

## CHAPTER III

### RESEARCH METHODOLOGY

This chapter elaborates the statements of the problem, methodology of the study, the principles, and the procedures of the conducted study. This chapter covers research design, data collection, research instrument, research procedure, and technique of analysis data.

#### 3.1 Statements of the Problem

This research attempts to answer the following questions:

1. Does *REACT* as a strategy in Contextual Teaching and Learning approach significantly improve student's speaking ability?
2. What are the student's responses toward *REACT* strategy in improving their speaking ability?

#### 3.2 Research Design

This study used quasi experimental design. Hatch and Farhady (1982:24) affirms that quasi experimental design is practical agreement between true experimentation and the nature of human language behavior. In line with this, Gal et.al (2002:365) states that the experiment is the most powerful quantitative research method for maintaining cause and effect relationships between two or more variables. Porte (2002) also explains that quasi-experimental research design

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is appropriate for educational research since many researches of that field usually involved the use of classes that have already been assigned before.

Moreover, this study gave treatment to the experimental class to find whether or not there are significant of students speaking ability after being treated by *REACT* strategy. Meanwhile in control class this study used conventional method. The diagram of this design is shown as follows:

**Table 3.1**  
**Experimental Research**

<b>Groups</b>	<b>Pretest</b>	<b>Treatment</b>	<b>Posttest</b>
Experimental	T <sub>1</sub> E	X	T <sub>2</sub> E
Control	T <sub>1</sub> C	–	T <sub>2</sub> C

(Hatch, E and Farhady H, 1982:21)

Where:

T<sub>1</sub>E = Pretest for experimental group

T<sub>2</sub>E = Posttest for experimental group

X = Treatments (using *REACT* strategies)

T<sub>1</sub>C = Pretest for control group

T<sub>2</sub>C = Posttest for control group

### 3.3 Variable

Hatch and Farhady (1982:12) define variable as certain aspect of a person or an object that differ each other. There are two variables used in this study; independent variable and dependent variable. Coolidge (2000:15) states that an

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independent variable is the variable which influences dependent variable. Meanwhile, the dependent variable was the variable that will be affected by an independent variable. Independent variable in this study was REACT strategy. The purpose was to investigate the effect of REACT strategy on the dependent variable. Therefore, dependent variable in this study was students' speaking ability.

### 3.4 Research Hypothesis

Coolidge (2000:95) affirms that hypothesis is a prediction of some sort concerning the outcome result of the study. This research begin with null hypothesis where both of classes conducted; experimental and control class.

$$H_0 : \mu_{\text{experimental}} = \mu_{\text{control}}$$

It means that there is no difference between experimental class and control class in the mean adjustment level (Kranzler and Moursond, 1999). Therefore, the null hypothesis (*ho*) that would be tested in this study states that there is no difference in mean adjustment level of speaking score between students who are taught using REACT strategy and with those who are not. If the hypothesis is rejected, it can be concluded that the experiment work. While if the hypothesis is accepted, it can be concluded that the experiment doesn't work.

### 3.5 Data Collection

The data collected in this study are population, sample and instrument. The explanation will be presented as follows:

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### **3.5.1 Population**

Coolidge (2000:24) defines population as a theoretical group with the same character or characters. In the same line, Burns (1994) explains that population is a whole group of people or objects which all have at least one characteristic in common, and must be defined specifically. Thus, the population in this study was eleventh grade students of senior high school in east Bandung in academic year of 2011-2012. Each class consists of 35 students.

### **3.5.2 Sample**

Coolidge (2000:24) states that sample is a smaller group of score selected from the population of score. There were two classes as sample of this study. Both of class consists of 70 students. Those classes were chosen to determine the experimental group of which the students were treated by REACT strategy and the control group of which the students were treated by conventional technique.

However, not all students of each class become the sample of this study due to the time limit in conducting the speaking test. As Arikunto (1996) affirms that in determining the number of samples the study could be taken 10% until 25% or more of the total population. Therefore, the sample of this study was 25 students of each group.

### **3.5.3 Research Instrument**

A research instrument was used as the significance tool to gather the data.

Quasi-experimental study applied two instruments of collecting data (Fraenkel & Susan Amperawati Nurjanah, 2012

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Wallen, 1993:383). The instruments are instruments for treatments such as lesson plans and instruments for scoring which consist of a questionnaire and interview.

At the end of the research, specifically after administering the post-test, the questionnaire and interview were conducted. There were several questions that should be answered by students orally. It was aimed at getting students' responses about the treatments that they had experienced.

