

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter presents the research methodology. It focuses on the method used in conducting this research. It covers research design, population, sample and sampling, variable, research instrument, validity and reliability, data collecting method, and data analysis.

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

In conducting this research, there is a plan consisted some steps that the researcher will take. Consequently, the design of the research should be suitable for the research condition. For these reasons, the researcher has to follow the research design to make the research successful.

The design of the research is quantitative research. According to Creswell (2009: 1), quantitative research is a means for testing objective theory by examining the relationship among variables.

Quantitative research may be further classified as either experimental or non-experimental. Ary et.al (2010:26) explains experimental research in which in this case researcher studies variables, which the characteristics that take on different values across people or things. Experimental research involves a study of the effect of the systematic manipulation of one variable on another variable. The manipulated variable is called the experimental treatment or the independent variable. The observed and measured variable is called the dependent variable.

In addition, Ary (2002: 302) states that experimental designs may be classified according to the number of independent variables: single-variable designs and factorial designs. A single-variable design has one manipulated independent variable; factorial designs have two or more independent variables, at least one of which is manipulated.

Still from Ary (2010: 302), experimental designs may also be classified according to how well they provide control of the threats to internal validity: pre-experimental, true experimental, and quasi experimental designs.

For this study, researcher uses pre-experimental research to know the effectiveness of Three Steps Interview (TSI) technique to improve students' speaking ability at the 10<sup>th</sup> grade of MA Al Maarif Tulungagung in academic year 2016/2017. Ary (2002: 265) stated that experimental research is a scientific investigation in which the researcher manipulates one or more independent variable, controls any other relevant variables, and observes the effect of the manipulations on the dependent variable. This study uses pre-experimental because it provides little or no control of extraneous variables.

This study uses pre-experimental with one-group pre test - post test design that consist of pre-test, treatment and post-test. In the one-group pre test-post test design, a single group is measured or observed not only after being exposed by a treatment, but also before. The pre-test and post-test are given to take the score of the student's achievement before and after being taught by using Three Steps Interview (TSI) technique. Then both of the score will be computed by using t-test to find out if there is significant influence of teaching speaking by implementing

Three Steps Interview Technique. The design of this research can be seen at the table below:

Table 3.1 : One-Group Pre test–Post test Design

<b>Pre-test</b>	<b>Independent</b>	<b>Post-test</b>
Y1	X	Y2

Where :

Y1 : dependent variable before getting treatment

X : independent variable or treatment

Y2 : dependent variable after getting treatment

The steps of conducting pre experimental with one group pre test- post test design are explained below:

1. Administering a pre-test before applying a strategy with a purpose of measuring students' speaking ability at the 10th grade of MA Al Ma'arif Tulungagung
2. Applying the experimental treatment in teaching speaking using Three Steps Interview (TSI). The procedure of TSI can be found in appendix 3.
3. Administering a post-test after applying the strategy with a purpose of measuring students' speaking ability at the 10<sup>th</sup> grade of MA Al Ma'arif Tulungagung

In this study, the hypothesis was tested by comparing the pre-test and post-test scores to know the effectiveness of using Three Steps Interview (TSI) Technique to improve the students' speaking skill.

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

### **1. Population**

Population is the whole research subject. It is important that the research must be designed carefully and completely. The population in this research was the students of the 10<sup>th</sup> grade of MA Al Ma'arif Tulungagung in academic year 2016/2017. The number of populations is around 60 students that were divided into three classes, i.e : X IPA , X IPS, and X Religion.

### **2. Sampling**

Sampling is the process of taking sample. Ary et al (2010:149) states that the purpose of sampling is to obtain information concerning that population. A sample must be representatives. In this study, the researcher will use purposive sampling to take sample from population and it represents the entire population. Ary et al (2010:156) states that purposive sampling-also referred to as a judgment sampling-sample elements judged to be typical, or representative, are chosen from the population.

In this study, researcher takes X religion graders as the sample of population. The researcher chose this class because based on the interview result with the English teacher; their achievement in the regular evaluation result in the last semester was the lowest.

### **3. Sample**

A sample is a portion of population (Ary, 2010:148). The sample of the research is the 10<sup>th</sup> religion grade of MA Al Ma'arif Tulungagung. The students supporting in this research was 20 students.

