

### III. RESEARCH METHOD

This chapter focuses on the methods of the research used in this study, such as: design, population and sample, instrument, procedures, data analysis, and hypothesis testing.

#### 3.1 Design

The design used in this research was *One-Group Pre-test and Post-test design*. The researcher used one class as the experimental class. This research was conducted to see whether there is an increase of students' speaking skill after being taught using Story Completion technique. The treatment was conducted twice. The first treatment used *Snow White* and the second treatment used *The Legend of Lake Toba* as the stories to conduct Story Completion. The researcher conducted pretest, treatment, and posttest. Here is the illustration of one group pretest posttest design.

T1    X    T2

Where:

T1: Pretest

X: Treatment

T2: Posttest

(Setiyadi, 2004: 40)

That is the explanation of design that will be used to conduct the research and find out the result.

### **3.2 Population and Sample**

The population of this research was the 8th grade students of SMPN 4 Bandar Lampung. There are ten classes. The researcher used random sampling. The researcher chose one class randomly without seeing the quality of the students. The researcher did not know exactly the condition of each class and considering all classes were the same. The researcher tested all students in the class one by one. This research was conducted in four meetings; 1 meeting for conducting pretest, 2 meetings for conducting treatments, and 1 meeting for conducting posttest. The materials for pretest, posttest, and treatments were some narrative texts which are *Malin Kundang*, *Snow White*, and *The Legend of Lake Toba*.

### **3.3 Instruments**

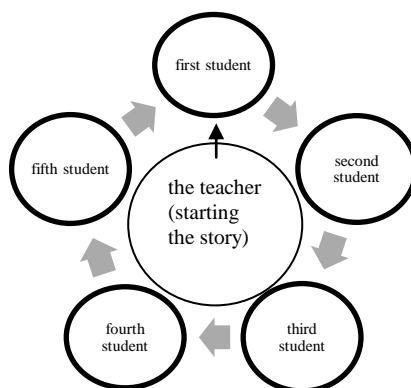
In this research, the researcher used several instruments in conducting her research. The instruments were the test of students' speaking achievement. The instruments of this research were explained as follow:

#### **3.3.1 Speaking Test**

The researcher used speaking test that was story completion as the instrument. In this speaking test, the students were formed in a group. They were given a story about *Malin Kundang* and should be discussed in fifteen minutes. They were asked also to decide who would be the first speaker, second speaker, etc. For each

speaker, the researcher gave a limitation part of the story that should be told in this test. After fifteen minutes, the researcher asked the first group to come in front. They should form a circle in front of the class. Then, the researcher started to tell the beginning of the story. After that, the first student in the group should complete the story. After two minutes, the left side of the first student should complete the story again based on the story part that had been determined before. In this speaking test, the students were helped by a picture in each part of the story.

Here is the illustration of story completion technique as the speaking test:



Then, they were evaluated by the raters. The researcher was the first rater, while their English teacher was the second rater. There were some aspects which were going to be observed in the scoring system, promoted by Harris (1979: 81). The aspects are explained in the following table:

**Table 3.1. Table of Specification for Speaking Test**

Number	Speaking Aspects	Definition	Percentage
1	Comprehensibility (1-5)	Comprehensibility for oral communication requires a subject to respond to speech as well as to initiate it.	20%
2	Vocabulary (1-5)	The appropriate diction which is used in communication.	20%

3	Pronunciation (1-5)	The way for students' to produce clearer language when they speak.	20%
4	Grammar (1-5)	Student's ability to manipulate structure and to distinguish appropriate grammatical form in appropriate ones.	20%
5	Fluency (1-5)	The ability to speak fluently and accurately	20%

(Harris, 1978)

Then, the raters gave the score in each speaking aspect based on the oral English Rating sheet proposed by Harris (1974: 84). The following explanation is in the table below:

**Table 3.2. Qualifications of Score for each Aspect**

Aspects	Score	Qualifications
Pronunciation	5	If speech is fluent and effortless as that of native speaker.
	4	Denote that if it is always intelligible though one is conscious of a definite accent.
	3	Refers to pronunciation problem necessitate concentrated listening and occasionally lead to misunderstanding.
	2	Indicate that it is very hard to understand because of pronunciation problem most frequently asked to repeat.
	1	Shows that pronunciation problem so serve as to make conversation unintelligible.
Grammar	5	Make few (if any) noticeable errors of grammar or word order.
	4	Occasionally makes grammatical and/or word order errors which do not, however, obscure meaning.
	3	Make frequent errors of grammar or order, which obscure meaning.
	2	Grammar and word order make comprehension difficult must often rephrase sentence and/or restrict him to basic pattern.
	1	Errors in grammar and word order to reserve as to make speech virtually unintelligible.
Vocabulary	5	The use of vocabulary and idiom virtually that is of native speaker.
	4	Indicates that sometimes a student uses inappropriate terms and or must rephrase ideas because inadequate vocabulary.
	3	Refers to using frequently the wrong word, conversation somewhat limited because of inadequate vocabulary.
	2	Denotes that misutilizing of word and very limited vocabulary make conversation quite difficult.
	1	Means that vocabulary limitation so extreme as to make conversation virtually impossible.

Fluency	5	If that speech is fluent and effortless as that native speaker.
	4	Refers to speech speed rather strongly affected by language problem.
	3	Refers to that speed and fluency are rather strongly affected by language problem.
	2	Means that a student usually doubt and often forces into silence by language problem.
	1	Means that speech is so halting and fragmentary as to make conversation virtually impossible.
Comprehensibility	5	Appear to comprehend everything without difficulty.
	4	Comprehend nearly everything at normal speed although occasionally repetition may be necessary.
	3	Comprehend most of what is said at lower than normal speed with repetition.
	2	Has great difficult following what is said.
	1	Cannot be said comprehend even simple conversation in English.

The score of each point was multiplied by four, so the highest score is 100. This is the explanation of the scores.

If the students get 5, so  $5 \times 4 = 20$

get 4, so  $4 \times 4 = 16$

get 3, so  $3 \times 4 = 12$

get 2, so  $2 \times 4 = 8$

get 1, so  $1 \times 4 = 4$

for example:

A student gets 4 in pronunciation, 3 in grammar, 4 in fluency, 3 in vocabulary, and 3 in comprehensibility. So, the total score will be :

Pronunciation  $4 \times 4 = 16$

Grammar  $3 \times 4 = 12$

Fluency  $4 \times 4 = 16$

Vocabulary  $3 \times 4 = 12$

Comprehensibility  $3 \times 4 = 12$  +

Total  $68$

It means that he/she gets 68 for speaking.

The researcher will evaluate the aspects of speaking skill based on the table below.

**Table 3.3. Linguistic Evaluation Form of Story Completion**

Students Code	Comprehensibility	Vocabulary	Pronunciation	Grammar	Fluency	Total Score
1.....						
2.....						
3.....						
4.....						

### 3.3.2 Recording

The researcher also used recording of students' speaking as the instrument. Students recorded their speaking while they telling the story in pretest and posttest using their own recorder. Recording was used in this research because the researcher only focused on five aspects of speaking which were comprehensibility, vocabulary, pronunciation, grammar, and fluency. The researcher did not focus on other aspects, such as expression which require the scoring at live performance. Therefore, researcher used recording as one of instruments in this research.

### 3.3.3 Reliability

Reliability was used to describe the overall consistency of a measure. A measure was said to have a high reliability if it produces similar results under consistent conditions. In this research, the researcher used inter-rater reliability to assess students' performance which there will be two raters; the researcher and an

English teacher of that class. They gave the score toward the students' performance in pretest and posttest. The score of two raters was seen to know the consistency of the instrument.

The statistical formula for counting the reliability is as follows:

$$R = 1 - \left( \frac{6(\sum d^2)}{N(N^2 - 1)} \right)$$

Where :

R : Reliability

N : Number of Students

D : The different of Rank Correlation

1-6 : Constant Number

After finding the coefficients between raters, the researcher then analyzed the coefficient reliability with standard reliability below:

a. A very low reliability (range from 0.00 to 0.19)

b. A low reliability (range from 0.21 to 0.39)

c. An average reliability (range from 0.40 to 0.59)

d. A high reliability (range from 0.60 to 0.79)

e. A very high reliability (range from 0.80 to 0.100)

Slameto (1998: 147)

