CHAPTER III

METHOD OF THE STUDY

In this chapter discuss about the writer describe about research methodology that used in conducting the research. It purposes to answer the problem of the study. This chapter consists of type of the study, design of the study, variables of the study, population and sample, instrumentation, data collecting procedure and data analysis procedure.

A. Type of the Study

The writer uses quantitative approach in this study. It is because the writer investigates the problems on students' speaking accuracy and the students' motivation. Because of the writer does not provide full control. Considering the purposes of the research and the nature of the problems, the type of research is quantitative research that uses cluster sampling.

The research takes two classes as experiment class and control class. Experiment class is sample class that gives treatment which teaching speaking uses cartoon story maker. In the other hand control class compares class that the teaching speaking does not use cartoon story maker. It is extremely important that writers be aware of the threats to both internal and external validity and considered these factors in their interpretation.[1]

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[1] Donald Ary, et al., *Introduction to Research...,* p.316.

B. Design of the Study

The design of the study is quasi-experimental design. Experimental design is a plan for an experiment that specifies what independent variables will be applied, the number of levels of each, how subject are assigned to groups, and the dependent variable. The writer uses quasi- experimental design since it was not possible to randomly assign subjects to treatment group.[2]

The research design of the study is an experimental design using one-way ANOVA. Experimental design is a plan that specifies what independent variable applies, the number of levels of each, how object assigned to group, and the dependent variances. Simple or one-way analysis of variance (ANOVA) is a statistical procedures used to analyze the data from a study with more than two groups.[3]

There are two classes in this study. The first group is control class (CC) using conventional method. The second is experiment class (EC) group which applies cartoon story maker. The groups will have pre-test and post-test to measure the result of the students' speaking score and motivation

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[2] *Ibid.*p. 316.
[3] Donald Ary, Lucy Cheser Jacobs, Chir Sorence and Asqar Razavieh , *Introduction to Research in Education,* 4rd Edition, New York: Wadsworth/Thomson Learning, 2010, p. 178.

Table 3.1

The Schema of Experimental Research Class

Group		Pre test	Independent variable	Post test
Experimental	Speaking Score	Ey1	X	Ey1
	Motivation	Ey2		Ey2
Control	Speaking score	Cy1	–	Cy1
	Motivation	Cy2		Cy2

C. Variables of the Study

Variable is the objects of the study which indicate variations.[4]There are two variables of this study, as follow:

1. Independent variable: Teaching speaking using cartoon story maker (X).

2. Dependent variable:

   a. Students' speaking score (Y1).

   b. Student' motivation (Y2).

D. Population and Sample

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[4] Sutrisno Hadi, *Metodologi Research*, Yogyakarta: Graha Ilmu, 2004, p. 250.

Population is all cases, situation, or individuals who share one or more characteristics.[5] Population is the group to which a writer would like the results of a study to be able to generalize.

In this study, the populations of the study are two speaking classes of state Islamic institute of Palangka Raya. The numbers of population are 38 students. There are two speaking classes, speaking class C (17) Students and speaking class D (19) Students. Therefore it is called by quasi experimental design.

Table 3.2. The description of the population and sample

CLASS	TYPE OF TREATMENT	NUMBER OF STUDENTS
Speaking Class C	**Using cartoon story maker to describe something**	**17**
Speaking Class D	Using conventional method to describe something	**19**
Number of Sample		**36**

The writer takes the classes as the sample for some reasons. First, the classes are speaking class and still in young semester. Second, the students are difficult to

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[5] David Nunan, *Research Methods in Language Learning,* Cambridge: University Press, 2003, p.231.

speak accurately. Third, the writer wants to know the effect of cartoon story maker on students' speaking score and motivation.

