CHAPTER III

RESEARCH METHOD

This chapter focuses on methods of the study. They are research design, variable and sample, research instrument, reliability and validity testing, normality and homogeneity testing, data collecting method, and data analysis.

A. Research Design

Research design is all process needed in conducting research. According to Burgin (2005:84), research design is all process that be needed in conducting the research. In fact, there were two kinds of research approaches namely quantitative and qualitative approach. In this research used quantitative approach with experimental design. According to Sukardi (2003:179), an experimental research can be defined as systematic method to build relation that contains causal-effect phenomena (causal-effect relation). In this research used quasi experimental design. According to Muijs (2004:200), quasi experimental research is especially suited for looking at the effects of an educational invention, such as a school improvement program, a project to improve a specific element. Moreover, Wiersma and Jurs (2009:187) state that a quasi- experimental is an approximation of a true experiment that uses groups that have not been formed randomly. The purpose of this quasi- experimental research method is to know at causal relationships by using a treatment to one experimental group and comparing

the results with a control group. In this research, the design used in this research is the control group of pre-test and post-test. As explained by Arikunto (2010:124) that the design of pre-test and post-test groups aims to determine the state of the student's initial ability before treatment through pre-test activities and to determine the students' end- ability in certain skills after being given treatment through pre-test.

Based on explanation above, this research design uses two classes as sample. The first class acts as an experimental class (X) and the second acts as a control class (Y). The role of the experimental class in the research conducted is the sample group given the treatment. This treatment by using cooperative learning model of Three Step Interview (TSI) technique in learning speaking to asking for and giving direction by teacher through learning process. The control class in this study acts as a sample group that is not treated as an experimental class. This material is gives conventionally.

The way to know the subject in experimental group and control group is by doing pre-test. Pre-test is conduct as the initial stage to know the students' achievement in speaking before any treatment. The next activity is giving treatment. Furthermore, to find out whether the technique is chosen is effective or not used in teaching speaking, so the researcher conducts post-test. The following the researcher presents the design tables based on experimental and control groups. Ary et al. (2010:648) state that the illustration of the research design in this study is as the table below:

Table 3.1 The Illustration of Research Design

Group	Pre-test	Independent Variable	Post-test
E	Y_1	X	Y_2
C	Y_1	-	Y_2

E : Experimental group

C : Control group

Y_1 : Pre-test for both of groups

X : Treatment for experimental group (Three Step Interview)

Y_2 : Post-test for both of groups

B. **Population, Sampling and Sample**

1. **Population**

A population can be defined as all member of any well-defined Class of people, event or object (Ary *et. al,* 2010:148). Population is used more generally; it refers to any collection of entities, of whatever kind, that is the object that have certain characteristics and it becomes the source data that is used by researcher in the study. The population of this research was the students of the tenth graders of SMKN 1 Bandung Tulungagung including all programs such as AKL (Akuntansi dan Keuangan Lembaga) or accounting, TKRO (Teknik Kendaraan Ringan Otomotif) or vehicle engineering, TEI (Teknik Elektronika dan Industri) or electronica and industry engineering, TKJ (Teknik Komputer Jaringan) or computer engineering, OTKP (Otomatisasi dan Tata Kelola Perkantoran) or management of office, and TBSM (Teknik Bisnis Sepeda Motor) or

business of motorcycle engineering. The tenth graders consist of 20 classes. To sum up, the total population was 720 students.

2. **Sampling**

The sampling is a technique to take a sample. Sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent the large group from which they were selected (Gay, 1992:123). The purpose of the sampling is to get information about a population. In this study purposive sampling was chosen as a technique of choosing sample. Arikunto (2006:139) says that purposive sampling is the process of selecting sample by taking the subject that is not based on the level or area but it is taken based on the specific purpose. Basically, purposive sampling involves selecting a sample which is believed to be representative given population in the other word the researcher use expert judgement to select a representative sample.

The researcher used purposive sampling technique to find the individual or sample. Purposive sampling is a technique of taking sample by definite consideration from the researcher. Purposive sampling belongs to non- probability sampling. Purposive sampling is used because of reasons. First, because of the researcher who selecting the sample is who tries to make the sample representative for the population of the study. Second, because the researcher points to her/his opinion or purpose to

choose the current sample. Thus, the sample is being the representative subjective of the study (Barreiro and Albandoz, 2001:4).

