking skill, the writer

[1] Donald ary, dkk, *Introduction to Research In Education*, wadsworth, 2010, p.651

[2] Donald Ary, Lucy Cheser Jacob, Chris Sorensen, Asghar Razavieh, *Introduction to Research in Education*,8th Edition, 2010, Wadsworth: Cencage Learning, p: 316

obtain the data from the results of the students' score both in pre-test and post-test.

The writer use nonrandomized control group pre-test, post-test design with a kind of treatment. There are two groups in this model, control group and experiment group. Both groups will be given pre-test to measure the score of students before treatment given (Y1 and Y2). The treatment will be given for experiment group (X). Post test will be given for both groups to measure the students score after treatment is given (Y1 and Y2). The scheme of this model is

Table 3.1
The Scheme of Quasi-Experimental Design
Nonrandomized control group, pretest-posttest design

Subject	Pre-test	Treatment	Post-test
X5	Y1	X	Y1
X2	Y2	-	Y2

Where :

X5 : Experiment group

X2 : Control group

In this experiment, the writer teach the students directly with the same material. Therefore, the use of simulation is applied on experiment group only, and for the control group the writer will apply conventional method. Meanwhile, the control group is not given the treatment

C. Population and Sample

1. Population

Population is the larger group to which a researcher wishes to generalize; it includes all member of a defined class of people, events or objects.[3] The population of this study is the students of 10th Grader of Islamic Senior High School (MAN Model) Palangka Raya.

Table 3.2
The Number Population of the 10th Graders of MAN Model Palangka Raya

No.	Classes	Number of Students
1.	X-1	36
2.	X-2	36
3.	X-3	33
4.	X-4	36
5.	X-5	36
6.	X-6	35
7.	X-7	36
8.	X-8	36
Total Number		281

[3] *Ibid*, p: 647.

2. Sample

Sample is a group selected from a population for observation in study.[4] In this study, Because of the large number of population, the researcher takes samples as the representative of the population. The writer use cluster sampling to take the sample. Cluster sampling is a probability technique that randomly selects and uses whole naturally occurring groups such as intact classrooms[5]. By cluster sampling, the writer chooses two classes that become the experiment group and become the control group.

Table 3.3
The Number of Sample of the 10th Graders of MAN Model Palangka raya

No.	Classes	Number of Students
1.	X-2	36
2.	X-5	36
Total Number		72

In this study, X-5 class be an experimetnt group which be taught by using simulation technique and X-2 class be a control group which be taught by non-simulation technique

[4] *Ibid*, p: 649.
[5] Ibid, p: 637.

D. Instrumen of The Study

The materials necessary for a simulation should be more varied and complex to suit the multi-layered structure of a simulation.[6] Here is the one of instrument used in simulation adapted from friederike kipple:[7]

Aims	***Skills*** **-** all four skills ***Language*** **-** all language elements ***Other*** **—** fun
Level	Intermediate/ advanced
Organisation	Groups, teams, class
Preparation	None
Time	5—8 hours
Procedure	The activity follows the steps outlined in the diagram below. The first step involves agreeing on the aim of the society to be founded and naming it. The society can have a

Society activity	***Classroom activity***	***Structures and Vocabulary***
A Meeting to found a Society	Discussion of aims	Present simple and continuous, We'd like to . .., We'll. . ., We have to . ..
B Election of office Bearers	Election of chairperson, secretary, treasurer and the committee	nominate, second, ballot, majority, deals with . . .
C Agenda for a forthcoming meeting	Drawing up an agenda	I propose/suggest..., dates, numbers
D Items on the agenda: fund-raising, publicity, demonstration	Debate, note taking, letter writing, finding a motto, designing posters	. . . should . . . . might. . .

6 Friederike Klippel, *Communication Fluency Activities For Language Teaching*, cambride university, London, 1984, p. 122

7 *Ibid*, p.126

E Rules	Discussion	Members will have to . . ., must never . . .
F Membership forms and Cards	Devising and designing application form and membership card	Have you ever been to . . . ? Are you married . . .? Names?

1. Oral Test

to measure student's speaking ability in this study, the writer use an oral test. The post test was conducted on Saturday, 31st May 2014 and taken place at X-5 and X-2 class of MAN Model Palangka Raya. The test consist of the simulation performance. In this sense, the students are asked to perform in pairs in front of class about the dialog that have been given. The allocated time for speaking is 60 minutes.

2. Test Construction

The test construction is based on the objectives of the study. The study is aimed at finding out the effectiveness of simulation in speaking ability of 10th grades of MAN model palangka raya. In order to investigate the effect; the subjects are assigned to perform speaking using and without using simulation technique. The result of the two tests was investigated using statically analysis and outcomes are compared to see the effects of simulation technique on speaking.

E. Instrumen Validity and Reliability

Validity is concerned with the extent to which an instrument measures what one thinks it is measuring.[8] Simply, it can be said that the test will be valid, if it measures accurately what intended to measure.

