

## CHAPTER III

### METHODOLOGY OF THE STUDY

This chapter is going to elaborate several items which related to the method of the study. Those items are, the research design, population and sample of the research, instrument of the research, procedure data collection, data analysis, procedures teaching speaking by using Talking Chips Technique in experimental class and procedures teaching speaking by using Picture Describing technique in control group.

#### 3.1 Design of the Study

The design of this research was the quasi experimental study (time series design). Quasi-experimental design which consisted only experimental class without control class. Ary, et al (1979) defines quasi-experimental design as the design that would have two choices either uses control group or not. Sugiyono (2006) states that the times series design is one of the quasi experimental designs which only used experimental class without a control group. Creswell (2012) states that time series design is a design which only uses one group with multiple pre test and post test. The design of this study can be seen in the following schema:

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#### Time Series Design

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Select	Pre test	Pre test	Pre test	Treatments	Post test	Post test	Post test
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participants

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### 3.2 Population and Sample

#### 3.2.1 Population

Ary, et al defined population as all members of any well defined class of people, events or objects. The population of this research was all of the first year students in one of the senior high schools in Bandung who were registered in academic year 2012/2013. It was considered homogeneous because all the populations were not based on ranking. Based on the data gathered, the first grade students in one of the senior high schools in Bandung.

**Table 3.1 The total of students at grade x in one of the senior high schools in Bandung**

No	Class	Total Students
1	X1	36
2	X2	36
3	X3	37
4	X4	38
5	X5	39
6	X6	35
7	X7	38
8	X8	39
9	X9	38
<b>Total</b>		<b>336</b>

#### 3.2.2 Sample

The sampling technique of this research was the purposive sampling. It means that in determining the sample class was based on the purpose of the study. In this study, the researcher used class X<sub>1</sub> as the experimental study because all the classes have the same level in terms of ability. There was not favorite class.

### **3.3 Factors that were observed**

There were several factors that were observed when the research was conducted. In this case, the teacher (observer) observed the researcher (teacher) and students. Related to this, factors that were observed as follows:

1. Students : The researcher tried to look into the speaking accuracy and fluency of students in speaking activities.
2. Teacher : Observer (English teacher) investigated the teacher (researcher) in applying in implementing or applying Talking Chips Technique in teaching speaking.

### **3.4 Instruments of the Research**

The instruments for conducting the research were observation sheet, note taking, handy camera, and speaking test. Those instruments were described below.

a. Observation Sheet

Observation sheet was the instrument which used to know and observe what the teacher and students were doing in the classroom.

b. Note Taking

Note taking was an instrument which used to take notes about what is going on in the classroom from the beginning of the lesson until the end of the lesson. In this case, it has included note the application of Talking Chips Technique in speaking activities.

c. Handy Camera

Handy camera was an instrument which used to record what was happening in the classroom. It could be as a proof that the research was conducted in the classroom. Besides, it was also used to know how the implementation of Talking Chips Technique in speaking English.

d. Speaking test

Speaking test was an instrument which used to measure the speaking of students. Then, it was conducted at pre test and post test. It was used to know how far the ability of students in speaking English. This speaking test covered accuracy and fluency of students in speaking.

## **3.5 Data and Technique of Data Collection**

### **3.5.1 Data Collection**

Data collection of this research comprised qualitative data and quantitative data. Qualitative data could be seen from the result of observation sheet and note taking. It was because those instruments were used to collect more information about the implementation of Talking Chips Technique in speaking English. Then, it could be seen from teaching and learning process and how the problems that faced by students could be overcome. While, quantitative data were seen from speaking test. In this case, the result of evaluation test was as the consideration in cultivating the quantitative data. The quantitative data elaborated about the result of accuracy and fluency in speaking.

### **3.5.2 Technique of Data Collection**

Technique of data collection of this research can be described as follows:

1. Observation

Observation sheet was made as a guideline in observing the students and the teacher. After the observation sheet was ready, the observation started. The teacher and an observer knew activities during the implementation of the Talking Chips Technique. Then, it was not only the application of this

technique which was observed, but also the speaking accuracy and fluency of students in speaking English.

