

CHAPTER III

RESEARCH METHOD

This section included the discussion of research design, population and sample or subjects, research instrument, validity and reliability testing, data collecting method and data analysis.

A. Research Design

As we know a research needs a plan and some steps the researcher will take. Research is a process that is the step combination that is done systematically and logically to get the solution of the problems or to get the answer from the certain questions (Ary et al, 1995: 22). A research design is the way to conduct the research. The design of the research should be suitable for the research condition. For this reason, the researcher has to follow the research design, if the researchers want their research will be successful.

The design of this study use pre-experimental with quantitative approach because it uses numbers or statistics. According to Creswell (2009:3) research design is plans and procedures for research to detail methods of data collection and analysis. The researcher chooses pre-experimental research design, which means using one class as single group who get the treatment and the group get pre-test and post-test to know the result of treatment. Pre-test is the test which given to the student's before the treatment and the post-test is given to the student's after the treatment. The

pre-test and post-test were given to take the score of the student's speaking achievement before and after being taught by using Bamboo Dancing method.

This research is focused on the effectiveness of using Bamboo Dancing method on students' speaking achievement at seventh grade MTs Assyafi'iyah Gondang Tulungagung. The independent variable is Bamboo Dancing method and the dependent variable is students' speaking achievement. In this case, the independent variable influences the dependent variable, to know the result whether the dependent is influenced positively, the researcher use pre-test and post-test to measure that. The design of the research can be summarized as follows:

Table 3.1: The Illustration of Research Design

Pre-test	Treatment	Post-test
Y1 (DV)	X (IV)	Y2 (DV)

X : Bamboo Dancing method (Independent Variable)

Y1: Students' Speaking Achievement before taught by using Bamboo Dancing method (Dependent Variable)

Y2: Students' Speaking Achievement after taught by using Bamboo Dancing method (Dependent Variable)

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

1. Administering pre-test (Y1) with a purpose of measuring students' speaking achievement before applying treatment.
2. Applying experimental treatment in teaching speaking using Bamboo Dancing method (X).
3. Administering post-test (Y2) with a purpose of measuring students' speaking achievement after applying treatment.

B. Population and Sample

1. Population

Population is the large group about which the generalization is made. Fraenkel and Wallen (1993: 79) stated that a population is the group to which the results of the study are intended to apply. A population is defined as all members of any well-defined class of people, events or objects.

In this research, the population of data is all of seven grade students of MTs Assyafi'iyah Gondang Tulungagung in period 2018/ 2019 which consists of 102 students. Those are divided into three classrooms. Class A,B and C. It can be seen in the table 3.2 bellow:

Table 3.2 Population of Research

No	Class	Gender	
		Male	Female
1	VII A	18 students	16 students
2	VII B	18 students	16 students
3	VII C	18 students	16 students
Total Students		102 Students	

2. Sample

Sample is part of the total number and the characteristic belong to population. Porte (2002: 243) stated that sample is a group of units selected from large group (population) to represent it, because the population is too large to study in its entry. Sample of this research is the students of the class VII-B MTs Assyafi'iyah Gondang Tulungagung, in which the total of them are 34 students and this research was just conducted in one class.

In this study, the researcher used purposive sampling technique. Ary et al (2006: 167) stated that sampling is technique taking sample which give opportunity for every element or population member to be chosen as sample. The researcher used purposive sampling because the students of the B class have homogeneity (high, middle and low achievement) than other classes.

Table 3.3 Sample of Research

Sample of VII B		Total
Male	18 students	34 students
Female	16 Students	

C. Research Instrument

Research instrument is a tool or facilities used by researchers in collecting data easier and the result is better, in the sense more accurate, complete, and systematic so much easier processed. From definition above the researcher concluded that instrument was a tool to get the data in the research. The researcher used speaking test in order to be able to collect data needed. The test designed to measure the effect of specific area in the curriculum (Page and Thomas, 1979: 181). The test will be adminiser before treatment or called as pre-test and after treatment or called as post-test.

D. Validity and Reliability Testing

Validity and reliability are a instrument which will be used must be valid and reliable before using it to collect the data. To doing validity and reliability testing as follow:

1. Validity

Validity is the extent to which inferences made from assessment result are appropriate, meaningful, and useful in terms of the purpose of the assessment (Brown, 2004:22). In experimental research, the researcher

had to check validity and reliability from the instrument. There are three types of validation: content validity, face validity, and construct.

a. Content Validity

Content validity is the extent to which a measuring instrument provides adequate coverage of the topic under study. Underhill (2006:106) stated that where the objectives of the programme are set out in detail, for example in a syllabus that lists skills or functions, then the content validity can be assessed by comparing the kind of language generated in the test against the syllabus.

The instrument of study had content validity because the items were materials used for teaching speaking in interpersonal conversation at the seventh graders of MTs Assyafi'iyah Gondang Tulungagung. The content validity since the test was designed based on main competence and basic competence in syllabus Curriculum of 2013 since the school implements the Curriculum of 2013 in the time the researcher conducted this research.

