CHAPTER III

RESEARCH METHODOLOGY

This chapter presents and elaborates how this research was conducted in order to discover the answers of preceding research questions. It offers research design, variable, research hypothesis, population and sample, data collection, research procedure, and data analysis.

3.1 Research Design

This present study used pre-experimental design. Pre-experimental design well suits for studies which focus on the discovery of the effectiveness of certain variable to other variable. This is in line with the theory from Kothari (2004) who revealed that experimental involves making a change in the value of one variable called as the independent variable and observing the effect of that change on other variable called as dependent variable. He also added that experimental approach is characterized by greatest degree of control over the research environment.

The design which was used in this research is One Group Pre-Test Post-Test Design. One group pre-test and post-test design is one of pre-experimental group which measures dependent variable (pre-test), then stimulus is conducted in the classroom (treatment) and measures dependent variable (post-test), without another group as comparison. Therefore, in this design, the test is conducted twice, before the experiment (O_1) as known as pre-test and after the experiment (O_2) as known as post-test. The result of pre-test can be determined accurately because it can be easily compared and analyzed with the situation after treatment which is conducted in the classroom (Arikunto, 2006). The design of this present study is conducted using this following scheme:

$$O_1 \ X \ O_2$$

Information:

O1   = Pre-test before treatment

X   =Treatment

O2   = Post-test after treatment

Figure 1. Pre-test and Post-test Group Scheme (Arikunto, 2006)

In this study, the researcher acted as the teacher and the facilitator. It means that the researcher prepared and delivered the teaching material and also assessed the students' speaking progress at the same time. The teaching procedure was conducted in one class only. This class gained treatment during the teaching and learning process. However, before the treatment, the teacher assessed students' speaking performance by doing pre-test, then the teacher implemented picture strip story technique in teaching and learning process. After the treatment, the teacher measured the students' speaking ability by doing post-test. Thus, the teacher was able to observe the result of pre-test and post-test.

3.2   Variable

This research was conducted using pre-experimental design. This is aimed to look for the outcomes of implementing picture strip story technique in students' speaking ability, especially in narrative speaking. Therefore, it can be concluded that in this research, there are dependent and independent variable. The independent variable is picture strip story technique, meanwhile the students' speaking ability as dependent variable.

3.3   Research Hypothesis

A hypothesis is a prediction of the research outcome. In order to test the research hypothesis or the alternative hypothesis (H_a), the researcher had to formulate the null hypothesis (h_0) (Fraenkel & Wallen, 2012). A null hypothesis predicts neither a positive nor a negative relationship between speaking ability and using picture strip story technique. The hypothesis of this research is stated below.

(H_0) = there is no difference between students' speaking ability in pre-test and post-test score.

Figure 2. Research Hypothesis

3.4   Population and Sample

This present study was conducted in a public Junior High School in Bandung. The reason of selection this school was considered to the accessibility to conduct a research in that school. In addition, the strategic location also supported the researcher to cope with administrative matters for conducting the research in there. The research took one class of ninth grade students in the first semester. After selecting the participants, this study is expected to investigate the outcomes of implementing picture strip story technique in narrative speaking.

3.5   Data Collection

The data collection of this study was conducted through comparison of the pre-test and the post-test. Besides, the result of students' interview was collected in order to gain information about the students' responses towards the implementation of picture strip story technique. In short, this study was conducted using pre-test, post-test, and interview. The pre-test and post-test functioned as measurement to see whether the students have reached a certain development while using picture strip story technique in narrative speaking. On the other side, the interview was used to find out students' responses towards the implementation of the technique.

The pretest and post-test are used for showing the difference of educational innovation. The pre-test was conducted to measure the students' prior speaking ability on narrative text. The pre-test itself assessed the students to tell the folklore that they have been familiar. The pre-test was administered to the students before implementing picture strip story technique in the classroom. On the other hand, the post-test was conducted to discover whether using of picture strip story technique is effective to improve students' speaking ability or not. The post-test assessed the students to tell the folklore based on their own pictures.