### **C. Variable**

The other important part of research is variables. According to Ary (2010), a variable is an attribute that is regarded as reflecting or epressing some concept or construct. Variable is dvided into two, they are dependent variable and independent variable.

First, independent variables are those that (probably) cause, influence, or affect outcomes. They are also called treatment, manipulated, antecedent, or predictor variables. Second, dependent variables are those that depend on the independent variables; they are the outcomes or results of the influence of the independent variable. Other names for dependent variables are criterion, outcomes, and effect variables.

In this study, Three Steps Interview (TSI) is as independent variable, and students' speaking skill is as dependent variable.

### **D. Research Instrument**

Research instrument is tool of collecting data that should be valid and reliable. The device the researcher uses to collect data is called instrument. Instrument played an important role in a research since it could be used to achieve the data.

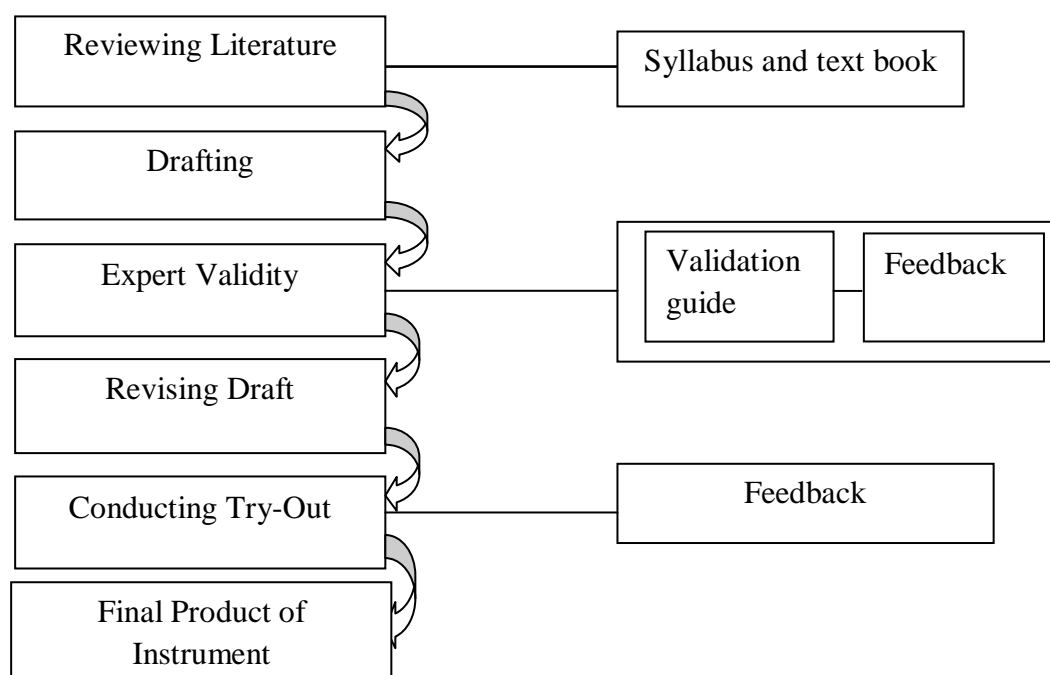
The research instrument used was in the form of speaking test which was developed based on the syllabus applied in the school. Therefore, the researcher uses a set of tests: pre-test and post-test. Here, pre-test was given before doing an experimental research study or before teaching by applying three steps interview technique. It aimed to measure the students' preliminary achievement before being taught by using Three Steps Interview (TSI). After conducting the pre-test, the researcher gave the treatment to the students that was teaching them speaking by using three steps interview technique. This activity was proposed to have the students practice speaking. The last one was post-test that was given after doing the experimental study or after teaching by applying Three Steps Interview Technique. Post test was aimed to measure their speaking ability after being taught by using Three Steps Interview (TSI) and to make sure whether their achievement improved or not. Obviously, the students showed improvement in speaking mastery after being taught by using Three Steps Interview (TSI).

To make a good instrument, researcher follows some steps to develop the research instrument. The first step of making the instrument was reviewing the literature where the researcher matched the instrument with the syllabus and the text book. Here, the syllabus was for the tenth grader in the second semester. Then, the researcher drafted the instrument and showed it to the experts to get some feedbacks. The experts were the advisor herself and the teacher of English at MA Al Ma'arif Tulungagung where the research would be conducted.