Practically, there are some of reasons why the researcher chooses the class. First, the class has average proficiency on speaking based on the English teacher there. Second, the English teacher gives an official instruction to the researcher due to choose the class as a sample of this research among another class.

3. Sample

In order to study the population more effectively, the researcher selected the sample. According to Sugiono (2010:118), sample is a 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 used two classes, one as the experimental group and the other as the control group. Two classes recommended by the English teacher were X TKJ 4 and X AKL 2. X AKL 2 was chosen as the experimental group and X TKJ 4 was chosen as the control group. Thus the total of sample is 70 students, 35 students from the experimental group and 35 students from the control group.

C. Research Variable

According to Arikunto (2006:119), that all experiments have one fundamental idea behind them; to test the effect of one or more independent variables on a dependent variable (it is possible to have more than one

dependent variable in experiment). Variable is divided into two kinds. They are independent variable and dependent variable.

1. Independent variable

Creswell (2012:116) state that an independent variable is an attribute or characteristic that influences or affects an outcome or dependent variable. Independent variable is the cause of other variable. The independent variable of this research was "Three Step Interview" technique.

2. Dependent variable

Creswell (2012:115) states that a dependent variable is an attribute or characteristic that is dependent on or influenced by the independent variable. The dependent variable was not manipulated by the researcher, but it was affected by the independent variable. The dependent variable of this research was "the students' achievement in speaking by asking for and giving direction."

D. Research Instruments

An instrument was needed to collect the data. In order to collect data for research, the researcher used instruments. Instrument of the research played an important role in research project. The instrument was used to achieve the accuracy of the data and it can indicate that the researcher was successful in this research.

The instrument for this study was test. According to Brown (2004: 4), that a test can be used to measure someone's ability. The researcher used speaking test as the instrument of this research. To make a good instrument, researcher follows some steps to develop the research instrument. There are procedures to make an instrument as follow;

1. Reviewing literature from syllabus and text book in Vocational High School of tenth grade to draft the instrument related to the materials. In this research, asking for and giving direction was used to be the material this observation.

2. Arranging a blueprint that interrelated to the syllabus and the content of material.

3. Arranging specification of speaking instrument test. In this stages the researcher arranged the items of instrument and adjusted the students' achievement in speaking. It purposed as device to collect the data and make sure students' achievement in speaking. The instrument used two kinds of test, those are pre- test and post- test.

4. Find out the validator to measure the test, the name is validation test. Validation did by the researcher to consider some aspects of blueprint and items of instrument. It has a purpose to make a good test based on the expert to measure face validity. In this research, the researcher decided to choose the English teacher of the tenth grade at SMKN 1 Bandung Tulungagung as the expert validating the blueprint and instrument.

5. Conducting try out to the students. It has purpose to measure validity and reliability of instrument before it was applied in the research class. The try out was held before pre- test and post-test which applied in another class not involved as the research class.

6. Determining the validity and reliability of the test which is analysed using Cronbach's Alpha.

7. The last procedure is speaking final test. In this last stages, the researcher drafted the complete research instrument as the final step. The draft of the instrument was tried out in 10 students at X- AKL 3 of SMKN 1 Bandung Tulungagung. That was intended to the result of reliability test showed that the research instrument has been appropriate and can be used as device to collect data.

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 was aimed to measure the students preliminary their speaking knowledge and achievement before they entered the experimental circle. After getting the result of pre-test, the researcher gave treatment to teach speaking for all students in experimental class by using Three Step Interview (TSI) technique and no treatment but traditional way for control class.

After doing treatment, the researcher gave post-test to all students. Post- test was taken after doing after taught by using Three Step Interview (TSI) technique in experimental class and no treatment but traditional way for

control class. The researcher wanted to know how far the students can speak when the treatment was on progress. Apparently, the result of the test showed that the students' achievement in speaking improved significantly compare to those who don't receive treatment.

E. Data Collecting Method

Data are result of investigation that gave all of facts and members as materials for constructing information (Arikunto, 2006:96). Data collecting method is the method that is used by the researcher to collect data. The research cannot get information without the data. In this research, the data collected from students' score of the tenth grade at SMKN 1 Bandung Tulungagung in the form of speaking test which were divided into two groups, experimental class and control class, pre- test and post- test.