Designing instruments are important works to do in doing research. The researcher has to assure that the instruments contain all the materials to measure what need to be measured. Therefore, before the researcher conducting pre-test and post-test, a pilot test was needed to be conducted first. This pilot test is to assess whether the test that is going to be tested is reliable and valid (Arikunto, 2006).

In order to gain the students' responses towards picture strip story technique, personal interview was conducted. According to Fraenkel & Wallen (2012), interview is an important instrument to verify the accuracy of impressions and responses that the researcher has gained through classroom observation.

In this study, there were six students who selected randomly for the personal interview session. The aim of selecting six different students was to gain deep understanding based on students' different point of view towards the use of picture strip story technique in teaching speaking.

3.6   Research Procedure

The procedures used in conducting this present study will be explained as follow.

3.6.1 Organizing Teaching Procedures

In this study, the researcher acted as a teacher who taught the students samples. Before the teaching and learning process, lesson plans were arranged and teaching materials were prepared, such as choosing the story and preparing picture strip story. The materials were taken from various resources.

3.6.2 Administering Pilot Test

Pilot test was aimed to check the validity and reliability of the test instrument. The pilot test was given before giving pre-test. The test was given to another ninth grade class in the same school. The students were given the test and they were asked to do the test based on the instruction.

3.6.3 Administering Pre-Test

Pre-test was conducted to measure the students' prior ability in narrative speaking. The test was implemented before teacher giving the treatments in teaching and learning process using picture strip story technique. In the pre-test, the students were asked to tell folklore that they have been familiar.

3.6.4 Giving Treatments

After conducting the pre-test, the treatments were given to the students samples. In this study, picture strip story technique was implemented in teaching

and learning process. The main procedures of giving treatments will be explained as follows.

1. The teacher divides students into several groups. Each group consists of six people.

2. Each student is given the example of narative text. After reading the text, the teacher asks students to find out difficult words, and then discuss the meaning of those words in a group.

3. The students are asked to discuss with their own group related to generic structure, language features, and the moral value of the narrative text.

4. Teacher shows several pictures related to the story. As an example, the teacher then tells the story by giving descriptions about every picture.

5. The students are given picture strip stories related to the story. Each student is asked to make descriptions about how their picture looked like and share them to their own group members.

6. Every group is required to arrange picture strip story and decide their own story sequence.

7. Last, each student is asked to tell his/her own story sequence based on picture strip story.

3.6.5 Administering Post-Test

After all treatments conducted, post-test is administered to discover the outcomes of implementing picture strip story technique in narrative speaking. The post-test instrument is conducting narrative text by using picture strip story technique.

3.6.6 Administering Interview

The interview was conducted after the students had finished doing the post-test. It consists of several questions in order to find out the students' responses towards the implementation of picture strip story technique in teaching narrative speaking. The questions of interview were adapted from Savignon & Wang (2003); Puegphrom & Chiramanee (2011) that will be described as follow.

Table 1. Students' Interview

No	Questions
1	Do you like studying English? Why?
2	What are challenges you face in speaking?
3	Do you like picture strip story technique in learning speaking? Why?
4	Does picture strip story technique increase your enthusiasm in learning speaking?
5	Does picture strip story technique help you in speaking English? Why?
6	Does picture strip story technique motivate you to actively participate in speaking class?
7	Does picture strip story technique increase your self-confidence in speaking English?
8	Does picture strip story technique help you in understanding the story?
9	Does picture strip story technique increase your creativity in retelling the story using English?
10	Does picture strip story technique successfully can improve your speaking skill?
11	What differences do you feel before and after learning speaking using picture strip story technique?
12	What are drawbacks in implementing picture strip story technique?
13	Is picture strip story technique suitable to be implemented in speaking class?

3.7   Data Analysis

After collecting the data, the researcher then analyzed the data. According to Cresswell (2009), during the research of experiment, the data is analyzed by the statistical analysis.