The instrument needed to be revised twice in which the first was about the instructions that were not clear enough and there were some grammatical errors,

and the second was the lack of the detail of the time allotment. After finishing all steps, then the instrument was ready to be tried out to know the reliability before finally it could be really used to measure the students' achievement in speaking. The steps of instrumentation can be seen in figure 3.1.

Figure 3.1 Instrumentation



## F. Validity and Reliability

Harris (1969: 13) stated that all good tests possessed two qualities: validity and reliability. That was to say, any test that we use has to be appropriate in terms of our objectives, dependable in the evidence it provides, and applicable to our particular situation.

According to Ary (2010:213), research is always dependent upon measurement. There are two important characteristic that every measuring instrument should be passed: validity and reliability. To know whether the instruments are valid or not, the researcher conduct validity and reliability test as follows:

### 1. Validity Testing

Sukardi (2007:122) defined validity degree that indicates in which the test measures what intended to measure. Validity refers to the precise measurements of the test. The validities used in this research were as follows:

#### a. Content validity

In this research, content validity was used. This kind of validity depends on careful analysis of the language being tested and the particular treatment activity. The relevancy of the objective of the test and the content of the test items shows the content validity of the test. Thus, the researcher made the test based on the course objectives in the syllabus of the tenth grade of MA Al Maarif Tulungagung. Therefore the test was valid in term of content validity.

According to Ary (2010), a teacher must provide a blueprint showing the content domain covered and the relatives' emphasis given to each aspect of the domain. That's why; the researcher also provided the blueprint of pre test and post test as follows:

**Table 3.2 the blue print of pre test and post test**

Material	Task Form	Basic Competence	Indicator
Recount text	Speaking test	1.Expressing the social function and the	1.Students are able to express the social function



		<p>structure of short recount text about experience/ event, based on the context.</p> <p>2.Expressing the content of a recount text in the form of written and spoken text.</p> <p>3.Expressing a short recount text orally about experience/ event and applying its social function, structure, and language features correctly based on the context.</p>	<p>and the structure of short recount text about experience/ event, based on the context.</p> <p>2.Students are able to express the content of a written and spoken recount text.</p> <p>3.Students are able to express a short recount text orally about experience/ event and applying its social function, structure, and language features correctly based on the context.</p>
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The blueprint above did not provide the numerical index to indicate content validity. Ary (2004:227) stated that the evidence based on the content is mainly the result of a logical examination or analysis by content experts that shows whether the instrument adequately represents the content. Only the user of a test can ultimately judge its validity for his or her purpose.

The table showed that the test fulfilled the content validity since there were appropriateness among the test, the competence, and the indicator. Furthermore, the test was proper to the syllabus of English subject for the tenth grader in the second semester.

b. Face validity

Besides checking the validity of the test using content validity, researcher also had face validity. Face validity deals with the definition of the concept seems

valid “on the face of it,” given prevailing cultural standard. The essential problem with face validity is that it assumes, rather than proves, that the content of a measure is obvious (Paul, et.al, 2007:66).

In line with face validity, Ary (2010) mentioned that face validity refers to the extent to which examines believe the instrument is measuring what is supposed to measure. A test that does not have face validity may be refused by the teacher and advisor.

In this study, researcher had the face validity by consulting the experts. After getting feedback from the experts, researcher made some revisions on the instrument. The viewpoints that should be revised were about the instructions, time allotment, and the grammatical errors on the instruction.

## **2. Reliability Testing**

After validation, it was necessary for the researcher to conduct a try-out of the test to the some students of the tenth grade to know the reliability of the test. Reliability concerns the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials. The tendency toward consistency found in repeated measurements of the same phenomenon is referred to as reliability (Edward and Richard, 1987:11).

Kirk and Miller in Nahid (2003) identified three types of reliability referred to in quantitative research, which relate to: (1) the degree to which a measurement, given repeatedly, remains the same (2) the stability of a measurement over time; and (3) the similarity of measurements within a given

time period. It means that the result of the test is not different although the students were tested on different occasions.

The try-out test was about asking and answering question or interview about telling an experience. The researcher showed the instructions and allowed the students to tell their personal experience. The items of try-out test were the same with the items of pre-test and post-test. The purpose of try-out was to make sure whether the instrument was reliable or not.