### 3.5.4 Time Allocation

The research experiment was conducted in 8 sessions. Each session was carried out 2 x 40 minutes. The study started from January 11<sup>th</sup> 2012 to February 2<sup>th</sup> 2012 on Wednesday and Thursday. The schedule of the study is presented as follows:

**Table 3.2**  
**The schedule of the study**

No	Experimental Group		Control Group	
	Date	Material	Date	Material
1	11 Januari 2012	Pre-test “The Princess and The Dragon” Introduction of narrative texts and REACT strategy	11 Januari 2012	Pre-test “The Princess and The Dragon” Introduction of narrative texts
2	12 Januari 2012	Treatment 1 The Boy and an Apple Tree	12 Januari 2012	Treatment 1 The Boy and an Apple Tree
3	18 Januari 2012	Treatment 2 Hansel and Gretel	18 Januari 2012	Treatment 2 Hansel and Gretel
4	19 Januari 2012	Treatment 3 The Three Little Pigs	19 Januari 2012	Treatment 3 The Three Little Pigs
5	25 Januari 2012	Treatment 4	25 Januari 2012	Treatment 4

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		Ali Baba and the Fourty Thieves		Ali Baba and the Fourty Thieves
6	26 Januari 2012	Treatment 5 Cinderella	26 Januari 2012	Treatment 5 Cinderella
7	1 Februari 2012	Treatment 6 The Jack and The Beans Stalk	1 Februari 2012	Treatment 6 The Jack and The Beans Stalk
8	2 Februari 2012	Review, Post-test “The Legend of Lake Toba”, Contributing questionnaire and interview	2 Februari 2012	Review and Post-test “The Legend of Lake Toba”

### 3.6 Research Procedure

In collecting the data, there were several steps taken in this study. The steps were conducted to obtain the valid data based on a good preparation and some procedures. First, designing the lesson plan. It was designed to be implemented during treatment sessions. In this study lesson plan was designed for six meetings. The first and last meetings were allocated to administer the pre-test and post-test, while the six meetings were allocated to implement the treatment using REACT strategy in the teaching of speaking.

Second, conducting the material. The materials given were about narrative texts taken from Gerrot, Linda and Petter Wignell book and developing English competencies for senior high school grade XI book. It is also story in narrative texts taken from some resources such as story book and internet. The study focuses on narrative texts because narrative texts story are close to students daily lives. On the other hand, narrative texts give more chances to students to actively

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participate in teaching and learning. Gerot and Wignell (1994:204) argue that narrative text is a type of a text that proposed to amuse and to deal with actual and vicarious experience in different ways. Thus, to make the students enjoyable in learning speaking, the teachers must select an interesting topic to motivate students in learning narrative texts particularly in speaking. Example of narrative texts are; fable, fairy tales, legend, myth, folk-tale and many more. However, this study focuses on retelling fairy tales story. It helps students in making a short story and retelling the story build on their real life (Gerot and Wignell, 1994).

Third, administering pilot test. The pilot test was administered to different class of the sample. Furthermore, the pilot test was given to the students before the research began. In this study, the pilot test was conducted to the eleventh grade students of Senior High School in east Bandung. Fourth, conducting the treatment. In conducting the treatment, the experimental group was taught using REACT strategy in teaching speaking. On the other hand, the control group was taught using conventional technique.

Fifth, administering pretest and posttest. The tests provided in this study were pre-test and post-test. Firstly, the pre-test was conducted in the first meeting to check that control group and experimental group have the same ability before receiving treatment. Moreover, this test was aimed at knowing students' ability in speaking narrative texts. Secondly, post-test which is conducted in the last program of this research after providing some treatments and exercises to the experimental group in a certain period of time.

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Sixth, administering questionnaire and interview. A questionnaire and interview were conducted only to the experimental group after given the post-test. It was distributed to obtain the information about students' responses toward the use of REACT strategy. In this study, the type of questionnaire used was *Likert scale* formula. Meanwhile, the interview data were transcribed to obtain the information about the use of REACT strategy in teaching speaking. It was aimed at finding out students' responses toward the use of REACT strategy in teaching speaking.

### 3.7 Data Analysis

After collecting the data, it will be analyzed through several steps as follows; the speaking test document was analyzed by using scoring sheet, the pretest and posttest data was analyzed by using *SPSS 19.0 for Windows*. Afterward, the questionnaire was analyzed using *Likert scale*. Besides, the interview was analyzed and calculated into percentages.

#### 3.7.1 Scoring System

The criteria of scoring system which is used in pre-test and post-test of this research is the oral-English rating scale which is proposed by Haris (1969). Harris presented the sample of an oral English rating scale that used 1-5 points. Below is the frame of Harris's oral English rating scale:

**Table 3.3**  
**Scoring System**

Criteria	Scores	Comment
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Pronunciation	5	Has few traces of foreign language
	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 serve as to make speech virtually unintelligible
Grammar	5	Make few (if any) noticeable errors of grammar and word order
	4	Occasionally makes grammatical and or word orders errors that 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
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 the 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
	5	Speech as fluent and efforts less as that of native

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Fluency		speaker
	4	Speed of speech seems to be slightly affected by language problem
	3	Speed 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
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	Has great difficulty following what is said can comprehend only social conversation. Spoken slowly and with frequent repetition
	1	Can not be said to understand even simple conversational English

The oral ability test was covered into five elements; pronunciation, grammar, vocabulary, fluency, and comprehension. This oral rating scale helps to make the test reliable. According to the scoring system, it can be concluded that 100 points is the highest score gained by a student and 20 points is the lowest score gained by a student. Meanwhile, in this study score interpretation on speaking test used recorder. It also has examined by two examiners; the researcher and the teacher of eleventh grade students at senior high school in east Bandung.