### **Reliability of Pre-test**

$$R = 1 - \left( \frac{6(\sum d^2)}{N(N^2 - 1)} \right)$$

$$R = 1 - \left( \frac{6(713.5)}{25(25^2 - 1)} \right)$$

$$R = 1 - \left( \frac{4281}{25(625 - 1)} \right)$$

$$R = 1 - \left(\frac{4281}{25(624)}\right)$$

$$R = 1 - \left(\frac{4281}{15600}\right)$$

$$R = 1 - 0.2744230769$$

$$R = 0.72 \text{ (high reliability)}$$

### Reliability of Posttest

$$R = 1 - \left(\frac{6(\sum d^2)}{N(N^2 - 1)}\right)$$

$$R = 1 - \left(\frac{6(357)}{25(25^2 - 1)}\right)$$

$$R = 1 - \left(\frac{2142}{25(625 - 1)}\right)$$

$$R = 1 - \left(\frac{2142}{25(624)}\right)$$

$$R = 1 - \left(\frac{2142}{15600}\right)$$

$$R = 1 - 0,1373076923$$

$$R = 0,86 \text{ ( A very High Reliability)}$$

### 3.3.4 Validity

Validity is defined as the extent to which the instrument measures what it purposes to measure. It means that validity is related directly to the purpose of the test. Content of validity, the test is a good reflection of what has been taught and the knowledge which the teacher wants her students to know. Construct validity concerns with whether the test is actually in line with the theory of what it means to the language (Shohamy, 1985:74) that is being measured. It will be examined whether the test actually reflect what it means to know a language. It means that the test measures certain aspects based on the indicator. Based on those theories,



the researcher conducted the test in terms of content and construct validity. For content validity, it meant that story completion, as the test used in this research, was based on the material of teaching learning process. The material was about narrative text. For construct validity, it means that the instruments are in line with the theory. The instrument measured the students' speaking components based on the theory stated by Kayi (2006). Based on the explanation of the content and construct validity which the researcher used in this research, therefore this research was valid.

### **3.4 Procedures**

The procedures of the research were as follows:

1. Determining Problem

This research came from some problems which happened in learning process in SMPN 4 Bandar Lampung. From the pre observation and interview with an English teacher in SMPN 4 Bandar Lampung, the researcher found some problems in teaching learning process, especially for speaking skill. Students still faced the difficulties to speak fluently in front of many people. They were sometimes shy to produce the words. They also worry to make some mistakes in grammar, and then they suddenly stop speaking due to lack of vocabulary. It was because they seldom used English to communicate with their friends. Therefore, the researcher wanted to conduct this research using Story Completion Technique to find out the increase of students' speaking achievement.

## 2. Selecting and Determining the Population and Sample.

The population of this research took second grade students of SMPN 4 Bandar Lampung in 2014/2015 academic year. The researcher used random sampling to choose the class. The researcher got class 8L which consisted of 25 students. They have different ability in speaking.

## 3. Selecting Speaking Materials

In selecting the speaking material the researcher would use syllabus of class VIII of SMP student based on school based curriculum or KTSP which was used by the school. The topics were expressing the meaning in simple short monologue by using a variety of oral language accurately, fluently, and interacting with the environment in the form of a recount and narrative text. Therefore, the researcher used some narative texts to conduct the Story Completion.

## 4. Administering Pre-test

Pretest was given to the students before the treatment. Pretest was given to find out students' speaking ability before being taught through Story Completion technique. The researcher took a role as a teacher in pretest. The procedure of pretest was in this following:

- Teacher greeted the students and told them that they were going to have a speaking test using Story Completion. The researcher then explained what and how the story completion is. The researcher also told the procedure of the test.

- Then, the researcher told the story they were going to tell. The story was Malin Kundang, then asked students who already knew the story and asked him/her to tell their friends using Bahasa Indonesia.
- Teacher asked students to make 5 groups consisted of 5 students in each group. Their turn number to speak was chosen randomly by the teacher.
- Teacher gave a text of Malin Kundang story and 5 pictures which divided the story into 5 parts for each group. Then teacher gave them 15 minutes to discuss with their group.
- After that, teacher took again their story, pictures, and note they made.
- Teacher narrate the beginning of story, about two or three sentences. After teacher stopped, teacher said “Continue!”, and the first speaker continued the story to tell the first part by recording their speaking.
- After the first speaker stopped, the second speaker continued, until the last (fifth) speaker. Every speaker had 2 minutes to tell their part. It could be less than 2 minutes, but it could not be more than 2 minutes.
- After that every group submitted their recording to the teacher.
- After finished with the submitting, teacher closed the pretest.