3.7.1   Scoring Technique

In order to measure the students' speaking ability, the scoring rubric is needed. The speaking scores were adapted from Brown (2001); Beckley (2014) and analyzed based on several criteria, such as pronunciation, vocabulary, grammar, fluency, and content. The purpose of those criteria is to make all clear for both students and teacher. Each criterion was then defined into five indicators for each point of the scale as stated in the table below.

Table 2. Speaking Rubrics

Criteria	Scales	Indicators
Pronunciation	5	Pronunciation is fully accepted by the examiner.
	4	Errors in pronunciation are quite rare.
	3	Errors never interfere with understanding and rarely disturb.
	2	Accent is understandable though often faulty.
	1	Errors in pronunciation are frequent, but the examiner can understand what the speaker talking about.
Vocabulary	5	Speech on all levels is fully accepted by the examiner, including the width of vocabulary and idioms, colloquialisms, and cultural references.
	4	Can understand and engage in any conversation within the range of speaker's experience with a high degree of accurate vocabulary.
	3	Vocabulary is broad enough that the speaker rarely has to grope for each word.
	2	Has speaking vocabulary sufficient to express what

Criteria	Scales	Indicators
		the speaker going to talk.
	1	Speaking vocabulary insufficient to express anything.
Grammar	5	Equivalent to that of an educated native speaker.
	4	Errors in grammar are quite rare. Able to use the language accurately on all levels related to professional needs.
	3	Control of grammar is good. Able to speak the language with sufficient structural accuracy.
	2	Can handle basic constructions quite accurately but does not have confident to control the grammar.
	1	Errors in grammar are frequent, but the speaker can be understood by the examiner.
Fluency	5	Has complete fluency in the language such that the speaker' speech is fully accepted by native speaker.
	4	Able to use the language fluently on all levels related to professional needs.
	3	Rarely has to grope for each word.
	2	Can handle hesitate with the confident, but usually force into silence by language limitation.
	1	(No specific fluency description).
Content	5	Student demonstrates a very clear understanding of a developed story sequencing and uses original and complex elaboration of ideas.
	4	Student demonstrates an understanding of story sequencing and uses complex adaptation of story ideas.
	3	Student demonstrates an emerging understanding of story sequencing and uses small variation of the story.

Criteria	Scales	Indicators
	2	Student narrates the story, but their understanding of story sequencing is unclear.
	1	Student makes no attempt to narrate a sequential story.

Adapted from Brown (2001); Beckley (2014)

3.7.2 Analysis of Data from Pilot Test

Pilot test was administered to check the validity and reliability of the instrument. Validity explains how well the collected data covers the actual area of investigation (Ghauri & Gronhaug, 2005). It is in line with the theory from Field (2005) who stated that validity can be defined as measure what is intended to be measured. In calculating the validity value, the result of students' speaking test on pilot test was calculated by using SPSS 17 for Windows. Pilot test was given to another class in the same school and the respondents are 30 students.

Furthermore, in order to know the scale of validity result of instrument, the final result was confirmed to the criteria of the coefficient correlation. The table is presented as follow.

Table 3. The Criteria of Coefficient Correlation

Coefficient Interval	Interpretation
0.00 – 0.199	Very Low
0.20 – 0.399	Low
0.40 – 0.599	Fair
0.60 – 0.799	High
0.80 – 1.000	Very High

(Sugiyono, 2011)

After testing the pilot test, the result showed that the item was valid to be tested as pre-test in this study. The test item was speaking which has five aspects as scoring, including pronunciation, vocabulary, grammar, fluency, and content. It showed that the pronunciation of speaking test is 0.690; the vocabulary of speaking test is 0.783; the grammar of speaking test is 0.717; the fluency of

speaking test is 0.707; and the content of speaking test is 0.757. The last item was total score of speaking test based on all aspects, it showed 1.000 of validity. According to the criteria of coefficient correlation, those results were categorized as high validity.