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### 3.7.2 Data Analysis on Pilot Test

The pilot test was aimed at checking the validity and the reliability of the instrument. It was conducted before the pre-test. The data from the oral pilot test used scoring system by David Haris (1969) to check the respondents' response and to see whether or not the responses fulfill all the speaking aspects to be measured (See Table 3.3). The pilot test was conducted on January, 7<sup>th</sup> 2012 before implementing the pre-test. The result of the pilot test was attached in the appendix (see Appendix C).

### 3.7.3 Data Analysis on pretest and posttest

The pretest and posttest score were analyzed by using *SPSS for Windows 19.0*. The calculation covered normality distribution, homogeneity variance, and T-test. Firstly, it was normal distribution. The statistical calculation of normality test used *Kolmogorov-Smirnov*. It was calculated before t-test. This test was aimed at measuring whether the distributions of pre-test and post-test scores were normal or not (Kranzler, 1999). If *Asymp. Sig*>0.05, the null hypothesis is not rejected which means the sample scores were normally distributed. In contrast, if *Asymp. Sig*<0.05, the hypothesis is rejected which means the scores were not normally distributed.

Secondly, it was homogeneity of variance. The homogeneity of variance test used *Levene* test in *SPSS Statistics 19.0 for Windows* program. Afterward, if

*Asymp. Sig.* <0.05, the null hypothesis is rejected, it infers that the two groups are

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not equal. Otherwise, if  $Asymp. Sig > 0.05$ , the null hypothesis is accepted, it infers that the variance data of the two groups are equal; the data are homogenous.

#### 3.7.4 Independent T-test

The independent t-test was used to analyze the difference between two groups' means (Kranzler, 1999:90). In this study, the independent sample test was calculated by the computation of *SPSS Statistics 19.0 for windows*. If  $t\text{-obtained} > t\text{-critical}$ , there is a significant difference between two groups. It means that the null hypothesis is rejected. Otherwise, if  $t\text{-obtained} < t\text{-critical}$ , there is no significant difference between the two groups. It means that the null hypothesis is not rejected. Furthermore, Kranzler and Moursund (1999:91) state that since the difference between them is the experimental treatment, it is sensible to conclude that the treatment is responsible for the differences.

#### 3.7.5 Data Analysis on Questionnaire

The data obtained from the questionnaire were analyzed by using *Likert scale* formula. *Likert scale* was developed by Rensist Likert in 1932 (Bertram, 1999). Likert (1932) cited in Bertram (1999) states that *Likert scale* is a response scale which is used in questionnaires to attain participant's preferences or degree of agreement with a set of statements.

In this case, the individuals were asked to make a decision on their level of agreement (Bertram, 1999). The ranges or scales used in this questionnaire were

1) strongly agree, means that the students have a strong agreement about the statement 2) agree, means that the students agree about the statement 3) neither, means that the students are uncertain of the statement 4) disagree, means that the students disagree about the statement 5) strongly disagree, means that the students have a strong disagreement about the statement. The scoring system of the questionnaire is presented as follows:

**Table 3.4**  
**The scoring system of the questionnaire**

Statement	SS	S	R	TS	STS
Positive	5	4	3	2	1
Negative	1	2	3	4	5

Afterward, the score of respondent was changed into percentage form.

While the formula for analyzing the questionnaire is drawn as follows:

$$P = \frac{Fo}{n} \times 100\%$$

In which:

P = Percentage of each question

Fo = Frequency of answer (total respondent who answer the item)

n = Total Respondents

After that the result of computation was conferred with the following table:

**Table 3.5**  
**R % (Percentage of Respondent) Criterion**

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No	R %	Criterion
1	0	None
2	1 – 25	Small number of
3	26 – 49	Nearly half of
4	50	Half of
5	51 – 75	More than half of
6	76 – 99	Almost of
7	100	All of

(Kuntjaraningrat, 1994)

### 3.7.6 Data Analysis on Interview

The interview was analyzed by transcribing it in the form of written transcript. Then, the result of the interview was calculated into percentage to figure out the answer of the research question. The interview was conducted in open-ended question that consist of five questions related to students' opinions of teaching and learning process using REACT strategy. The interview covered some categories; firstly, students' experience of learning speaking using REACT strategy. Secondly, students' positive response in learning speaking using REACT strategy. And the last was students' negative response in learning speaking after using REACT strategy. Moreover, the students' answer were classified based on their class; high achiever, middle achiever, or low achiever students.

### 3.8 Concluding Remarks

This chapter has focused on a brief discussion of the methodology of the study, including the research design, the data collection, the research procedure, and the data analysis. To gather the data, this study uses questionnaires and

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interviews. Furthermore, the subsequent chapter will provide the details of analyses and interpretations.



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