## 2. Giving a test

There were two kinds of test that will be given to students. Those were pre test and evaluation test. Pre-test was given in the beginning before conducting the research. It was used to know the background knowledge of students. Next, evaluation test or post test was a test which given at the end of each cycle. It was used to know the progress of students in speaking English and whether the students improved their speaking achievement or not after Talking Chips Technique applied.

### 3.6 Evaluation of two Raters

This research used two independent raters to make the evaluation more valid. In this case, the researcher and the English teacher in the tenth grade in one of the senior high schools in Bandung had a role as independent raters. These independent raters tried to evaluate the students' speaking fluency and accuracy.

To measure two raters, the students' score of each rater was correlated by using product moment formula as follows:

$$r_{xy} = \frac{\{N \sum xy - (\sum x)(\sum y)\}}{\sqrt{\{N \sum x^2 - (\sum x)^2\} \{N \sum y^2 - (\sum y)^2\}}}$$

Where :

$R_{xy}$  = The coefficient correlation of inter-rater agreement

X = The student's score from the first rater

Y = The student's score from the second rater

N = Number of respondents (36 students)

**The criteria of coefficient correlation are as follows:**

1. If  $r_{xy} > r_{table}$  means that there is any significant correlation of inter-rater agreement or it is accepted.
2. If  $r_{xy} < r_{table}$  means that there is not significant correlation of inter-rater agreement or it is rejected. ( Arikunto, 1992 : 71 )

### 3.7 Marking Schema

The marking schema for accuracy and fluency could be mentioned below:

**Table 3.2 Band score of oral testing criteria for accuracy**

Proficiency Description	Score
<b>Accent</b>	
Pronunciation frequently unintelligible	1
Frequent gross errors and a very heavy accent make understanding difficult, require frequent repetition	2
“Foreign accent” requires concentrated listening, and mispronunciations lead to occasional misunderstanding and apparent errors in grammar or vocabulary.	3
Marked “foreign accent” and occasional mispronunciations which do not interfere with understanding.	4
No conspicuous mispronunciations, but would not be taken for a native	5

speaker.	
Native pronunciation, with no trace of “foreign accent”	6
<b>Grammar</b>	
Grammar also entirely inaccurate phrases.	1
Constant errors showing control of very few major patterns and frequently preventing communication.	2
Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstanding.	3
Occasional errors showing imperfect control of some patterns but no weakness that causes misunderstanding.	4
Few errors, with no patterns of failure.	5
No more than two errors during the interview.	6
<b>Vocabulary</b>	
Vocabulary inadequate for even the simplest conversation.	1
Vocabulary limited to basic personal and survival areas (time, food, transportation, family, etc.)	2
Choice of words sometimes inaccurate, limitations of vocabulary prevent discussion of some common professional and social topics.	3
Professional vocabulary adequate to discuss special interests; general vocabulary permits discussion of any non-technical subject with some circumlocutions.	4
Professional vocabulary broad and precise; general vocabulary adequate to cope with complex practical problems and varied social situations.	5
Vocabulary apparently as accurate and extensive as that of an educated native speaker.	6

(Hughes, 2003: 111)

**Table 3.3 Band Score of oral testing criteria for fluency**

<b>Proficiency Description</b>	<b>Score</b>
<b>Speech Flow</b>	
hesitations, slowness, or even silences in language processing may prevent communication	1
speech is very slow and exceeding halting, strained, and stumbling except for short or memorized expressions	2
speech is slow and often hesitant and jerky. Sentences may be left uncompleted, but speaker is able to continue	3
speech is medium and there may be occasional loss of fluency, but	4

this does not prevent effective communication	
speech is fast but with some hesitation and unevenness caused primarily by rephrasing and grouping for words	5
speech is effortless and smooth with speed that approaches that of a native speaker	6
<b>Average Speed</b>	
No word along conversation	1
Utterances are produced in few words, even in a short and single word	2
Average speed indicates up to 50 words per minute	3
Average speed indicates between 50 and 100 words per minute	4
Average speed indicates ability to speak at length with relative ease on familiar topics, between 100 and 200 words per minute	5
Average indicates ability to speak at natural length, more than 200 words per minute	6
<b>Pausing</b>	
Producing any pauses, whether silent pause, fillers uh/um only, or fillers uh/um plus continuously and distractingly	1
Producing stretches of language with long pauses to get understand with interlocutors, pauses are distracting	2
Producing sentences with pauses that are sometimes distracting. Pauses occur when looking for lexical choices	3
Producing sentences with pauses that are sometimes not distracting	4
Producing sentences with pauses that are not distracting	5
Producing pauses that are supported by good arrangement, it approaches native speaker expression	6