##### 5. Conducting Treatment

After giving pretest to the students, the researcher gave treatment. The treatment was twice. The researcher taught speaking through Story Completion Technique. By applying this technique, students were interested and motivated to speak. The procedure was the same as pretest. But at the treatment, teacher told them more deeply about the story completion and they

do not have to record their speaking. The stories used in treatment were Snow White and The Legend of Lake Toba.

#### 6. Administering Posttest

Posttest was given after the treatment. It was conducted to find out the increase of students' speaking achievement through Story Completion technique. The procedure of posttest was the same as pretest. It also used Malin Kundang story.

#### 7. Scoring Students' Speaking

After having the posttest, the researcher got the data from pretest and posttest. The researcher scored students' speaking from their recording. There were two raters. The first rater was the researcher. The second rater was the English teacher of the class.

#### 8. Interpreting the data

After getting the result of score, the researcher interpreted the data to find out the result whether Story Completion technique could increase students' speaking achievement or not.

Those were the procedures of research that were used by the researcher to find out the data of this research.

### **3.5 Data Treatment**

According to Setiyadi (2006: 168), using T-Test for hypothesis testing has 3 basic assumptions, there are:

1. The data is interval or ratio.
2. The data is taken random sample in population.

3. The data is distributed normally.

Therefore, the researcher would use the following procedures:

1. Random Test

This is to make sure that the data is random. The researcher would use SPSS version 16 to help processing the data. The researcher used mean as the cut point. And the hypothesis would be formulated as follows:

$H_0$ : the data was random

$H_1$ : the data was not random

$H$  is accepted if  $\text{sign} > \alpha$ . In this research, the researcher would use the level of significance 0.05.

**Table 3.4. Random Test of Pretest**

Runs Test	
	pretest
Test Value <sup>a</sup>	62.48
Cases < Test Value	12
Cases $\geq$ Test Value	13
Total Cases	25
Number of Runs	12
Z	-.401
Asymp. Sig. (2-tailed)	.688

a. Mean

From the table above, the researcher found that in pre-test  $H_0 > L_{\text{table}}$ . That is  $0.688 > 0.05$ . This result means that  $H_0$  is accepted in pre-test so that it can be concluded that the data in pre-test was random.

**Table 3.5. Random Test of Posttest**

Runs Test	
	posttest
Test Value <sup>a</sup>	79.92
Cases < Test Value	9
Cases $\geq$ Test Value	16
Total Cases	25
Number of Runs	8
Z	-1.789
Asymp. Sig. (2-tailed)	.074

a. Mean

From the table of posttest above, the researcher found that  $H_0 > L_{table}$ . That is  $0.074 > 0.05$ . This result means that  $H_0$  in posttest is accepted so that it can be concluded that the data in posttest was random.

## 2. Normality Test

The researcher would use normality test to know whether the data was distributed normally or not. The hypothesis was formulated as follows:

$H_0$ : the data was distributed normally

$H_1$ : the data was not distributed normally

In this research, the criteria for the hypothesis was that  $H_0$  is accepted if significance (2-tailed)  $> L_{table}$  (significant level) and  $H_1$  is accepted if significance (2-tailed)  $< L_{table}$  (significance level). In this research, the researcher would use the level of significance 0.05.

**Table 3.6. Normality Test of Pre-test**

One-Sample Kolmogorov-Smirnov Test		pretest
N		25
Normal Parameters <sup>a</sup>	Mean	62.48
	Std. Deviation	10.635
Most Extreme Differences	Absolute	.122
	Positive	.099
	Negative	-.122
Kolmogorov-Smirnov Z		.610
Asymp. Sig. (2-tailed)		.851

a. Test distribution is Normal.

From the table above, the researcher found that  $H_0 > L_{table}$ . That is  $0.851 > 0.05$ . This result means that  $H_0$  is accepted so that it can be concluded that the data was distributed normally.

**Table 3.7. Normality Test of Posttest**

One-Sample Kolmogorov-Smirnov Test		posttest
N		25
Normal Parameters <sup>a</sup>	Mean	79.92
	Std. Deviation	5.642
Most Extreme Differences	Absolute	.164
	Positive	.101
	Negative	-.164
Kolmogorov-Smirnov Z		.819
Asymp. Sig. (2-tailed)		.513

a. Test distribution is Normal.

From the table above, the researcher found that  $H_0 > L_{\text{table}}$  in posttest. That is  $0.513 > 0.05$ . This result means that  $H_0$  is accepted so that it can be concluded that the data of posttest was distributed normally.