E. Research Instrumentation

1. Test

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 has the characteristic being measured.[6]

The data are needed to prove and support this study. By this collected data, the writer can measure the effect of cartoon story maker toward students' speaking score and motivation at the speaking class III of the state Islamic institute of Palangka Raya. There are two instruments that will use in the study to get the data, namely; speaking test and questionnaire.

a. Speaking Test

According to Heaton "Test may be constructed primarily as devices to reinforce learning and to motivate student, or primarily as a means of as seeing the student's performance the language.[7]

The writer collected the main data from pretest and posttest. From the two tests, the writer can find out the effect of cartoon story maker toward students'

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[6] Donald Ary, et al., *Introduction to Research...,* p.201.
[7] J.B.Heaton,, *Language Testing*, 1987, p. 1.

speaking score and motivation at the speaking class III of the state Islamic institute of Palangka Raya.

A pretest will give before treatment. Giving the pretest the writer will compare that score to the posttest scores which gave after the treatment. A posttest as the last test also will give to get the quantitative data about their speaking ability after the writer teach speaking using cartoon story maker.

b. Questionnaire

Questionnaires are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers.[8]

The writers used questionnaire which adapted from assessing motivating for communicate test. The questionnaire are 24 questions, its mean that assesses attitude toward a topic by presenting a set of statements about the topic and asking respondents to indicate for each whether they strongly agree, agree, uncertain, disagree or strongly disagree.[9]

Based on Ary, the various agree and disagree responses given to each item. This total score assesses the individual's attitude toward the topic, so by the questionnaire the writer will measure the students' motivation.

2. Documentation

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[8] Douglas, H Brown. *Teaching by Principles: An Interactive Approach to Language Pedagogy*, Inc, Education Company. 2001, p. 6.

[9] McCroskey, J. C. (2005). *An introduction to rhetorical communication* (9th ed). Englewood Cliffs, NJ: Prentice Hall, P.11

In the study, documentation is used in order to find the information need in this research. This technique of collecting data is by seeing the documentation to get the real information of the experiment like the students' name, photos of teaching learning process in the class, video Recorder, the syllabus and lesson plan of English subject, and the result of the test or students' speaking scores and motivation.

3. **Test Validity and Reliability**

   a. **Test Validity**

   Validity is defined as the degree to which evidence and theory support the interpretations of test scores entailed proposed uses tests.[10] Validity is also defined as the extent to which an instrument measured what it claimed to measure[11].

   Simply, it can be said that a test will be valid, if it measures accurately what intended to measure. The validity of speaking scores is grounded in the purpose that the scores are intended to serve[12]. In this study, the test aims to measure the students' speaking skill.

   1. Content Validity

   Content validity is essentially and of necessity based on the judgment and judgment must be made separately for each situation.[13] It refers to whether or not the content of the manifest variables is right to measure the latent concept that is trying to

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[10] Donald Ary, *Introduction to Research in Education*, Eight Edition, P. 225.
[11] *Ibid,*.
[12] Sari Louma, *Assesing Speaking*, P. 185.
[13] *Ibid,*. P.215

measure. In this study, the instrument tests are suitable with the condition at speaking class.

2. Construct Validity

Construct validity is concerned with the extent to which a test measures a specific trait or construct.[14] It is related to the theoretical knowledge of the concept that wants to measure. The meaning of the test score is derived from the nature of the tasks examines are asked to perform.[15]

In this study the writer measured the students speaking skill. Therefore the test instrument is made in the form of face to face to speaking test and the test is done by two testers to get the higher reliability. The score takes in five criteria, which are the score of pronunciation, grammar, vocabulary, fluency and comprehension. Then to get the mean, the score from all criteria should be sum.

3. Criterion Related Validity

It refers to the extant which test scores are systematically related to one or more outcome criteria.[16] It emphasizes on the criterion because the writer will use the test scores to infer performance on the criterion. The type of criterion-related validity is used in this study is concurrent validity.

Accordance with the nature and characteristic of speaking activity as language skill of active-productive, speaking skill test is most appropriate as a subjective test.

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[14] Donald Ary, *Introduction to Research in Education*. Third Edition, P. 218.

[15] Muhammad Adnan Latief, *Tanya Jawab Metode Penlitian Pembelajaran Bahasa*, Malang : Universitas Malang Press, 2010, P. 134.

