CHAPTER III
RESEARCH METHOD

This chapter covers: (a) research design, (b) approach, (c) location of study, (d) population and sample, (e) source of data, (f) research instrument, (g) validity of instrument, (h) reliability of instrument, (i) data collecting procedures, and (j) data analysis.

A. Research Design

In this study, the writer used quasi-experimental design. Quasi-experimental design was similar to randomized experimental research in that involves manipulation of an independent variable but differ in that subjects were not randomly assigned to treatment group.[1] There were many situations in educational research in which was not possible to conduct a true experiment. Neither full control over the scheduling of experimental conditions nor the ability to randomize cold be always realized.[2] This design was compatible with the writer's purpose which wants to evaluate the effectiveness of Communicative language teaching (CLT) method on speaking skill. To observe the data about the students' achievement on speaking skill, the writer obtained the data from the results of the students' score both in pre-test and post-test.

The writer used nonrandomized control group pre-test, post-test design with Communicative Language Teaching (CLT) treatment. There were two groups in this model, control group and experiment group. Both groups were given pre-test to measure the score of students before treatment given (Y1 and Y2). The treatment was given for experiment group (X). Post test was given for both groups to measure

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[1] Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, and Asghar Razavieh, *Introduction to Research in Education, Eight Edition,* p.316.
[2] Ibid, p.282

the students score after treatment had been given (Y1 and Y2). The scheme of this model was:

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

Subject	Pre-test	Treatment	Post-test
E	Y1	X	Y1
C	Y2	-	Y2

Where;

E   : Experiment group

C   : Control group

In this experiment, the writer taught the students directly with the same material. Therefore, the use of Communicative language teaching (CLT) method was applied on experiment group only, and for the control group the writer applied Conventional Method. Meanwhile, the control group was not given the treatment. The writer implemented Communicative language teaching (CLT) for the experiment group in four-hours of english speaking class. The writer provided the teaching learning by Communicative language teaching (CLT) method for students to get involved in the class and real life task with some procedures. The control group worked with conventional method learning in speaking.

B. Approach

In this study, the writer used quantitative approach. It was because the writer measured the students' speaking ability by tests; pre test and post-test. "a quantitative study, consistent with the quantitative paradigm, was an inquiry into a social or human problems based on testing a theory composed of variables,

measured with numbers, and analyzed with statistical procedures, in order to determine whether predictive generalizations of the theory hold true".[3]

C. Time and Place of Study

The study conducted at SMA Muhammadiyah Palangka Raya, Jl. RTA. Milono km. 1 of Jekan Raya district of Palangka Raya. The writer started the research from March 21, 2016 to April 21, 2016. The writer targeted a research faster than planned because the writer had found the complete data from the English teacher and students at SMA Muhammadiyah Palangka Raya.

D. Population and Sample

1. Population

A population was defined as all members of any well-defined class of people, events objects.[4] The population of this study was all of the eleventh grade students in SMA Muhammadiyah Palangka Raya. Numbers of population were about 153 students. It was classified into three classes**.**

Table 3.2
The Number of the Eleventh Grade Students in
SMA Muhammadiyah Palangka Raya

No	Classes	Number of Students
1)	XI IPA-1	30
2)	XI IPA-2	31
3)	XI IPA-3	33
4)	XI IPS-2	29

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[3] John W. Creswell, *Qualitative and Quantitative Approach,* 1994, California: SAGE Publications, Inc, 1994, p. 2.
[4] Donald Ary, Lucy Cheser Jacobs & Asghar Razavieh, *Introduction to Research in Education Third Edition,* p. 138.

5)	XI IPS-3	30
Total Number		153

2. Sample

Sample is the small group that is observed.[5] The writer used cluster sampling to take the sample. Cluster sampling referred to groups or chunk of elements that would heterogeneity among members within each group are chosen for study.[6] A total of 64 students in the Eleventh Grade Students of natural science class program in SMA Muhammadiyah Palangka Raya were chosen to be the sample in this study. In addition, all of them had undergone basic speaking skill at tenth grade class.

Table 3.3
The Number sample of the Eleventh Grade Students of social class program in SMA Muhammadiyah Palangka Raya

No	Classes	Number of Students
1)	XI IPA-2	31
2)	XI IPA-3	33
Total Number		64

In this study, XI IPA-2 class was an experiment group which was taught using Communicative language teaching (CLT) method and XI IPA-3 was the control group which was taught using Conventional Method. Meanwhile, XI IPA-2 and XI IPA-3 have same ability in learning English. Therefore, the writer did not have any difficulties to determine the experiment and the control group.

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[5] *Ibid*, Pp. 138.
[6] Sabarun, *Population and Sampling,* Unpublished Material for Writing IV:Palangkaraya, p.2.

E. Source of Data

In this study, the source of data is the students' speaking scores which were gotten from the test instrument.