Table 3.4 Main Competence and Basic Competence in Curriculum of 2013

Main Competence	Basic Competence
KI4.Mengolah, menyaji, dan menalar dalam ranah konkret (menggunakan, mengurai, merangkai, memodifikasi, dan membuat) dan ranah	4.2.Menyusun teks interaksi transaksional lisan dan tulis sangat pendek dan sederhana yang melibatkan tindakan memberi dan

abstrak (menulis, membaca, menghitung, menggambar, dan mengarang) sesuai dengan yang dipelajari di sekolah dan sumber lain yang sama dalam sudut pandang /teori.	meminta informasi terkait jati diri, pendek dan sederhana, dengan memperhatikan fungsi social, struktur teks, dan unsure kebahasaan yang benar dan sesuai dengan konteks.
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b. Face Validity

Face validity is the extent to which examines the instrument is measuring what is supposed to measure (Ary, 2010). A test that does not have face validity may be refused by the teacher and advisor. In this study, the researcher had the face validity by consulting the expert. After getting feedback from the expert, researcher made some revisions on the instrument.

c. Construct Validity

Construct validity is any theory, hypothesis, or model that attempts to explain observed phenomena in our universe of perception (Brown, 2004: 25). It is used to examine whether the test has consistent representation with theories underlying the presented material or not. The test can be said to have construct validity if it can be demonstrated that it measured what it is supposed to measure. In this study, the researcher created the test based on the material that is suitable for the students at seventh grade MTs Assyafi'iyah Gondang Tulungagung. To measure the students' achievement in

speaking, the researcher tested students' speaking ability used speaking tests orally for the students at seventh grade MTs Assyafi'iyah Gondang Tulungagung,

2. Reliability

Reliability is concerned with the effect of such random errors of measurement on the consistency of scores (Ary et al, 2002: 250). Reliability (in testing) is a measure of the degree to which a test is consistence. According to Brown (2000: 386) stated a reliable test is consistent and dependable. A test is called reliable if the result of the test is similar with the test is tested in the same subject but in the different time.

To make sure instruments (test) are reliable, the researcher analyze the tryout's result used internal consistency reliability, it used to assess the consistency of results across items within a test. Internal consistency is usually measured with Cronbach's Alpha, a statistic calculated from the pair wise correlations between items. It is to know whether the instrument suitable or not. In this research, the researcher used SPSS 18.0 for windows to know the reliability of test instruments. According to Arumasari (2014: 56) the value of Cronbach's alpha can be interpreted as follow:

Table 3.5 Cronbach's Alpha interpretation based on Arumasari

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

From the answer of students' response in tryout test, the researcher then analyze using reliability test based on Cronbach's Alpha. The result of reliability test was:

Table 3.6 Reliability Testing**Case Processing Summary**

		N	%
Cases	Valid	2	100,0
	Excluded ^a	0	,0
	Total	2	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,845	30

In this research, the researcher tried to check the empirical reliability by using SPSS 18.0 after trying out. In trying out the Cronbach's Alpha score was 0,845. Related with the categories of reliability testing stated by Arumasari was categorized into very reliable level.

E. Normality and Homogeneity Testing

1. Normality Testing

Normality testing is used to make sure whether the data was in a normal distribution or not. Normality test is intended to show that sample data come from a normally distributed population. To know the normality, the researcher used One- Sample Kolmogorov–Smirnov Test in IBM SPSS Statistic 18.0 by significant level (0.05). Basic decisions making in normality testing are as follows:

- a. If the significant value > 0.05 , it means that the data distribution is normal.
- b. If the significant value < 0.05 , it means that the data distribution is not normal.

2. Homogeneity Testing

Homogeneity testing is intended to make sure that the collected manipulation data in analysis is truly taken from population which is to different each other. It is also conducted to know whether the data has homogeneous variance or not. To know the homogeneity, the researcher used Levene statistic with IBM Statistic 18.0.

F. Data Collecting Method

The data collecting method is the method to obtain the data in the research. The aims of the data collecting in conducting scientific research was to get data that needed by the research. The technique of collecting data was clarified as follow:

1. Pre Test

The researcher gave pre test on 21st January 2019. Pre test was given to the students before the researcher taught by using Bamboo Dancing method. The test was needed to know the basic competence for the students and to know them earlier knowledge before they get treatment. The test of pre-test was about introducing self. In this test, the students practiced speaking in pairs and gave time allotment 5 minutes after they did discussion with the topic that given by the researcher. After administering the test, the researcher scored the students' speaking based on the scoring rubric of speaking skill.

2. Treatment

After doing the pre-test, the researcher gave the treatment to the students by teaching speaking using Bamboo Dancing method. The researcher was conducted on three meetings. It was administered on 24th January 2019, 28th January 2019 and 31st January 2019. In the beginning of the study, the researcher introduced about Bamboo Dancing method to the students and explained the material about introduction. Then the researcher explained the steps of Bamboo Dancing method because they

have to know before. When the researcher asked the students to apply this method, they were very enthusiastic.

3. Post Test

After the treatment, the post test was given to the students. The researcher administered post test on 4th February 2019. Similarly to pre test but in post test the researcher gave different topic to be discussed by the students. The test was given to know the final score and the students' difference achievement in speaking ability before and after they got the treatment.

G. Data Analysis

In this research, the researcher uses a quantitative data analysis technique by using statistical method. This method is used to find the significant difference on the students' score before and after being taught by using Bamboo Dancing method. To investigate the effectiveness of Bamboo Dancing method on students' speaking achievement, the collected data will be analyzed by using Paired Sample T-Test in IBM SPSS Statistic 18.0. In this case, discusses about the relationship between significant value and significant level. Significant value is the output of calculating hypothesis by Paired Sample T-Test. Meanwhile, significant level refers to standard level of hypothesis, it is 0.05. The interpretation can be seen as below:

1. When the significant value $<$ significant level, the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. It means there is significant different score on the students' speaking achievement before and after being taught by using Bamboo Dancing method.
2. When the significant value $>$ significant level, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_a) is rejected. It means there is no significant different score on the students' speaking achievement before and after being taught by using Bamboo Dancing method.