1. Pre-test

Pre- test was administered at the beginning of the study before to know the early background of students' speaking both experimental and control class. The pre- test was held on February, 25th 2019. The test was given to the experimental class namely X AKL 2 (accounting classes) and to the control class namely X TKJ 4 (computer engineering classes). Both of experimental and control class were given the same test, the topic is direction; asking for and giving direction to your house .The researcher asked to the student to choose their partner consist of 2 students, and practice their speaking in front of the class with their partner for maximum

3 minutes. When the students show their performance, the researcher recorded them, then made the score used scoring rubric to compute the score of pre- test.

2. Post-test

Post- test was administered after all treatment were done. The post-test was held on April, 15th 2019. It was conducted to know the students speaking ability of experimental and control class after the treatment. Both of experimental and control class were given the same test, the topic is direction; asking for and giving to tourism destination near your house. Post- test for experimental class was given after treatment or taught by using Three Step Interview technique. While post- test for control class, was given after taught by using the conventional teaching method. It was done to know the final score and to know the student difference competence before and after they get treatment.

F. Validity and Reliability

According to Ary (1985), research is always dependent upon measurement. There are two important characteristic that every measuring instrument should process validity and reliability. So, to know whether the test is good or not, and to make the data more valid and reliable, it needs validity and reliability testing for both of them.

1. Validity

   Validity is a measurement that shows the validity levels of an instrument. An instrument was considered valid if it was able to test what should be tested. According to Hughes (2000:26), a test is said to be valid if it measures accurately what is intended to measure. Based on this research, the researcher would use content validity, construct validity, and face validity to know the validity of the test.

   a. Content Validity

      To make the test valid, the researcher used 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 main competence and basic competence.

      Content validity is the test that if has a good content of test is looked at from the content of test. It means a test has valid if the content of test is a representative among lesson given. The test of this study given to the students were based on the material that they had learned about asking for and giving direction. Thus, the researcher made the test based on the main competence and basic competence in

the syllabus Curriculum of 2013 of the tenth grade of SMKN 1

Bandung Tulungagung. The content validity in this research as follow:

Table 3.2: Main Competence and Basic Competence of the Tenth

Grade Students of Vocational High School for English Subject.

Main Competence	4. melaksanakan kiprah spesifik dengan memakai alat, informasi, dan mekanisme kerja yang lazim dilakukan serta memecahkan duduk masalah sesuai dengan bidang kajian Bahasa Inggris.
	Menampilkan kinerja dibawah bimbingan dengan mutu dan kuantitas yang terukur sesuai dengan baku kompetensi kerja.
	Menunjukkan ketrampilan menalar, mengolah, dan menyajikan secara akibatif, kreatif, produktif, kritis, mandiri, kolaboratif, komunikatif, dan solutif dalam ranah aneh terkait dengan pengembangan dari yang dipelajari disekolah, serta bisa melaksanakan kiprah spesifik dibawah pengawasan langsung.
	Menunjukkan ketrampilan mempersepsi, kesiapan, meniru, membiasakan, gerak ahli, mengakibatkan gerak alami dalam ranah konkret terkait dengan pengembangan dari yang dipelajarinya disekolah, serta bisa melakukan kiprah spesifik di bawah pengawasan langsung.
Basic Competence	4.11 menyusun teks interaksi transaksional lisan dan tulis, pendek dan sederhana, yang melibatkan tindakan memberi dan meminta informasi tentang petunjuk arah (direction) dengan memperhatikan fungsi social, struktur teks dan unsur kebahasaan yang benar dan sesuai konteks di dunia kerja

Table 3.3 Content Validity of Test

Competence Indicators	Instrument Test Items	
	Pre-test	Post-test
1. Students are able to do short conversation as an interviewer in the form of asking for and giving directions. 2. Students are able to do short conversation as an interviewee in the form of giving directions.	Speaking test	speaking test

b. Construct Validity

A test is said to have construct validity if it can be demonstrated that is measures just the ability which is supposed to measure (Isnawati, 2014:29). The instrument is constructed concerning aspects that measured. In this research, the researcher administered a speaking test and the technique of scoring the students' speaking is based on the five aspects of speaking. According to Brown (2004:172-173), the aspect of speaking consist of five items: Grammar, Vocabulary, Comprehension, Fluency, and Pronunciation. The scoring rubric of speaking can be seen in appendix 2.

c. Face Validity

Besides checking the validity of the test using content validity and construct validity, researcher also had face validity. A test is said

to have face validity if it measure what is supposed to measure. Face validity is hardly a scientific concept is very important. 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 English teacher or advisor.

In this research, the researcher used face validity by consulting with English teacher of the tenth grade at SMKN 1 Bandung Tulungagung. After getting feedback from the English teacher, the researcher made some revisions on the instrument. The viewpoints that should be revised were about the instructions, the grammatical errors and instruction.