### 3.6 Data Analysis

Analyzing data, researcher would compute students' score in pre-test and posttest by using formula from Arikunto (1997: 68) as follows:

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

Where:

M = Mean (the average score)

x = Students' score

N = Total number of students

After that mean of pre-test would be compared to mean of posttest to see whether Story Completion Technique gave an increasing of students' speaking achievement or not. In order to determine whether the students got an improvement, the researcher would use following formula.

$$I = M2 - M1$$

Where:

I = the improvement of students' speaking ability

M1 = the average score of pre-test

M2 = the average score of posttest

After the data had been collected the researcher would treat the data by using the following procedures:



1. Put students' score in pretest (T1) and posttest (T2) on the table below:

**Table 3.8. Scoring Sheet of Speaking Aspect**

Ss' Code	Comprehen.		Vocabulary		Pronunc.		Grammar		Fluency		Total	
	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
APY	2	2	3	3	3	3	3	2	2	2	52	48
ACW	4	3	3	3	4	3	4	3	3	3	72	60
...												
Mean											X1=	X2=

Where:

R1 : Rater 1

R2 : Rater 2

X1 :  $\sum R1$

X2 :  $\sum R2$

2. Found the reliability of pretest and posttest.

**Table 3.9. Scoring Sheet of the Raters**

No.	Students' Code	Pre-test		Rank 1	Rank 2	D	D <sup>2</sup>
		R1	R2				
1	APY	52	48	305	30	0.5	0.25
2	ACW	72	60	3	12.5	9.5	90.25
3	AKY	60	60	19	12.5	6.5	42.25
	...						

Note:

R1 : rater 1

R2 : rater 2

Rank 1 : Rank rater 1

Rank 2 : Rank rater 2

D : the difference rank correlation between R1 and R2

$D^2$  : the square of D

In order to find the reliability of pretest the researcher would use the following formula:

$$R = 1 - \frac{6 \cdot (d^2)}{N \cdot (N^2 - 1)}$$

Shohamy (1985; 213).

Notes:

R : Reliability

N : Number of the students

d : The difference of the rank collection

1-6 : Constant number

The Standard of Reliability

A. a very low reliability	ranges from 0.00 to 0.19
B. a low reliability	ranges from 0.20 to 0.39
C. an average reliability	ranges from 0.40 to 0.59
D. a high reliability	ranges from 0.60 to 0.79
E. a very high reliability	ranges from 0.80 to 1.00

(Slameto, 1998: 147)

### Reliability of Pre-test

$$R = 1 - \left( \frac{6(\sum d^2)}{N(N^2 - 1)} \right)$$

$$R = 1 - \left( \frac{6(713.5)}{25(25^2 - 1)} \right)$$

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$$R = 1 - 0.2744230769$$

$$R = 0.72 \text{ (high reliability)}$$

### Reliability of Posttest

$$R = 1 - \left( \frac{6(\sum d^2)}{N(N^2 - 1)} \right)$$

$$R = 1 - \left( \frac{6(357)}{25(25^2 - 1)} \right)$$

$$R = 1 - \left( \frac{2142}{25(625 - 1)} \right)$$

$$R = 1 - \left( \frac{2142}{25(624)} \right)$$

$$R = 1 - \left( \frac{2142}{15600} \right)$$

$$R = 1 - 0,1373076923$$

$$R = 0,86 \text{ ( A very High Reliability)}$$

### 3.7 Hypothesis Testing

The hypothesis testing was used to prove whether the hypotheses propose in this research are accepted or not. The hypothesis would be analyzed by using Paired Sample T-test of Statistical Package for Social Sciences (SPSS) windows version 16. The writer used the level of significance 0.05 in which the hypothesis was approved if sign < p. It meant that the probability of error in the hypothesis was only 5%.

H<sub>0</sub>: There is no increase of students' speaking achievement after being taught through Story Completion Technique.

H<sub>1</sub>: There is an increase of students' speaking achievement after being taught through Story Completion Technique.

The criteria for accepting the hypothesis is as follows:

If  $T_{\text{value}} > T_{\text{table}}$  H<sub>1</sub> is accepted

If  $T_{\text{value}} < T_{\text{table}}$   $H_0$  is accepted

(Hatch and Farhady, 1982: 111)

The researcher used SPSS to calculate the result whether it increase or not based on the hypothesis.