CHAPTER III

RESEARCH METHOD

A. Research Design

Approach is a way of considering or doing something. This research belongs to quantitative approach that uses and deals with statistical analyses. Based on (Cresswell 2012:15) these analyses consist of breaking down the data into parts to answer the research questions. Statistical procedures such as comparing groups or relating scores for individuals provide information to address the research questions or hypotheses. Then, research designs used to collect, analyze, and interpret data using quantitative research. (Cresswell 2012:295) states that in an experiment, you test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable. In experimental research, there three kinds of design those are pre-experimental, quasi-experimental, and true-experimental design.

In this study, the writer used a quasi-experimental design. (Creswell 2012:309) stated that "Quasi-experiments include assignment, but not random assignment of participants to groups. This is because the experimenter cannot artificially create groups for the experiment." This research is conducted with two group pre-test and post-test design. The researcher used two intact classes in which one of them was as experimental class and another was as controlled class. Experimental class is class which got treatment or being taught by using

self-assessment method and controlled class was not taught by using self-assessment method.

B. Population and Sample

1. Population

According to Sugiyono (2011: 80) population is not only people, but also all of the quantity of object or subject that learn, but also involve the whole of characteristics of the subject or object.

The total population was 66 classes (2,378 students). The researcher took two classes from tenth grade students of SMKN 1 Boyolangu Tulungagung. The first class was X Akuntansi dan Keuangan 3 and the second class was X Bisnis dan Pemasaran 1.

2. Sample

According to Sugiyono (2009: 118) the sample is some part of the total and characteristic that is has of the population. In this study, the researcher took two classes, X Akuntansi dan Keuangan 3 that consist of 36 students and X Bisnis dan Pemasaran 3 that consist of 33 students.

C. Variables of the Research

A variable is everything that became object of writer or the influencing factors that will studied. According to (Cresswell 2012:112) a variable is a characteristic or attribute of an individual or an organization that writer can measure or observe and varies among individuals or organizations. In this study, there are two kinds of variables namely:

1. Independent variable is called causing variable (Arikunto, 2013:162)

2. Dependent variable is affected variable (Arikunto, 2013:162).

In this research the independent variable was the experiment of using small group interaction in the first grade in senior high school, while the dependent variable was speaking ability.

D. Research Instrument

An instrument is needed to collect the data collection. Instrument of the research played an important role in research project. The instruments were used to achieve the accuracy of the data and can indicate that researcher was successful in his research. The researcher used an oral test as instrument to get the data. To collect the data, The researcher gave students twice tests, those are pre-test and post-test. The pre-test was aimed at measuring the students' preliminary their speaking knowledge and achievement before they entered the experimental circle. The post-test was aimed at finding out the data needed to evaluate after got the experiment.

E. Validity and Reliability Testing

1. Validity

According to Brown (2004: 172-173), the aspects of speaking consist of five items: Grammar, Vocabulary, Comprehension, Fluency, and Pronunciation. Those 5 aspects should be used as the criteria of good speaking. In this research, the speaking test also used the 5 criteria above as the aspects of good speaking. The researcher asked the students to speak

for 5 minutes based on what they have to discuss with their group. Therefore, the test used in this research to full fill the construct validity of speaking.

To give students' score on speaking, the researcher attach a rubric of 5 aspect as follows:

Rubric of Speaking Scoring

	Fluency	Pronunciation and accent	Vocabulary	Grammar	Details
5	Smooth and fluid speech; few to no hesitations; no attempts to search for words; volume is excellent.	Pronunciation is excellent; good effort at accent	Excellent control of language features; a wide range of well chosen vocabulary	Accuracy & variety of grammatical structures	Excellent level of description; additional details beyond the required
4	Smooth and fluid speech; few hesitations; a slight search for words; inaudible word or two.	Pronunciation is good; good effort at accent	Good language control; good range of relatively well-chosen vocabulary	Some errors in grammatical structures possibly caused by attempt to include a variety.	Good level of description; all required information included
3	Speech is relatively smooth; some hesitation and unevenness caused by rephrasing and searching for words; volume wavers.	Pronunciation is good; Some effort at accent, but is definitely non-native	Adequate language control; vocabulary range is lacking	Frequent grammatical errors that do not obscure meaning; little variety in structures	Adequate description; some additional details should be provided