[16] Donald Ary, *Introduction to Research Education*, Eight Edition, P. 228

It is for the ensuring the validity of the test and the effort to achieve a high level of reliability by assigning rater.[17]

b. Test Reliability

The reliability refers to the degree of consistency measurement that a test yields in measuring what is intended to measure.[18] To score the students' oral work as fairly and consistently as possible, the writer uses inter-rater reliability (test of reliability). Inter-rater reliability refers to the degree of consistency and agreement between scores assigned by rater or observe who judge or grade the same performance or behavior.

For example, the process of scoring essay test for subjective decisions on the part of those who have to grade the tests.[19] To score the just like essay tests, spoken test also require subjective decisions. That is why the writer chose this type of reliability.

The students' performance is assessed using determined scoring rubric that includes criteria such as pronunciation, grammar, vocabulary, fluency and comprehension.

Table 3.3. Coefficient Correlation and Interpretation

Correlation Coefficient	Interpretation

[17] Soenardji Djiwandono, *Test Bahasa, Pegangan Bagi Pengajar Bahasa*, Jakarta : Indeks Press, 2008, P.120.

[18] Donald Ary, Lucy Chese Jacobs and Chris Sorensen, I*ntroduction to Research in Education*, Eight Edition, USA : Wadsworth Publishing, 2010, p. 236.

[19] Ruth David, *Practical Statistics for Educators, Fourth Edition*, Unitid Kingdom : Rowman and Little Field Published, Inc,. 2011, P.196.

.90 to 1.00 or -.90 to -1.00	Very high positive or negative correlation
.70 to .89 or -.70- to -.89	High positive or negative correlation
.50 to .69 or -.50 to -.69	Moderate positive or negative correlation
.30 to .49 or -.30 to -.49	Low positive or negative correlation
.00 to .29 or -.00 to -.29	Little if any correlation

To measure the reliability of the research, the Reliability Analysis with Formula of Intra-class Correlation Coefficient using SPSS 18.0 Program.

Table 3.4. Intra Class Correlation Coefficient

	Intraclass Correlation[a]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.80[b]	.62	.90	9.06	29	29	.00

Average	.89^c	.77	.95	9.06	29	29	.00
Measures							

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. Type C intra class correlation coefficients using a consistency definition-the between-measure variance is excluded from the denominator variance.

b. The estimator is the same, whether the interaction effect is present or not.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

The results of the calculation showed that the calculation of the ICC showed the reliability between the raters was 0.80. It indicated High positive reliability.

In the present study, the writer used analytic scoring method. The scoring method can be seemed in the table below:

Table 3.5. Scoring Method for Speaking

No	Criteria	Rating Scores	Comments
1.	Pronunciation	5	Has few traces of foreign language

2		4	Always intelligible, though one is conscious of a definite accent
		3	Pronunciation problem necessities concentrated listening and occasionally lead to misunderstanding
		2	Very hard to understand because of pronunciation problem, most frequently be asked to repeat
		1	Pronunciation problem to serve as to make speech virtually unintelligible
2	Grammar	5	Make few (if any) noticeable errors of grammar and word order
		4	Occasionally makes grammatical and word orders errors that to do not, however obscure meaning
		3	Make frequent errors of grammar and word order, which occasionally obscure meaning
		2	Grammar and word order errors make

			comprehension difficult, must often rephrases sentence and or rest rich himself to basic pattern
		1	Errors in grammar and word order, so severe as to make speech virtually unintelligible
3	Vocabulary	5	Use of vocabulary and idioms is virtually that of native speaker
		4	Sometimes uses inappropriate terms and must rephrases ideas because of lexical and equities
		3	Frequently uses wrong words conversation somewhat limited because of inadequate vocabulary
		2	Misuse of words and very limited vocabulary makes comprehension quite difficult
		1	Vocabulary limitation so extreme as to make conversation virtually impossible
4	Fluency	5	Speech as fluent and efforts less as that of native speaker
		4	Speed of speech seems to be slightly affected by

			language problem
		3	Peed and fluency are rather strongly affected by language problem
		2	Usually hesitant, often forced into silence by language limitation
		1	Speech is so halting and fragmentary as to make conversation virtually impossible
5	Comprehension	5	Appears to understand everything without difficulty
		4	Understand nearly everything at normal speed although occasionally repetition may be necessary
		3	Understand most of what is said at slower than normal speed without repetition
		2	He has great difficulty following what is said can comprehend only. Social conversation. Spoken slowly and with frequent repetition
		1	Cannot be said to understand even simple

			conversational English

The way of calculating final Score:

Score :

Total score (pronunciation, grammar, vocabulary, fluency, comprehension) x 4

Total maximum score (100)[20]

Table 3.6. The categories of speaking score

No	Score	Categories
1	0 – 59	Very Poor
2	60 – 69	Poor
3	70 – 79	Fair
4	80 – 89	Good
5	90 - 100	Very Good

Questionnaire for speaking motivation by using media

Adapted from Sherwyn P. Morreale

SCORE	MEANING
1	Strongly Disagree

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[20] David P. Harris, *Testing English as a Second Language*, New York : McGraw-Hill Book Company, 1969, P. 84.

2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

No	Statement	Score
1	I dislike participating in class discussions.	
2	Generally, I am comfortable while participating in class discussions.	
3	I am tense and nervous while participating in class discussions.	
4	I like to get involved in class discussions.	
5	Engaging in a class discussion with new media makes me tense and nervous.	
6	I am calm and relaxed while participating in class discussions.	
7	Generally, I am nervous when I have to participate in a meeting.	
8	Usually, I am comfortable when I have to participate in a meeting.	
9	I am very calm and relaxed when I am called upon to express an opinion at a meeting and describing by using cartoon story maker	
10	I am afraid to express myself at meetings by using cartoon story maker.	
11	Communicating at meetings usually makes me uncomfortable.	
12	I am very relaxed when answering questions at a meeting.	

13	While participating in a conversation with a new media, I feel very nervous.	
14	I have no fear of speaking up in conversations by using cartoon story maker.	
15	Ordinarily I am very tense and nervous in conversations	
16	Ordinarily I am very calm and relaxed in conversations.	
17	While conversing with a new media, I feel very relaxed	
18	I'm afraid to speak up in conversations by using cartoon story maker.	
19	I have no fear of giving a speech by using cartoon story maker.	
20	Certain parts of my body feel very tense and rigid while giving a speech.	
21	I feel relaxed while giving a speech.	
22	My thoughts become confused and jumbled when I am giving a speech by using cartoon story maker.	
23	I face the prospect of giving a speech with confidence by using cartoon story maker.	
24	While giving a speech by using cartoon story maker, I get so nervous I forget facts I really know.	
Total		

Group discussion: (scores for items 2, 4, & 6) + (scores for items 1,3, & 5)

Meetings: (scores for items 8, 9, & 12) + (scores for items 7, 10, & 11)

Interpersonal: (scores for items 14, 16, & 17) + (scores for items 13, 15, & 18)

Public Speaking: (scores for items 19, 21, & 23) + (scores for items 20, 22, &24)

Group Discussion Score: _____

Interpersonal Score: _____

Meetings Score: _____

Public Speaking Score: _____

To obtain the total score for the PRCA, simply add the sub-scores together. _____

Scores can range from 24-120. Scores below 51 represent people who have very low motivation. Scores between 51 - 80. Represent people with average motivation. Scores above 80 represent people who have high levels of trait motivation.[21]

Table 3.7. The categories of motivation score

No	Score	Categories
1	1 – 50	Very Low Communicative Apprehension (VLCA)
2	51 – 80	Average Communicative Apprehension (ACA)
3	81 - 120	Trait Communicative Apprehension (TCA)

F. Data Collecting Procedures

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[21] Sherwyn P. Morreale, *Assessing Motivation to Communicate: Willingness to Communicate and Personal Report of Communication Apprehension*, University of Colorado at Colorado Springs, P.10.

