

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter provides the information of method to collect and analyze the data. It consists of the research design, population and sample, the instruments for collecting data, validity and reliability testing, normality and homogeneity testing, data source, and data analysis

#### **A. Research Design**

This research used quantitative approach. It was designed to be a Quasi-experimental research. According to Ary et al, (2010: 316) Quasi-experimental designs are similar to randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups. The quasi-experimental design is when the researcher took two classes, the experimental class and controlled class. The research taught the students in experimental class by using PMI strategy and in controlled class without using PMI strategy. It was given to know the effectiveness of PMI strategy on student's achievement in speaking.

This research consisted of two variables, they were: Independent variable (variable x) that referred to the effect of Plus, Minus, Interesting

Strategy and dependent variable (variable y) that referred to speaking ability.

In this research the researcher use non randomized control group, pre-test, post-test design. According to Ary *et al.* (2010:316) non randomized control group pre-test, post-test design is one of the most widely used quasi-experimental designs in educational research.

**Table 3.1 non randomized control group, pre-test, post-test design**

Group	Pre-test	Independent variable	Post-test
E	y1	x	y2
C	y1	-	y2

Experimental Group      y1 — x — y2

Control Group            y1 ————— y2

Y1 = Pre-test

Y2 = Post - test

X = Treatment by using Plus, Minus, Interesting Strategy

According to the design illustration at the table 3.1 above, researcher elaborates three steps of quasi-experimental research. There are two groups, which received a treatment (X) while the second group is the control group, and it do not received treatment (0). Both experimental and control group received pre-test to obtain the first data about students' speaking ability score in speaking the text before the treatment is given.

The researcher started from on April 16<sup>th</sup> 2018 until May 8<sup>th</sup> 2018. The procedures of experimental research can be followed:

1. Administering a pre-test with a purpose of measuring speaking ability at the tenth grade students of SMAN 1 Ngunut before given treatment.
2. Applying the experimental treatment of speaking ability by using Plus, Minus, Interesting (PMI) strategy at the tenth grade students of SMAN 1 Ngunut.
3. Administering a post-test with a purpose of measuring speaking ability at the tenth grade students of SMAN 1 Ngunut after given treatment.

There are some procedures of conducting research:

*1. Introduction step of research*

- a. First, the researcher having consultation with vice master curriculum of SMAN 1 Ngunut and the English teacher. The researcher discuss about time of research, sample and population as the subject of the research and discussing about the instrument to measure the students' speaking ability by using PMI in narrative text. The researcher used Quasi experimental research, it take two homogeneous sample there are X-IPS 3 and X-IPS 4 classes based suggestion from the English teacher.
- b. Second, researcher arranged lesson plan and make the instrument to measure the effectiveness of Plus, Minus, Interesting strategy.

- c. Third, conducting validity and reliability of test
- d. In the last, analyzing the result of test to know validity and reliability of instrument which is used as research instrument.

## 2. *The implementation step of research*

### a. Pretest

Pretest was given to the students before doing treatment. Pretest is doing to get the speaking score before students being treated. In this research, pretest in experimental and control classes was held on April 16<sup>th</sup> 2018 and April 17<sup>th</sup> 2018.

### b. Treatment

Treatment was held on three times started at April, 23<sup>th</sup> 2018 until May, 1<sup>st</sup> 2018. There were some step of the researcher to conduct the treatment as follow:

- a. In the beginning of study, the researcher introduced Plus, Minus, Interesting strategy to students and
- b. Next, the researcher explains about narrative text lesson as the material.
- c. And then, the researcher set up the class into 6 groups that consist of 5-6 students.
- d. The researcher ask students work in their group and give the narrative story with different title.

- e. Students discuss and presented one by one in 2-3 minutes and the researcher record it.

c. Posttest

Posttest was given to the students after giving treatment. The post test was held on May, 7<sup>th</sup> 2018 and May, 8<sup>th</sup> 2018.

In this research, the researcher distinguish speaking score which each the more effective score among before giving treatment (Plus, Minus, Interesting) strategy and after giving treatment (Plus, Minus, Interesting) strategy.

## **B. Population, Sampling and Sample**

a. Population

As stated in Sugiyono (2010:117), population is generalization area consisting of objects or subjects that have certain quality and characteristics decided by the researcher to be researched and be taken the conclusion then.

The population used to conduct this research was the tenth graders of State Senior High School 1 Ngunut in the academic year of 2017/2018. It is located at Jl. Raya Sumberingin Kidul, Ngunut, Tulungagung. The total population was 271 students consisting of 118 male students and 153 female students which spread in 10 classes; MIA 1 up to IPS 4. Tenth grade students were chosen because suggested by the teacher.