In this study, the validation of instrument is mainly direct to the content validity. Related to the the oral test, the content validity is chek by examining and the test use to measure the objectives. The writer use inter-rater method (test of validity). Inter-rater is two raters who score the students' performance to get the score compositions as possible. The writer use product moment correlation as the formula to calculate the validity from the result.[9]

$$r_{xy} = \frac{\sum XY - (\sum X)(\sum Y)/n}{\sqrt{[\sum X^2 - \frac{(\sum X)^2}{n}][\sum Y^2 - \frac{(\sum Y)^2}{n}]}}$$

Where:

r_{xy} : Index correlation number "r" product moment

N : Number of class

∑xy : Multiplication result between score X and score Y

∑x : Total value of score X

∑y : Total value of score Y

Interpretation:

$r_{xy} > r_t$ = valid

$r_{xy} < r_t$ = Invalid

[8] *Ibid.* p. 213

[9] Anas Sudijono, "*Pengantar Ilmu Statistik Pendidikan*" 1997, Jakarta: PT. Raja Grafindo Pustaka, p.193

Riduwan in Mayasarah states the criteria of interpretation of validity:[10]

0.800 – 1000 = very high validity

0.600 – 0.700 = high validity

04.00 – 0.599 = fair validity

0.200 – 0.399 = poor validity

0.000 – 0.199 = very poor validy

F. Data Collection Procedure

The reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring.[11]

In rater reliability, there are inter-rater and intra-rater reliability. A simple way to determine the reliability of ratings is to have two or more observers independently rate the same behaviors and then correlate the observers' ratings. The resulting correlation is called the inter-rater.[12] Meanwhile intra-rater reliability referred to consistency of rater in scoring the same paper or two different point of time. It point out and individual accuracy in scoring a particuar composition.

In this study, the writer applies inter-rater reliability. The coefficient correlation and interpretation of inter-rater reliability according to Djiwandono as show in table:[13]

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[10]Mayasyarah, "*The effectiveness of Video Compact Disc as an Audiovisual Medium toward the Students' Listening Comprehension Score of the teent grade students at MAN Model Palangka Raya"*, of Unpublished Thesis

[11] Donald Ary, Lucy Cheser Jacob, Chris Sorensen, Asghar Razavieh, *Introduction to Research in Education*,8th Edition, p. 236

[12] *Ibid.* 256

[13] M. S. Djiwandono, "*Tes Bahasa – Pegangan Bagi Pengajar Bahasa*", 2008, Jakarta: PT. Indeks, p. 168.

Table 3.4
Inter-rater reliability coefficient correlation and interpretation

Correlation coefficient	interpretation
0.80 to 1.00	Very high
0.60 to 0.79	High positive
0.40 to 0.59	Moderate
0.20 to 0.39	Low
0.00 to 0.19	Little

After do inter-rater reliability, the writer will examine the reliability of the items. Arikunto stated that alpha formula is use to find the reliability instrument which the same is not I or O, for example: subjective test.[14]

Alfa construct reliability coefficient formula:

$r_{11} = (\frac{k}{k-1})(1- \frac{\sum Si}{St})$

Description:

r_{11} = Alpha Reliability Coefficient

k = Number of component of item

$\sum Si$ = Sum of component variances

$\sum St$ = Total variance

1. **Normality**

Normality is a test normal to wheter or not the distribution of research data. Testing the normality of the data (X^2).[15] Done by comparing a normal curve

[14] Suharsimi Arikunto, "*Prosedur Penelitian Suatu Pendekatan Penelitian*", 2002, Jakarta: Rineka Cipta, p. 171.

[15] Sugiyono, "*Statistika untuk Penelitian*", 2006, Bandung: CV. Alfabeta, p.77

formed by the data that has been collected with the standard normal curve/ standard. Normality test using the formula Chi Square (X^2), is as follows:

$X^2 = \sum \frac{(fo-fh)^2}{fh}$

X^2 = chi-squared value

f_o = frequency obtained

f_h = the expected frequency of sample

If X^2 hitung < X^2 table, then the data can be said to be normally distributed, the significance level of 5% with df= (n-1).

2. Homogeneity

Homogeneity test aims to test the equality some samples.[16] Used to test the homogeneity of the Fisher formula.

Normality test using the Fisher Formula

$F = \frac{largest\ variance}{smallest\ variance}$

F_{table} on the table d*f* = (n1-1) and (n2-1) with a significance level of 5%.

G. Data Coleection Procedure

In the study, the writer used several procedures in collecting the data, as follows:

1. The writer observed the location, the number of class, the number of students, and class activities.
2. After doing the observation, the writer determined the class into experiment group and control group by using cluster sampling.

[16] *Ibid.*p. 136

3. The writer was given the pre-test to the both groups. For experiment group the pre test was conducted on Saturday, 3rd May 2014 and for control group the pre test was conducted on Thursday, 24 April 2014
4. The writer taught speaking to the experiment group using simulation technique in pre speaking activity.