2. Reliability

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. Frankel and Wallen (2009:9) stated the reliability then refers to the consistence of the scores attained. A reliable test is consistent and dependable. Thus, if the students are given the same test on two different occasions, the test should yield similar result and the more similar the score are, the more reliable the test is. For getting the reliable value, the researcher chose X-AKL 3 as try out class and took ten students as sample. The try-out test was about asking for and giving direction. The

researcher showed the instructions and allowed the students to do short conversation by asking for and giving direction. The items of try-out 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. Then, the researcher made score from the result of students speaking. Besides that, the test was evaluated by the teacher after it was developed. Finally, try out is also done by the researcher.

To measure the reliability of instrument, the researcher used inter-rater reliability where the two scores did the scoring and two sets of scores gotten from the two scores were calculated to get the correlation coefficient. The try out test was done on February 23, 2019.

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 3.3 to see the Cronbach's scale.

Table 3.4 Cronbach Scale

Cronbach's values	Interpretation
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

Table 3.5 The scores obtained from the try out

No	Students	Score 1	Score 2
1	AB	64	68
2	CT	60	56
3	FD	72	72
4	GA	60	76
5	IM	60	60
6	JIK	52	56
7	NN	52	56
8	PP	56	60
9	SN	60	64
10	UM	64	68
		Σ X = 600	Σ X = 636

After the score of try out pre-test and post-test were calculated SPSS 16.0, the researcher got the result as follows:

Table 3.6 Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.820	2

Source: SPSS, processed

The result of calculations using SPSS 16.0 on the reliability test was 0.820. Thus, it could be concluded that the instrument used by the researcher was very reliable.

G. Technique of Data Analysis

The data in this research were analysed by using statistical analysis. In analysing the data, the t- test formula was used to know the effect of Three Step Interview technique on the tenth grade students' achievement in speaking. Before analysing the data by using t- test, the normality and homogeneity must be measured first.

1.   **Normality Test**

Normality test was one of the important requirements that might be followed in analysing the data of the research. It was done to examine if the distribution of data collected was normal or not. In statistic, normality tests are used to determine if a data set is well- modelled by a normal distribution and to compute how likely it is for a random variable underlying the data set to be normally distributed (Szekely and Rizzo: 2005). For this research, the normality test analysed with using SPSS 16.0. To know the normality, the researcher used by *One- Sample Kolmogorov-Smirnov test* with significance value (α) = 0.05. Normality testing was done by using the rule of Asymp. Sig (2 tailed). The normality testing is done towards both pre- test and post- test score. The hypothesis for testing normality are:

a. H_0 : If the value of significance > 0.05, means data is in normal distribution.

b. H_a : If the value of significance < 0.05, means data is not in normal distribution.

2. **Homogeneity Test**

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. The homogeneity test was conducted to know whether the variety of data both experimental and control classes was same or not. Homogeneity test is important since the result of research

would be generalized in a population. In this research, the researcher conducted testing the homogeneity by using SPSS program 16.0 version by the value of significance $(\alpha) = 0.05$.

Before doing homogeneity, the researcher decided hypothesis testing as follows:

a. H_0 : if the value significance > 0.05, means data is homogeneity.

b. H_a : if the value significance < 0.05, means data is not homogeneity.

3. **T- Test**

The researcher used t- test to analyse the data. According to Ary *et al* (2002:162) the data were analysed using the following of t-test. The researcher used t-test to determine whether the null hypothesis or alternative hypothesis, is accepted or rejected. Thus, t-test was taken from result of students' test which was conducted before and after doing treatment of taught by using Three Step Interview (TSI) technique. T-test was used to know the effect of Three Step Interview (TSI) technique on students' achievement in speaking.

4. **Hypothesis Testing**

The hypothesis of this study was as follow:

1. If the value significance < 0.05. So, the null hypothesis is rejected. It means that there is no significant effect of using Three Step Interview (TSI) technique for students achievement in speaking (the mean score

of the experimental class post-test is lower than the mean score of the controlled class). So, there are no differences from the score of the classes.

2. If the value significance > 0.05. So, the alternative hypothesis (H_a) is accepted. It means that there is a significant effect of using Three Step Interview (TSI) technique for students achievement in speaking (the mean score of the experimental class post- test is higher than the mean score of the controlled class). So, there are differences from the score of the classes.