### b. Sampling

As stated in this research, the technique used in taking sample is purposive random sampling technique. Purposive random sampling means here is said by Sugiyono (2010:24) “purposive sampling is a sample determination technique with certain consideration”. Purposive sampling is used when the researcher is unable to take a probability sampling but it is still able to select subjects to be typical, or representative, are chosen from the population on the basis of the researcher’s purpose. Thus, it is used to select sample because to obtain representative sample from population which provides the sufficient information needed by the researcher. In order to get representative result, the researcher only chooses two class who can give sufficient information needed and the effectiveness of Plus, Minus, Interesting (PMI) strategy can be identified when it is implemented in speaking class.

### c. Sample

In order to study the population more effectively, the researcher selected the sample. Sample, according to Sugiyono (2010:118) is part of the total and the characteristics of population which is researched. A good sample is one that representative of the population from which it was selected. As a sample, the researcher select X-IPS 3 and X-IPS 4 classes. Then, X-IPS 3 as an experimental class, and X-IPS 4 as a control

class. Those were as the sample of the research consist of 70 students ; 35 students for experimental and also 35 students for control class.

### **C. Research Instrument**

In collecting the data, the researcher needed instruments. Instrument has important functions in this research. Instrument is one of the significant steps in conducting this research. Therefore, the researcher must choose an instrument in the process of collecting data. Research instrument is tool of collecting data that should be valid and reliable.

According to Brown (2004:3), test is a method to measure a person's ability, knowledge, or performance in a given domain In this case, the researcher used test instruments to collect the data. In order to get the data that are needed to support this research, the researcher used Oral production test to gain the information about speaking ability from the students by giving simple short story to be considered. The test were in the form of text. The researcher requires 5 kinds story text with different topic, (legend, fable, fairy tale etc). There were several text such as: *The Legend of Nyi Roro Kidul, Golden Eggs, The Old Woman and The Sparrow, Roro Jonggrang*. The researcher will conduct oral test item in "Narrative Text" topic with Plus, Minus, Interesting strategy and without Plus, Minus, Interesting strategy.

The students were asked to consider the text on the topic given by the teacher and discussed in some groups based on the instruction that given.

Then the students were asked to share their ideas based on considering story text to measure their speaking ability and the researcher record it.

There are two kinds of tests, they are pre-test and post-test. The researcher uses pre-test and post-test as the instruments. Pre-test is given before applying Plus, Minus, Interesting strategy. While post-test given after researcher applied Plus, Minus, Interesting strategy.

Pre-test given by the researcher before using taught Plus, Minus, Interesting strategy in experimental class, and pre-test before using taught without Plus, Minus, Interesting strategy in control class. For the pre-test, the researcher asks students to give their opinion about the content of the text.

Treatment given by the researcher after giving score in pre-test and applied by using Plus, Minus, Interesting strategy in experimental class, and without treatment in control class. The researcher gives the treatment based on the lesson plan, which gives the steps of teaching speaking by using Plus, Minus, Interesting strategy.

Post-test given by the researcher after giving pre-test and treatment, the researcher gives the post-test to measure the result. For the pre-test, the researcher, the researcher asks to the students to give their opinion about the content of the text.



There are procedure to made an instrument as follow;

1. Reviewing literature from syllabus and text book in Senior High School to draft the instrument related to the materials.
2. Arranging a blue print that interrelated to the syllabus and material.
3. Arranging specification of test that appropriate with strategy.
4. Consulting with the expert such as English teacher or lecturer about the draft to get some feedbacks, suggestion and validation guide.
5. Conducting try out to the students
6. Determining the validity and reliability of the test which is analyzed using *Pearson Product Moment*.
7. The draft of the instrument was tried out in 10 students at X-IPS 2 of SMAN 1 Ngunut. But, they were not the real subject of this research.

#### **D. Validity and Reliability Testing**

##### **1. Validity**

Validity in general refers to the appropriateness of a given test or any of its component parts as a measure of what it is purposed to measure. According to Ary et al, (2010: 225) validity is the most important consideration in developing and evaluating measuring instruments. In

this study, the researcher used construct validity and face validity to know validity of test.

a. Content Validity

Content validity is a kind of validity which depends on careful analysis of the language being tested and particular test. According to Ary et al, (2010 : 235) content validity is to have teachers or subject matter experts examine the test and judge whether it is an adequate sample of the content and objectives to be measured. The researcher adjusted the test with the learning syllabus that contains of standard competence and basic competence.