To answer the research questions of the effect of using cartoon story make to describe on speaking score, the writer conducts the following steps:

1. Grouping the students into experimental group and control group.

2. Giving pre-test to the experimental group and control group.

3. Teaching English speaking to students in the experimental group by using cartoon story maker and teach English speaking to students in the control group by using conventional method.

4. Giving pos-test to the experimental group and control group.

5. Taking the result of the test.

G. Data Analysis Procedures

The data of this is study students' speaking score and motivation. Therefore, the data are in quantitative data. The data will analyze by means of inferential statistics. This statistical analysis is suitable to answer the research problem. In this case, the writer applies one way ANOVA to examine the students' speaking score and motivation.

1. Techniques of Data Analysis

Before analyzing data using ANOVA Test, the writer fulfills the requirements of ANOVA Test. They are Normality test, homogeneity test and hypotheses test.

a. 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. In this study to test the normality the

writer applied SPSS 17 program using Kolmogorov Smirnov with level of significance =5%. Calculation result of asymptotic significance is higher than **α** (5%) so the distribution data was normal. In the contrary, if the result of an asymptotic significance is lower than **α** (5%), it meant the data is not normal distribution.

b. Homogeneity Test

Homogeneity uses to know whether experimental group and control group, that are decided, come from population that has relatively same variant or not. To calculate homogeneity testing, the writer applied SPPS 18 program used Levene's testing with level of significance **α** (5%).

If calculation result is higher than 5% degree of significance so H_a is accepted, it means both groups had same variant and homogeneous.

c. Testing Hypothesis

The writer applies the one-way ANOVA statistical to test hypothesis with level of significance 5% one-way ANOVA could be applied to test a difference mean or more. The steps are as follows:

1). Find out the grand mean (X) each group: $\sum X_t^2 = \sum X^2 - (\frac{\sum X^2}{N})$

2). Find out the sum of square among group:

$$SS_t = \sum X^2 - \frac{(\sum X_t)^2)}{N}$$

Where

SS_t = sum of square total

$\sum X^2$ = each score squared, then summed

$(\sum X_t)^2$ = all the scores summed first, then this sum squared

N   = number of score

3). The sum of squares between groups

$$SS_b = \frac{(\sum X_1)^2)}{n_1} + \frac{(\sum X_2)^2)}{n_2} - \frac{(\sum X_2)^2)}{N}$$

4). The sum of squares within groups

$$SS_w = SS_t - SS_b$$

5). Find out degree of freedom between group:

$$Df_b = G-1$$

6). Calculate the between-groups mean square (MSb) :

$$MSb = \frac{SST}{dfb}$$

7). Find out the degree of freedom within group :

$$Df_w = N-1$$

8). Calculate within group mean score (MSw) :

$$MSw = \frac{SSb}{dfw}$$

9). Find the F ratio

$$F = \frac{MSb}{MSw}$$

10). Determining the level of significant of $F_{observed}$ by comparing the $F_{observed}$ with the $F_{table.}$

2. Data Analysis Procedures

To analyze the writer do same ways in data analysis procedure, they are as follows:

1. Collected the students' speaking scores of Pre-test and post- test.

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

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

4. Measured the normality and homogeneity.

5. Analyzed the data by using one-way analysis of variance to answer the problem of the study. In addition, the SPPS program is applied.

6. Interpreted the result of analyzing data.

7. Make discussion to clarify the research finding.

8. Give conclusion.

9. Summary

   To sump, the step in collecting, analyzing and hypothesis testing can describe below. In the first step, the students will have pre-test that they perform in front of class for describing something. The subjects divide into two groups; experimental group and control group. Experiment group assigns to speak by use cartoon story maker and control group without cartoon story maker. Second step, the students answer the questionnaire. To analyze the data of speaking score and motivation, one way ANOVA test will employed. ANOVA test is a statistical computation used to test significant difference

between within group and between groups. Before testing the hypothesis, normality and homogeneity measured to fulfill the assumptions. Third step, the writer hypothesis would be test to answer the research problem.