The researcher used inter-rater reliability where the two scorers did the scoring and the two set scores taken from the try out were calculated to get the correlation coefficient. The two scorers were the researcher herself and her partner who was from the same major. The try out test was done on February, 10<sup>th</sup> 2017.

To check the reliability of the test, the researcher used Alpha Cronbach's in SPSS 16 for windows. The reliability of instrument was the result of measurement that can be trusted. It was necessary to get the data based on the purpose of measurement. To attain that, the researcher conducted the reliability test by Alpha Cronbach's table 0 until 1. See table 3.4 to see the Cronbach's scale.

**Table 3.3 Cronbach Scale**

Cronbach's values	Interpretations
0,00 – 0,20	Less reliable
0,21 – 0,40	Rather reliable
0,41 – 0,60	Quite reliable
0,61 – 0,80	Reliable
0,81 – 1,00	Very reliable

The instrument that has value between 0,00-0,20 are less reliable, the instrument that has value between 0,21-0,40 are rather reliable, the instrument that has value between 0,41-0,60 are quite reliable, the instrument that has value between 0,61-0,80 are reliable, and the instrument that has value between 0,81-0,100 are very reliable.

The data on the table 3.5 was the score obtained from the tryout. Score 1 was taken from the researcher and score 2 was taken from her partner in conducting this research. After obtaining the two scores, the researcher did a reliability testing and got the result as presented on table 3.6.

**Table 3.4 The scores obtained from the try out**

No.	Students	Score 1	Score 2
1	AR	60	65
2	BL	70	75
3	UN	65	63
4	SN	70	68
5	IM	65	67
6	DM	75	78
7	ADL	70	75
8	IH	75	70
9	CP	60	67
10	UM	70	65
		$\sum X = 680$	$\sum X = 708$

Hughes (1989:32) mentioned that a reliability coefficient for vocabulary, structure and reading tests should be in the range of 0,90 to 0,99, while listening comprehension test are usually in the 0,80 to 0,89. Speaking tests may be in the range of 0,70 to 0,79.

**Table 3.5 Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.778	.779	2

Relying on the result of reliability statistics of SPSS 16 for Windows, the value obtained was 0,778. Thus, it could be concluded that the instrument used by the researcher was reliable.

## **F. Normality and Homogeneity Testing**

### **1. Normality Testing**

Before analyzing the data, it was important to find out the normality. Normality testing was used to make sure whether the data was in a normal distribution or not. Thus, the researcher wanted to test the normality of the data by using SPSS 16.0 with One Simple Kolmogorov – Smirnov.

The data is assumed in a normal distribution if the significant value was higher than 0,05. Normality testing determined whether the data parametric or non

parametric test. Since the data was normal, T-test was chosen for the data analysis.

## **2. Homogeneity Testing**

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. The computation of homogeneity testing using SPSS Statistics 16 is *Test of Homogeneity of Variances* by the value of significance ( $\alpha$ ) = 0.050. Before doing homogeneity testing, the researcher decides hypothesis in this homogeneity as follow:

- a.  $H_0$ : If the value of significance  $> 0.050$ , means data is homogeny.
- b.  $H_1$ : If the value of significance  $< 0.050$ , means data is not homogeny.

## **G. Data Collecting Method**

The data of this study was collected by administering test. To find out the data, the researcher applied pre-test and post test. The test of pre-test was about telling a personal experience. The pre-test was administered to know the basic competence of the student and to know their earlier knowledge before they got treatment. Time allocation of the pre test was 60 minutes and it was held on February 13<sup>th</sup>, 2017.

After gaining the pre-test, the researcher gives the treatment by teaching speaking using Three Steps Interview Technique. In the last, the researcher conducted the post-test. It was given after the researcher giving the treatment or after teaching speaking by using Three Steps Interview (TSI). This test aimed to know whether the method was successful or not and to know the students'

difference achievement before and after they got treatment. The post test held for about 60 minutes on February 20<sup>th</sup> 2017.

### **G. Data Analysis**

In this research, the writer used quantitative data analysis. The quantitative data of this research would be analyzed by using statistical method. This technique was used to find the significant difference on the students' achievement before and after being taught by applying Three Steps Interview (TSI). To analyze the data, the researcher applied paired sample T- test at SPSS 16 for Windows.