The instrument of study has content validity because the items material used for teaching speaking in retell the past event of the tenth grade at SMAN 1 Ngunut. The content validity of the test will be designed based on main competence and basic competence in syllabus Curriculum of 2013 that implemented in this school.

**Table 3.2**

**Main Competence and Basic Competence in Curriculum 2013**

Main Competence	Basic Competence
1.4Cultivating, reasoning, and serving in the realm of concrete and abstract realms related to the development of the self-study in the school independently and able to use methods according to scientific rules.	4.8 Comprehend contextually meaning related to social function, text structure, and linguistic element of narrative text, oral and simple writing related to legend story.

## b. Construct Validity

Construct validity is one kind of validity that is measure the ability which is supposed to measure. According to Ary et al, (2010 : 231) construct-related evidence of validity focuses on test scores as a measure of a psychological construct. The word “construct” refers to any underlying ability which is hypothesized in the theory of language ability (Isnawati, 2014: 29). Based on theory above, the researcher use scoring rubric to analyze the test score of speaking.

Furthermore, the researcher will use analytic scale which categorized by some categories and the researcher follows these scoring criteria for each category. This analytic score has five items and each item score five. And then, the maximum score is 25. But it will be multiplied with 4. So, the final maximum score will be 100.

**Table 3.3 Speaking Scoring Rubric**

No.	Element of Speaking	Score	Criteria
1.	Grammar	1	Errors in grammar are frequent, but speaker can be understood by a native speaker used to dealing with foreigners attempting to speak his language.
		2	Can usually handle elementary constructions quite accurately but does not have thorough or confident control of the grammar.
		3	Control of grammar is good. Able to speak the language with sufficient structural accuracy to participate effectively in most formal and informal conversations on practical, social, and professional topic.

		4	Able to use the language accurately on all levels normally pertinent to professional needs. Errors in grammar are quite rare.
		5	Equivalent to that of an educated native speaker.
2.	Vocabulary	1	Speaking vocabulary inadequate to express anything but the most elementary needs.
		2	Has speaking vocabulary sufficient to express himself simply with some circumlocutions.
		3	Able to speak the language with sufficient vocabulary to participate effectively in most formal and informal conversations on practical, social, and professional topics. Vocabulary is broad enough that he rarely has to grope for a word.
		4	Can understand and participate in any conversation within the range of his experience with a high degree of precision of vocabulary.
		5	Speech on all levels is fully accepted by educated native speakers in all its features including breadth of vocabulary and idioms, colloquialisms, and pertinent cultural references.
3.	Comprehension	1	Within the scope of his very limited language experience, can understand simple questions and statements if delivered with slowed speech. Repetition or paraphrase.
		2	Can get the gist of most conversations of non-technical subjects.
		3	Comprehension is quite complete at a normal rate of speech.
		4	Can understand any conversation within the range of his experience.
		5	Equivalent to that of an educated native speaker.
4.	Fluency	1	No specific fluency description. Refer to other four language areas for implied level of fluency.
		2	Can handle with confidence but not with facility most social situation, including introductions and casual conversations about current events, as well as work, family, and autobiographical information.
		3	Can discuss particular interests of competence with reasonable ease. Rarely has to grope for words.
		4	Able to use the language fluently on all levels normally pertinent to professional needs. Can participate in any conversation within the range of this experience with a high degree of fluency.
		5	Has complete fluency in the language such that his speech is fully accepted by educated native speaker.

5.	Pronunciation	1	Errors in pronunciation are frequent but can be understood by a native speaker used to dealing with foreigners attempting to speak his language.
		2	Accent is intelligible though often quite faulty.
		3	Errors never interfere with understanding and rarely disturb the native speaker. Accent may be obviously foreign.
		4	Errors in pronunciation are quite rare.
		5	Equivalent to and fully accepted native speakers.

*Based on "Oral proficiency scoring categories (Brown, 2001, pp. 406-407 (as cited in Brown, 2004 : 172))".*

From the table above, the researcher make a rating scale to classify the result of score that each students got. The rating scale was consisted of score, grade, and criteria. It can be seen below:

**Table 3.4 Rating Scale**

No.	Range of Score	Grade	Criteria
1.	81-100	A	Excellent
2.	61-80	B	Good
3.	41-60	C	Enough/Fair
4.	0-40	D	Poor

c. Face Validity

According to Ary et al, (2010:228) face validity is a term sometimes used in connection with a test's content. Face validity refers to the extent to which examiners believe the instrument is measuring what it is supposed to measure. A test which does not have face validity may not be accepted by test-takers, teacher's education authorities or employer (Isnawati, 2014: 29). The researcher used face validity

by consulting with advisor and English teacher of the tenth grade at SMAN 1 Ngunut Tulungagung.