F. Research Instrument

There was one instrument used in this study, it was test. The writer used the test because the writer used quantitative approach and the main instrument of quantitative approach was test. "Tests are valuable measuring instruments for educational research. A test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. This score, based on a representative sample of the individual's behavior, is an indicator of the extent to which the subject had the characteristic being measured".[7]

Related to the statement above, in this study the writer collected the data from prior observation, pre test and post-test. And from the test, the writer could find the effect of Communicative language teaching (CLT) to promote student's speaking skills.

G. Validity of Instrument

Validity is defined as the degree to which evidence and theory support the interpretations of test scores entailed proposed uses of tests. [8] Validity is concerned with the extent to which an instrument measures what one thinks it is measuring.[9] Simply, it can be said that a test is valid, if it measures accurately what intended to

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[7] Donald Ary, Lucy Cheser Jacobs, Chris Sorensen, Asghar Razavieh, *Introduction to research in education (8th edition),* p.201.
[8] Donald Ary, *Introduction to Research in Education, Eight Edition,... p.225*.
[9] *Ibid*, p. 213.

measure. The validity of speaking scores is grounded in the purpose that the scores are intended to serve.[10] In this study, the test is aimed to measure the students' speaking skills. Therefore, the students assign to speak about certain topic that was telling about congratulating and complimenting.

1. Content Validity

Content validity is essentially and of necessity based on the judgment, and such judgment must be made separately for each situation.[11] It refers to whether or not the content of the manifest variables is right to measure the latent concept that is trying to measure. In this study, the writer measured speaking score. The test items were made based on the material in the syllabus that used for the eleventh-grade students in SMA Muhammadiyah Palangka Raya that related to the curriculum. Therefore, the students assign to speak about certain topic that was telling about congratulating and complimenting.

2. Criterion-related Validity

It refers to the extant which test scores are systematically related to one or more outcome criteria.[12] It emphasizes on the criterion because the writer used the test scores to infer performance on the criterion. The type of criterion-related validity used in this study is concurrent validity. It refers to the relationship between scores on a measure and criterion scores obtained at the same time.[13] In this study, the writer used two testers to do the test. So the validity for the test instrument would be considered from the scores given by both testers. Therefore

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[10] Sari Louma, *Assessing Speaking,* United Kingdom: Cambridge University Press, 2004, p. 185.

[11] *Ibid*, p. 215

[12] Donald Ary, *Introduction to Research in Education, Eight Edition,* p.228.

[13]*Ibid*

the formula of coefficient correlation that used to know the instrument validity in this study as follows;[14]

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

Where:

r_{xy} = coefficient correlation

X = score of the variable of tester X

Y = score of the variable of tester Y

n = the total of the subject

Interpretation:

$r_{xy} > r_t$ = valid

$r_{xy} < r_t$ = invalid

The criteria of interpretation the validity:[15]

0.800 – 1.000 = Very High Validity

0.600 – 0.799 = High Validity

0.400 – 0.599 = Fair Validity

0.200 – 0.399 = Poor Validity

0.00 – 0.199 = Very Poor Validity

The calculation using the formula above showed the value of correlation coefficient was 0.942. The writer used SPSS V 22.0 for windows to test the instruments validity.

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[14] Saifuddin Anwar, *Reliabilitas dan Validitas,* Yogyakarta:Pustaka Pelajar, 2008, p.19.
[15]Riduwan, *Metode dan Teknik Menyusun Thesis, Bandung: Alfabeta, 2004, p.110.*

H. Reliability of instrument

A test is reliable to extent that the scores made by an individual remain nearly the same in repeated measurements.[16] In this study the writer used inter-rater reliability. Inter-rater reliability estimates the reliability of two scores which are gained from two assessors for the same subjects of the test.[17] Therefore, the test was done by two assessors, the score has high reliability. In this study the test had been done by the writer and one of the English teacher at SMA Muhammadiyah Palangka Raya. Both assessors have same criteria to measure the students' speaking ability. The reliability of the whole test can be estimated by using this formula:[18]

$$\Gamma_{11} = \frac{N}{N-1} x \left(1 - \frac{M(N-m)}{Nx^2} \right)$$

Where :

Γ_{11} : Reliability of instrument

N : The number of items in test

m : The mean score on the test for all the testees

x : The standard deviation of all the testees' scores.

The steps in determining the reliability of the test were:

a. Making tabulating of testees's scores.

b. Measuring the mean of the testees's scores with the formula :

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[16] *Ibid, p. 229.*

[17] Soenardi Djiwandono, Test Bahasa; Pegangan Bagi Pengajar Bahasa, Jakarta: Indeks Press, 2008, p.187

[18] *Ibid,* p. 157.

$$M = \frac{\sum X}{N}$$

c.   Measuring the total variants with the formula:

$$Nx^2 = \frac{\sum x^2 - \frac{(\sum X))^2}{N}}{N}$$

Where:

Nx^2 = the total variants

$\sum X$ = the total of score

$\sum X^2$ = the square of score total

N = the number of testes

d. Calculating the instrument reliability using KR-21.

e. The last decision is comparing the value of Γ_{11} and Γ_t

> $>_{table}$ = Reliable
> $<$ $_{table}$ = Not
> Reliable

f. To know the level of reliability of instrument, the value of Γ_{11} is interpreted

based on the qualification of reliability as follows:

0.800- 1.000   : Very High Reliability

0.600-0.799   : High Reliability

0.400-0.599   : Fair Reliability

0.200-0.399   : Poor Reliability

0.000-.0199   : Very Poor Reliability

From the measurement of instrument reliability it is known that the whole numbers of test items are reliable and can be used as the instrument of the study.