Table 3.5
Procedure of Teaching speaking by Using simulation Technique

Step	Activity Description	Time Allocation
1	**2**	**3**
Pre-speaking Activity	a. Preface • Teacher greets the students by asking "Good morning? How are you?" / "What is your feeling today?". (friendly) • Teacher checks students' attendance by asking "Who is absent today? Where is she/he?" (attention) b. Apperception • Teacher asks the students how to ask for information (humble) • Teacher asks the students how to give information? (humble) • Teacher mentions the material.	10 minutes
whilst Activity	c. Activity 1 • Teacher mentions some expressions of asking for, giving and denying information. • Teacher asks the students to repeat (responsive) • Teacher gives a piece of paper contains a mini talk to each student. • Teacher instructs the students to circle the expressions of asking for, giving and denying information. d. Activity 2 • Teacher informs to the students that they are going to do a "Simulation" • Teacher gives information how to do	60 minutes

	"Simulation". (responsive) • Teacher asks the students to make a group in pairs before simulation. (responsive) • Teacher gives the instruction "Make a group in pairs to do simulation in 5 minutes". e. Activity 3 • Teacher gives a piece of script dialog to each pair of students. • Teacher asks to the students to comprehen a dialogue in a pair by using some expressions of asking for, giving and denying information from a piece of paper. (diligent) • Teacher gives the instruction "perform a dialogue based on the information written in script and present in front of the class." (accurate) • Teacher asks the students to practice the dialogue. (responsive) • Teacher asks several students to present the dialogue in front of other students. (confident)	
Post Activity	• Teacher asks the students whether they enjoy the lesson or not. (honesty) • Teacher reviews the materials by asking students what they have learned today. (responsive) • Teacher closes the lesson by saying "good bye" (caring)	10 minutes
		80 minutes

1. The writer taught the control group without using simulation technique.

Table 3.6
Procedure of Teaching Writing of speaking by Using Non-simulation Technique

Step	Activity Description	Time Allocation
1	**2**	**3**
Pre-Activity	f. Preface • Teacher greets the students by asking "Good morning? How are you?" / "What is your feeling today?". (friendly) • Teacher checks students' attendance by asking "Who is absent today? Where is she/he?" (attention) g. Apperception • Teacher asks the students how to ask for information (humble) • Teacher asks the students how to give information? (humble) • Teacher mentions the material.	10 minutes
whilst Activity	• Teacher mentions some expressions of asking for, giving and denying information. • Teacher asks the students to repeat (responsive) • Teacher gives a piece of paper contains a mini talk to each student. • Teacher instructs the students to circle the expressions of asking for, giving and denying information. • Teacher gives a dialog example • Teacher asks to the students to make a dialogue in a pair by using some expressions of asking for, giving and denying information in a piece of paper. (diligent) • Teacher gives the instruction to presented in front of class based on dialog that they made.	60 minutes
Post Activity	• Teacher asks the students whether they enjoy the lesson or not. (honesty) • Teacher reviews the materials by	10 minutes

	asking students what they have learned today. (responsive) • Teacher closes the lesson by saying "good bye" (caring)	
		80 minutes

2. The writer was given the post-test to both groups. The post test for both groups was conducted on Saturday, 31st May 2014 at X-1 and X-7 class of MAN Model Palangka Raya
3. The writer record the video based the performance
4. The writer gave score to the students' speaking result of both groups based on transcipted video. There were two raters who scored the result of students' speaking, the first rater was the writer of this study and the second rater was the teacher of MAN Model of Palangka Raya.
5. The writer analyzed the obtained data from pre-test and post-test using manual calculation and using SPSS 21 Program.
6. The writer interpreted the data analysis result.
7. The writer concluded the activity of effectiveness of teaching speaking using simulation technique to improve students' score or not, based on the obtained data

H. Data Analysis Procedures

In order to analyze the data, the writer did some procedures.

1. Collecting the students' score of pre-test and post-test.

2. Arranging the obtained score into the distribution of frequency of score table

3. Calculating mean, median, modus, standard deviation, and standard error of students' score

4. Calculating validity, reliability, normality and homogeneity

5. The writer used statistical t-test and SPSS to answer the problem of the study with formula: $\mathbf{t_o} = \frac{M_1 - M_2}{SEm_1 - m_2}$

Description:

$M_1 - M_2$: The difference of two means

$SEm_1 - m_2$: The standard error of the difference between two means.17

By the criteria:

If $t_{test} \geq t_{table}$, Ha is accepted and Ho is rejected.

If $t_{test} < t_{table}$, Ha is rejected and Ho is accepted

Since the kind of hypothesis is a non directional hypothesis, the level significance which will be used is 5%. If the result of t_{test} was higher than t_{table} it means that Ha was accepted but if the result of t_{test} was lower than t_{table} it mean that Ho was accepted.

6) Calculating the degree of freedom

7) Determining the level of significant of $t_{observed}$ by comparing the $t_{observed}$ with the t_{table}.

8) Interpretation the result of analyzing.

If $t_{test} \geq t_{table}$, Ha is accepted and Ho is rejected.

If $t_{test} < t_{table}$, Ha is rejected and Ho is accepted.

17 Suharsimi Arikunto, *Manajemen Penelitian* , Jakarta: PT. Rineka Cipta, 2003 p. 507.

9) Giving discussion to clarify the research finding about result of this study
10) Interpretation the result analyzing
11) Giving conclusion.