## 2. Reliability

According to Ary et al, (2010 : 236) reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. Reliability is used to know whether the test is consistent and reliable.

In this research, the researcher was conduct tryout twice, tryout of pretest and tryout of posttest. The subject is same. But, the tryout is in different time and topic. The tryout of pretest was conduct on Monday, April 2<sup>nd</sup> 2018 and the tryout of posttest on Wednesday, April 4<sup>th</sup> 2018. The subject is 10 students which not target of sample but they are the tenth grade of Senior High School 1 Ngunut.

In this result, to know the reliability of the speaking test, the researcher used inter-rater reliability because has two raters in order to score the students speaking ability. Inter-rater reliability is achieved when two scorers or two raters do the scoring. Then, the two sets of scores gotten from the two raters are calculated two sets of score from the result of try out by the teacher and the researcher. The researcher use *Pearson Product Moment formula* with SPSS 16.0. The result of reliability testing can be seen in the table below:

**Table 3.5 Correlation of pre-test score (try out)**

		<b>Correlations</b>	
		rater1	rater2
rater1	Pearson Correlation	1	.894**
	Sig. (2-tailed)		.000
	N	10	10
rater2	Pearson Correlation	.894**	1
	Sig. (2-tailed)	.000	
	N	10	10

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 3.3 show that Pearson Correlation is 0,894 and numeral significance is 0,000. The result of Pearson correlation (0,894) is closer 1 and the numeral significant is lower than ( $0,000 < 0,05$ ). It means that the test was reliable.

**Table 3.6 Correlation of post-test (try out)**

		<b>Correlations</b>	
		rater1	rater2
rater1	Pearson Correlation	1	.938**
	Sig. (2-tailed)		.000
	N	10	10
rater2	Pearson Correlation	.938**	1
	Sig. (2-tailed)	.000	
	N	10	10

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 3.4 show that Pearson Correlation is 0,938 and numeral significance is 0,000. The result of Pearson correlation (0,938) is

closer 1 and the numeral significant is lower than ( $0,000 < 0,05$ ). It means that the test was reliable.

This criteria of reliability instrument can be divided into 5 classes, those are very reliable, reliable, enough reliable, rather reliable, and less reliable (Riduwan, 2004 : 136). This criteria can be showed as bellow:

**Table 3.7 Criteria of Reliability**

<b>Interval Coefficient</b>	<b>Correlation</b>
0.80 - 1.00	Very reliable
0.60 - 0.79	Reliable
0.40 - 0.59	Enough reliable
0.20 - 0.39	Rather reliable
0.00 - 0.19	Less reliable

The result of calculation showed that reliability coefficient was 0.894 for pre-test and 0,938 for post-test, the ideal reliability coefficient is 1. In this research, the calculation was comparable to 1, it means the instruments of this research was very reliable.

## **E. Normality and Homogeneity Testing**

### **1. Normality Testing**

Normality testing is needed to find out whether the data is in normal distribution or not. It is intended to show that the sample data



come from a normality distributed population. To know the normality the researcher used *One-Sample Kolmogorov-Smirnov test* in SPSS 16.0 with significance value ( $\alpha$ ) = 0.05. The normality testing was done towards the pretest and posttest score in tryout. The hypothesis for testing normality as follow:

- a.  $H_0$  : If the value of significance  $> 0.05$ , means data is normal distribution.
- b.  $H_1$  : If the value of significance  $< 0.05$ , means data is not in normal distribution.

The result of normality testing with *One-Sample Kolmogorov-Smirnov test* can be seen in the table 3.6 and 3.7 below:

#### 1.1 Normality Testing of Experimental Class

**Table 3.8 The Result of Normality Testing Experimental Class**

<b>One-Sample Kolmogorov-Smirnov Test</b>		Pretest	Posttest
N		35	35
Normal	Mean	45.9429	63.7143
Parameters <sup>a</sup>	Std. Deviation	6.74730	9.38262
Most Extreme	Absolute	.213	.197
Differences	Positive	.213	.197
	Negative	-.101	-.106
Kolmogorov-Smirnov Z		1.262	1.164
Asymp. Sig. (2-tailed)		.083	.133
a. Test distribution is Normal.			

Based on the table above is known that the significance values of experimental class for pre-test and post-test are 0.083 and 0.113. The significance values of both pre-test and post-test are bigger than 0.050. It means that the data of experimental class has normal distribution.