The scoring rubric for the measurement as follow:[19]

Speaking Assessment			
Category	Students' score	Guide	
Grammar (25 point)		24-25	Excellent. Few errors; communication of ideas is clear
		22-23	Very good. One or two errors, but communication is mostly clear.
		20-21	Good. Several errors in syntax, but main ideas are mostly clear.
		18-19	Fair. Noticeable errors that occasionally confuse meaning.
		12-17	Weak. Language is marked by errors. Listeners' attention is diverted to the errors rather than the message. Meaning is often unclear or broken
		0-11	Unacceptable. Communication is impeded. Too many errors in this task for a student at this level.
Vocabulary (20 points)		20	Excellent. Correct selection of words and idioms. Variety of vocabulary.
		18-19	Very good. Correct selection of words and idioms. Some variety of vocabulary
		16-17	Good. Mostly correct choice of vocabulary. Meaning is clear.
		14-15	

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[19] Keith Folese, *The Art ...,* p.222.

		12-13	Fair. Noticeable vocabulary errors that occasional confuse meaning. Reliance on simple vocabulary to communicate.
		0-11	Weak. Many vocabulary errors. Listeners' attention is diverted to the errors rather than the message. Meaning is often unclear or broken
			Unacceptable. Too many errors in this task for a student at this level. Communication is impeded
Fluency (30 points)		29-30	Excellent. No hesitation at all
		27-28	Very good. Hesitations in one or two places but immediately continued
		24-26	Good. Occasional hesitations but recovered well
		21-23	Fair. Noticeable gaps that catch listeners' attention usually followed by recovery
		12-20	Weak. Several short periods of silence. Several gaps that disrupt the flow information. Listeners' attention is diverted to the gaps rather than message.
		0-11	Unacceptable. Periods of silence. Gaps without good recovery.
Pronunciation (25 points)		24-25	Excellent. Few errors; native-like pronunciation
		22-23	Very good. One or two errors, but communication is mostly clear
		20-21	Good. Several pronunciation errors, but main ideas are understood without problem
		18-19	Fair. Noticeable pronunciation errors that

		12-17	occasional confuse meaning
			Weak. Language is marked by pronunciation errors. Listeners' attention is diverted to the errors rather than message. Meaning is often unclear.
		0-11	Unacceptable. Too many errors in this task for a student at this level. Communication is impeded.
Students' score			

Beside the technical of scoring through four scales above, the writer also made rating classification which used to give students obtained. The following is rating scale classification: [20]

Rating	Scale	Classification
81-100	5	Very good
61-80	4	Good
41-60	3	Fairly good
21-40	2	Poor
0-20	1	Very poor

Then the intra-rater reliability was calculated with the formulation of Intra-class Correlation Coefficient using SPSS V 22.0 program.

I. Data Collecting procedures

In this study, the writer used several procedures in collecting the data, they were:

1. The writer did pre-observation such as Location, the number of class, the number of teachers, the number of students and Class activities.

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[20] Daryanto, *Evaluasi Pendidikan,* Jakarta: Rineka Cipta, 2005, p. 211.

2. After doing the observation, the writer determined the class into experiment group and control group.

3. Before instruction, the experiment and control group were pre-tested. They taken the same speaking pretest that consisted of questions covering the speaking topic to be studied.

4. At the end of treatment. Students in the experiment group and the control group are required to take the speaking post-test to determine the effect of the Communicative language teaching (CLT) on their speaking skills. The post-test mean scores in the experiment group were compared to test scores was used for further quantitative analysis.

J. Data Analysis

The pretest and post-test raw score were converted into percentages. In order to analyze the data which had been collected. The mean, median, modus, standard deviation and standard error of students' score were computed for the pretest and post-test scores of the experiment and control groups. The writer would use statistical t-test to answer the problem of the study with formula:

$$t_0 = \frac{M_1 - M_2}{SEm_1 - m_2}$$

$M_1 - M_2$: The difference of two means

$SEm_1 - m_2$: The standard error of the difference between two means.[21]

To know the hypothesis is accepted or rejected the writer used the criterion:

[21] Suharsimi Arikunto, *Manajemen Penelitian,* Jakarta: PT. Rineka Cipta, 2003, p. 507.

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 means that Ho was accepted. Calculating the degree of freedom by using the following formula: $\boxed{df = N\text{-}1}$

Then, The writer makes the conclusion of data analysis that was obtained. In addition, the writer used SPSS V 22.0 program to compare the data. To determine the level of significant of $t_{observed}$ by comparing the $t_{observed}$ with the t_{table}. Then, the next step is to interpret the result discussion is made to clarify the research finding about this study.