2	Speech is frequently hesitant with some sentences left uncompleted ; volume very soft.	Pronunciation is okay; No effort towards a native accent	Weak language control; basic vocabulary choice with some words clearly lacking	Frequent grammatical errors even in simple structures that at times obscure meaning.	Description lacks some critical details that make it difficult for the listener to understand
1	Speech is slow, hesitant & strained except for short memorized phrases; difficult to perceive continuity in speech; inaudible.	Pronunciation is lacking and hard to understand; No effort towards a native accent	Weak language control; vocabulary that is used does not match the task	Frequent grammatical errors even in simple structures; meaning is obscured.	Description is so lacking that the listener cannot understand

2. Reliability

According to Triton in Sujianto (2009:97) the value of cronbach's alpha
can be interpreted as follow:

Table 3.1 Cronbach's Alpha Interpretation Based on Triton

Cronbach's	Alpha 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 3.2 Reliability from Score of Try-Out

Case Processing Summary

		N	%
Cases	Valid	33	100.0
	Excluded[a]	0	.0
	Total	33	100.0

a. Listwise deletion based on all variables

in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.632	5

From the table above, it showed that the result of reliability statistics of Try Out in SPSS 21.0 was 0.632. In analyse using values of cronbach's alpha it can conclude that the instrument was reliable

F. **Normality and Homogeneity Testing**

Before analysing the significant difference between the students taught using small group interaction and those taught without using Small Group Interaction, the data should be normal distribution and homogenous. To measure the data computation were normal distribution and homogenous, the

3.3 Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Grammar	6.64	1.551	.450	.547
Vocabulary	6.67	1.917	.110	.705
comprehension	6.61	1.684	.344	.598
Fluency	6.67	1.479	.501	.519
Pronunciation	6.76	1.377	.563	.481

researcher conducted normality testing and homogeneity testing. The result as follow:

a. Normality Testing

Normality test has purpose to know whether the data distributed normally or not. In this research, the normality test was done by using Kolmogorov–Smirnov. In statistics, the Kolmogorov–Smirnov test (K–S test or KS test) is a nonparametric test of the equality of continuous (or discontinuous, see Section 2.2), one-dimensional probability distributions that can be used to compare a sample with a reference probability distribution (one-sample K–S test), or to compare two samples (two-sample K–S test)..

The normality of the data can be seen based on the significant value (α) = 0.05. The considerations of testing normality are:

a. The data has normal distribution, if the significance > 0,05

b. The data doesn't have normal distribution, if significance < 0,05

After get the scores from pre-test and post-test, the researcher calculate the data using SPSS 21.0 program and the result of normality testing can be seen on the tables below:

Table: 3.4 Normality Pre-test

One-Sample Kolmogorov-Smirnov Test

		control	experiment
N		36	33
Normal Parameters[a,b]	Mean	8.53	8.91
	Std. Deviation	1.158	1.259
Most Extreme Differences	Absolute	.176	.226
	Positive	.176	.163
	Negative	-.176	-.226
Kolmogorov-Smirnov Z		1.055	1.297
Asymp. Sig. (2-tailed)		.215	.069

a. Test distribution is Normal.

b. Calculated from data.

From the table above, it showed that the result of normality of Pre-test by using Kolmogorov-Smirnov in SPSS 21.0 was 0.215 for control class and 0.069 for experiment class.

Table: 3.5 Normality Post-test

One-Sample Kolmogorov-Smirnov Test

		control	experiment
N		36	33
Normal Parameters[a,b]	Mean	9.11	12.91
	Std. Deviation	1.469	2.067
Most Extreme Differences	Absolute	.189	.155
	Positive	.189	.155
	Negative	-.172	-.147
Kolmogorov-Smirnov Z		1.136	.889
Asymp. Sig. (2-tailed)		.152	.408

a. Test distribution is Normal.

b. Calculated from data.

From the table above, it showed that the result of normality of Post-test by using Kolmogorov-Smirnov in SPSS 21.0 was 0.152 for experiment class and 0.408 for control class.