After calculating the validity value, the researcher also calculated the reliability from the instrument. Reliability concerns the extent to which a measurement of a phenomenon provides consistent result (Huck, 2007). He also added that testing for reliability is important to the consistency across the parts of a measuring instrument.

The criteria of the discrimination index of reliability are decsribed in the following table.

Table 4. The Criteria of Discrimination Index of Reliability

Coefficient Interval	Interpretation
r ≤ 0.20	Very Low
0.20 r ≤ 0.40	Low
0.40 r ≤ 0.70	Fair
0.70 r ≤ 0.90	High
0.90 r ≤ 1.00	Very High

(Sugiyono, 2011)

Reliability of the instruments was analyzed by using Cronbach's Alpha in SPSS 17 for Windows. The reliability coefficient of this reseach instrument is 0.779. According to Sugiyono (2011), when an item reaches 0.70 r ≤ 0.90, it is categorized as high reliability. Thus, this present study had high reliability in research instrument.

3.7.3 Normality Distribution Test

Normal distribution test was used to find out whether a set of data normally distributed or not. Saphiro-wilk test was used in this study using SPSS 17 for Windows. According to Field (2005), in conducting the normal distribution test, there are three steps that will be mentioned as follow.

1. Setting the alpha level. By default, this research test at 5% level of significances (two tailed). Then, stating the hypothesis that the pre-test score are normally distributed.

2. Analyzing the data by using Saphiro-wilk test through SPSS 17 for Windows.

3. Interpreting the result test includes if the significant value (Asymp.Sig) is less than 0.05 (Asymp.Sig < 0.05), the normality assumption is rejected. On the other hand, if the significant value (Asymp.Sig) is higher than 0.05 (Asymp.Sig > 0.05), the normality assumption is accepted.

After calculating the data, the result showed that the normality significant value of the research instrument is 0.136. According to Field (2005), if the significant value (Asymp.Sig) is higher than 0.05 (Asymp.Sig > 0.05), the normality assumption is accepted. The result of normality analysis on statistical computation will be presented in this following table.

Table 5. The Result of Normality Test

Saphiro-Wilk		
Statistic	Df	Sig.
.946	.30	.136

3.7.4 Analysis of Data from Pre-Test and Post-Test

Pre-test was conducted in order to find out the students' prior speaking ability on narrative text. On the other hand, post-test was conducted in order to find out the outcomes whether picture strip story technique can improve students' speaking ability or not. In analyzing pre-test and post-test, this study used dependent t-test by SPSS 17 for Windows. The dependent t-test was used to investigate the degree of relationship between two or more variables.

The dependent t-test was calculated by using SPSS 17 for Windows by comparing the significance value with the level of significance to the test hypothesis. If significance value is more than or equal to the level of significance

(0.05), the null hypothesis is accepted. It means that there is no significance differences between pre-test and post-test. On the other side, if significance value is less than the level of significance (0.05), the null hypothesis is rejected. It means that the result is significantly different between pre-test and post-test (Field, 2005).

3.7.4.1 The Result of Dependent t-Test

The pre-test and post-test scores were analyzed by dependent t-test using SPSS 17 for Windows. It is to investigate whether there is significant difference between students' speaking score in pre-test and post-test. The result of dependent t-test is described in the following table.

Table 6. The Result of Dependent t-test

	Paired Differences			t	df	Sig.(2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
Pre-test Post-test	6.531	3.193	0.564	11.573	31	.000

The result computation showed that the mean of post-test score (78.81) is higher than the mean of pre-test score (72.28). The result of dependent t-test showed that probability (sig. 2-tailed) < level of significance (0.000 < 0.05). It means that the null hypothesis of no difference between pre-test and post-test score was rejected.

3.7.5 Analysis of Data from Interview

In this study, the interview was conducted in order to find out students' responses toward the implementation of picture strip story technique in narrative speaking. The data obtained from the interview were analyzed by descriptive data analysis.

3.8   Concluding Remarks

This chapter has elaborated the research design, variable, research hypothesis, population and sample, data collection, and data analysis.