(Cauldwell, 2005: 9)

**The way of calculating final fluency and accuracy:**

Fluency :  $\frac{\text{total score of fluency (flow, speed, pause)}}{\text{total maximum score (18)}} \times 100\%$

Accuracy :  $\frac{\text{total score of accuracy (accent, grammar, vocabulary)}}{\text{total maximum score (18)}} \times 100\%$

**Table 3.4 Students' Classification in Speaking Achievement**

Classification	Value	Speaking Achievement (%)
Very High	8-10	80-100
High	7-7.9	70-79
Enough	6-6.9	60-69
Low	0-5.9	0-59

(Sayekti, 1983: 75)

### 3.8 Technique of Data Analysis

The data in this research were analyzed by using descriptive and inferential statistic. Descriptive statistic analysis was used to describe the maximum and minimum scores, mean, and deviation standard. While the inferential statistic analysis was used to test the hypothesis. Before the hypothesis test was done, it was conducted normality test of the data as the condition for testing the hypothesis.

1. Normality test was used for knowing the normality of data distribution in both of the classes.

The formula that can be used is Chi-square test with the formula:

$$\chi^2 = \sum \left[ \frac{(f_o - f_e)^2}{f_e} \right]$$

(Riduwan, 2004: 179)

Which :  $\chi^2$  = the value of chi-square

$f_o$  = the observed frequency in each cell

$f_e$  = the expected frequency in each cell

With the criteria: If  $\chi^2_{\text{count}} \geq \chi^2_{\text{table}}$ , it means that the data is not distributed normally and If  $\chi^2_{\text{count}} \leq \chi^2_{\text{table}}$ , it means that the data is distributed normally.

To know whether there was a significant difference or not, then the post-test score in students' writing are analyzed by the dependent t-test. Two scores from pre and post-test collected, and the two groups the scores from not independent are paired. The important thing in dependent of t-test was to find the difference between pre test score and post test score.

Here are the steps to compute dependent t-test:

1. State the hypothesis, the null hypothesis is no difference between students speaking with Talking Chips Technique and without Talking Chips Technique, that is

$$H_0: \mu_1 = \mu_2$$

The alternative hypothesis is that there is different between students writing with comic strips and without comic strips:

$$H_1: \mu_1 \neq \mu_2$$

2. Select level of significance. The 0.05 is the level of significance as  $\alpha = 0.05$
3. Compute  $t$ , the formula is:

$$t = \frac{\bar{X}D}{SD / \sqrt{N}}$$

$\bar{X}D$  = Mean of the difference score

SD = standard Deviation

X = Score of difference score

$$\bar{X}D = \frac{\Sigma D}{N}$$

$\Sigma D$  = Sum of difference scores

N = Number of sample

State the results ( $t$ ), if it is less than value of the level significance (accept  $H_0$  or null hypothesis) or greater than value of the level significance (reject  $H_0$  or null hypothesis)

### 3.9 Procedures in teaching speaking through Talking Chips Technique in experimental class

The procedures of teaching speaking through Talking Chips Technique were combination from Kagan (1992) and Huda (2011). Then, it is modified as follows.

1. The teacher gave the topic for discussion and prepares the box which contains chips
2. The teacher divided students into several groups based on the total number of students in the classroom. Due to total number of students are 36, so there are six groups.

3. Every member in the group was given the head number A, B, C, D, E, and F
4. The teacher gave every group a piece of paper.
5. The teacher gave each member 2 or 3 chips.
6. The discussion was begun and when every member of the group talked about something, he or she must put the chip in the middle of the table. Then, it was continuous until the chips had been used by the students
7. The chips were filled with the things that students want to speak.
8. If the member had used all chips, he or she might not speak until his or her friends in groups did not have chips too.
9. If the chips had been used by all students and discussion has not been finished, they had to make an agreement to divide the chips again and continue discussion based on the procedures.