Based on the tables above, all significant of Pre-test and Post-test score was more than 0.05 (> 0,05). So it can be concluded that the research data in the pre-test and post-test have normal distribution.

b. Homogeneity Testing

Homogeneity testing has purpose to determine if two or more populations (or subgroups of a population) have the same distribution of a single categorical variable. Ary et.al (2010: 286) states that another method that

can make groups reasonably comparable on an extraneous variable is to select samples that are as homogeneous as possible on that variable. To know the homogeneity the researcher used one way ANOVA by using SPSS program 21.0 version. The considerations of testing homogeneity are:

a. The data are homogeny, if the significance $> 0,05$

b. The data are not homogeny, if significance $< 0,05$

After get the scores from Pre-test and Post-test, the researcher calculated the data using SPSS 21.0 program and the result of homogeneity testing can be seen on the tables below:

Table: 3.6 Test of Homogeneity of Pre-test

Result

Levene Statistic	df1	df2	Sig.
.113	1	67	.738

Based on the result of testing homogeneity using one way ANOVA above, the significant of group that was taught using small group interaction was 0.738 on Pre-test. The significant of group higher than significant level 0.05. It means the data were homogeny.

Table: 3.7 Test of Homogeneity of Post-test

Result

Levene Statistic	df1	df2	Sig.
3.948	1	67	.051

Based on the result of testing homogeneity using one way ANOVA above, the significant of group that was taught using small group interaction was 0.51 on Post-test. The significant of group higher than significant level 0.05. It means the data were homogeny.

G. Data Collecting Method

Test is an instrument or procedure designed to measure the student's ability. As stated on the research design, the researcher would give two kind tests: pre-test and post-test in control group and in experimental group, but in experimental class the researcher give a treatment before conducting post-test. The result of those tests would be compared to know whether the use of small group interaction more effective in teaching speaking.

The researcher explain how to get data from control group and experiment group as follows:

1. Control Group

a. Pre-test

In pre-test of control group the researcher do the following steps:

1) The researcher give the students a situation where they should make an example of descriptive text.

2) The researcher asked the student to explain the descriptive text with their own word for ± 2 minutes.

3) The researcher give attention to students' performance.

4) The researcher give score to the students.

b. Post-test

In control group, post-test conducted without treatment.

1) The researcher give a picture or situation to students and ask the students to describe.

2) The researcher ask the students to practice speaking with their own ways.

3) The researcher ask the students to explain their result of their practice for $\pm$ 5 minutes, one by one.

4) The researcher give attention to the students' performance.

5) After that the researcher also took note from each student's performance.

6) Then, the researcher scored them

2. Experiment Group

a. Pre-test

Pre-test was aimed at measuring the students' ability in speaking and their achievement before they entered the experimental circle. In pre-test, the researcher do the following steps:

1) The researcher give the students a situation where they should make an example of descriptive text.

2) The researcher asked the student to explain the descriptive text with their own word for ± 2 minutes.

3) The researcher give attention to students' performance.

4) The researcher give score to the students.

b. Treatment

After take students score in Pre-test, the researcher conducting a treatment that make students more understand about how to speak English properly. The researcher divided the students into a group that consist of 5-6 students.

c. Post-test

Post-test used to measure the effect of certain treatment on this case was teaching speaking using small group interaction. The activities of this test were as follows:

1) The researcher give a picture or situation to the group.

2) The researcher ask the students to discuss about the picture or situation.

3) The researcher ask the students to practice speak with their group.

4) The researcher ask the students to explain their result of their discussion for $\pm$ 5 minutes, one by one.

5) The researcher give attention to the students' performance.

6) After that the researcher also took note from each student's performance.

7) Then, the researcher scored them.

H. Data Analysis

To analyze the data, the researcher did some steps. They are as follows:

1. The researcher scored the students' performance.

The scoring consists of five elements items: as the researcher explained in treatment.

Scoring in Speaking

No	Aspect	Score
1	Grammar	1-5
2	Vocabulary	1-5
3	Comprehension	1-5
4	Fluency	1-5
5	Pronunciation	1-5

The score of the scale and the response of the option were credited 5, 4, 3, 2, and 1 of the favorable to the unfavorable statements. Conversely the responses of the option were credited 1, 2, 3, 4, and 5 from unfavorable statements.

Data analysis is the way researcher analyze the data of research. In this research, the researcher used quantitative data analysis. The researcher conducted test to control group and conducted test before and after giving treatment to experimental group. Then, after all data have gathered the researcher calculated the data using SPSS 21.0 program. T-test was used in order to find out the differences of the students' score of speaking after taught using small group interaction. If the difference was significant, it means that small group interaction was effective to use in teaching speaking.