## 1.2 Normality Testing of Control Class

**Table 3.9 The Result of Normality Testing Control Class**

		One-Sample Kolmogorov-Smirnov Test	
		Pretest	Posttest
N		35	35
Normal Parameters <sup>a</sup>	Mean	45.3714	50.6286
	Std. Deviation	6.13134	7.19103
Most Extreme Differences	Absolute	.217	.224
	Positive	.217	.224
	Negative	-.133	-.150
Kolmogorov-Smirnov Z		1.284	1.327
Asymp. Sig. (2-tailed)		.074	.059
a. Test distribution is Normal.			

Based on the table above is known that the significance values of control class for pre-test and post-test are 0.074 and 0.059. The significance values of both pre-test and post-test are bigger than 0.050. It means that the data of control class has normal distribution.

## 2. Homogeneity Testing

Homogeneity testing is intended to show that two or more groups of data samples come from population having the same variance. To know the homogeneity, the researcher used *Test of Homogeneity of Variances* in

SPSS 16.0 with significant value ( $\alpha$ ) = 0.05. The Homogeneity Testing was done towards the pretest and posttest score in tryout. The hypothesis of testing homogeneity as follow:

- a.  $H_0$  : If the value significance  $> 0.05$ , means data is homogeny
- b.  $H_1$  : If the value of significance  $< 0.05$ , means data is not homogeny

The result of homogeneity testing with Test of Homogeneity of Variance can be seen in table 3.7 below:

**Table 3.10 The Result of Homogeneity Test**

**Test of Homogeneity of Variances**

Score Posttest

Levene Statistic	df1	df2	Sig.
3.834	1	68	.054

Based on the table above is known that the significance value of post-test is 0.054. As on the basic decision making in homogeneity testing, if the significance value is bigger than 0.050, then the data distribution is homogeneous. It can be concluded that significance value that is 0.054 is bigger than 0.050 and the data distribution is homogeneous.

#### **F. Collecting Data**

In this research, the researcher used test as the data collection. The test will be in the form of speaking test to see different result of students' speaking ability who being taught by using and without using Plus, Minus, Interesting strategy. The researcher will give pre-test and post-test to both of experimental and control group.

a. Pre-Test

The first thing that the researcher did before conducting the research was giving pre-test to the students. In this section, the students were asked to consider the story given by the researcher. The researcher came to the class chosen, that was X-IPS 4 firstly as a control class and X-IPS 3 as an experimental class and explained what the students were going to do.

In this research, the researcher gave pretest on Monday, April 16<sup>th</sup> 2018 of control class and on Tuesday, April 17<sup>th</sup> of experimental class. The pretest was given to the students at the first meetings.

In pretest, the researcher give three topics in narrative text. Students choose one of the topic and discussed with their group. Then, the researcher ask students to give their opinion about the content from the story in 2-3 minutes. Then, the students explain their opinion in front of the class one by one.

b. Post-test

Post-test was given after all of treatments was done. The test type instruction was similar to the pre-test but the students did the test by applying Plus, Minus, Interesting strategy. The test is given for both experimental class and for controlled class do not use Plus, Minus, Interesting strategy. It was purpose to known the result of the new strategy given is there effective or not.

In this research, the researcher gave posttest on Monday, May 7<sup>th</sup> 2018 of control class or X-IPS 4 and on Tuesday, May 8<sup>th</sup> 2018 of experimental class or X-IPS 3. The posttest was given to the students at the last meetings. It was administered to know the students' speaking score after being taught by using Plus, Minus, Interesting strategy.

In posttest, the researcher gave the instrument in the form of test will direct test item speaking because the researcher ask the students to give their opinion about the story. Both of tests were given in order to measure the students' speaking skill before and after the researcher gave the treatments in this research. The post-test is teacher give example of Narrative Text with different topic, then the teacher ask students to give their opinion about the content of story and all of the students present their work in front of the class in 2-3 minutes. It was recorded to evaluate the appropriate speaking skill test indicators, the speaking result was evaluated by concerning five component: pronunciation, grammar, vocabulary, fluency, and comprehension. The researcher added scores gave to measure the students' speaking ability. Each component had its scores.

## **G. Data Analysis**

### **1. Statistical technique**

The researcher use quantitative data analysis by using stratictical computation. The collected data by comparing the first data (pre-test)

and the second data (post-test) to see whether to know the significant different by given treatment.

In this study, the researcher used Independent Sample T-Test through SPSS 16.0 to analyze the data. If the result is lower than at the level of significance 0.05, the null hypothesis can't be rejected indicating that Plus, Minus, Interesting strategy is not effective in the students' speaking ability. While, if it is bigger than at the level of significance 0.05, the null hypothesis can be rejected indicating that Plus, Minus, Interesting strategy is effective in the students' speaking ability.