

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

Research design are the specific procedures involved in the research process: data collection, data analysis, and report writing (J. W. Cresswell, 2012). Experimental research is classified into: pre-experimental design, true experimental design, and quasi experimental design. Pre experimental designs do not have random assignment of subjects to groups or other strategies to control extraneous variables. True experimental designs (also called randomized design) use randomization and provide maximum control of extraneous variables. Quasi experimental design lacks randomization but employs other strategies to provide some control over extraneous variables.

The type of this research is using quasi-experimental. Creswell (2008: 313) states that quasi-experiment is experimental situations in which the researcher assigns, but not randomly, participants to groups because the experimenter cannot artificially create groups for the experiment. Because this study comparing with two ways and the researcher want to measure the effectiveness of communicative activities on students' speaking anxiety and speaking ability.

This research used quasi-experimental designs are similar to randomized control designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups. The researcher would be applied The Pre and Post test design. Creswell (2008: 301) explains that a pre-test provides a measure on some attributes or characteristics that would be assessed for participants in an experiment before they receive a treatment. Meanwhile, a post-test is a measure on some attributes or characteristic that will be assessed for participants in an experiment after a treatment.

That design could be illustrated follows:

Table 3.1 Design of Quasi Experimental

E	O ₁	X	O ₂
C	O ₁	-	O ₂

Where:

E = Experimental Group

C = Control Group

O₁ = Pre-test for the Experimental Group

O₂ = Post-test for the Experimental Group

O₃ = Pre-test for the Control Group

O₄ = Post -test for the Control Group

X = Treatment for experimental group by using communicative activities

B. Population and Sample

1. Population

Population of the research means to which the researcher can apply or generalize the conclusion of the finding from sample for entire individual inside of a population. According to Sugiyono (2017: 80), the population is a generalization area consisting of objects/students with specific qualities and characteristic determined by researchers to be studied and then drawn conclusions.

Based on the statement above, the population in this research is all the students at the second grade of SMP Negeri 1 Nanga Pinoh, that consist of 280 people. The second grade of SMP Negeri 1 Nanga Pinoh consist of nine classes.

2. Sample

Sample or in other word the representative of population can be defined as a subgroup of the target population that the researcher plans to study for generalizing about the target population Creswell

(2012:142). According to Sugiyono (2017: 81), the sample is part of the number and characteristics possessed by the population. Gay (1992:123) states that sample is the individual selected comprise. It means that selecting of a sample is very important step in conducting a research study. It can be concluded that a sample is a part of the population which have a certain characteristic from the population. The researcher has chosen the second grade class as one experimental.

In this research, the researcher use the second grade as a sample. The sample of this research was taken though clustering sampling, which sample was taken based on class or group without randomized. According to Ary (2010: p.154) clustering sampling is kind of probability sampling which the unit chosen not individual but, rather, a group of individuals who are naturally together. Two of the classes from second grade were choose as the sample, the class is VIII H and VIII I. In determining these two classes as samples was based on the teacher's recommendation and the English subject of the two classes were taught by the same teacher. From those two classes, one class was chosen as the experiment group and another class was chosen as the control group.

C. Research Instrument

1. Questionnaire

The researcher used Public Speaking Class Anxiety Scale (PSCAS) questionnaire and speaking test to measure the students' speaking anxiety level and students' speaking ability. The PSCAS consists of 17 items with positive and negative statements. It was designed on a 5 point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" with values 1–5 assigned to them respectively. Thus, the total multiplied scores of a PSCAS are 85 and then subtracted by 17. Scores 68-85 are categorized as high anxiety, 68-51 are categorized as moderate anxiety, and 17-51 are categorized as low anxiety. To reveal

the levels of anxiety requiring the determination of the mean, Liu and Jackson (2008) suggested adjusting the values assigned to different alternatives from “Strongly Disagree” to “Strongly Agree.” Namely, the items expressing positive attitudes had the values assigned to their alternatives reversed, so that the response “Strongly Disagree” received a score of 5 instead of 1 and vice versa. As such, items 4, 8, 10, 12, of a PSCAS had the values reversed.

In order to prevent misunderstanding, translated version of PSCAS used in the present study, the researcher took PSCAS to gather data in this research. PSCAS consists of 17 items with positive and negative statements. There are 13 negative statements, they are in number 1, 2, 3, 5, 6, 7, 9, 11, 13, 14, 15, 16, and 17. While 81 positive statements are number 4, 8, 10, and 12. Both positive and negative statements are arranged together to avoid students' misunderstanding. Here is the table for:

Table 3.2
Likert’s Scoring Table

Scoring					
Statement	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Positive	1	2	3	4	5
Negative	5	4	3	2	1

Yaikhong & Usaha (2012)

The data calculated manually start from 17 to 85. Each score of the result of PSCAS will categorize as follows:

Table 3.3
PSCAS Score Adapted from Yaikhong & Usaha (2012) Scale

Range	Level
69-85	High Anxiety
51-68	Moderate Anxiety
17-50	Low Anxiety

After that, calculating the mean score and standard deviation of the students answer both in pre-test and post-test using the Statistical Product and Service Solution (SPSS 23) Analysis. The last step is finding out the significance of the difference of t-test value between pre-test and post-test by using Statistical Product and Service Solution (SPSS 23) Analysis.

2. Speaking Test

In this research, the researcher used speaking test to collect the data. The pre-test and post-test were administrated to both classes. The pre-test was done before the teaching learning process and the pos-test was done after the teaching learning process. The pre-test was done to know the homogeneity of the two classes in speaking skill and post test was done to know the effectiveness of using communicative activities on student's speaking ability.

In collecting data, the researcher has designed the test for the students. The researcher has given a topic about descriptive text. The students asked to make a descriptive text that describe themselves in the past event. The student have to present in front of the class and speak around 1-2 minutes. After the treatment, the researcher will give the post test, and the results analyzed to describe in data analysis. The researcher has given the score of the students' performance using rating score of oral test by David P. Harris which scored the test by the pronunciation, grammar, vocabulary, fluency, and comprehensibility.

Table 3.4 The frame of Harris's oral English rating scale

No	Criteria	Rating Score	Comments
1.	Pronunciation	5	Has a few of traces of foreign language
		4	Always intelligible, though one is conscious of defined accent
		3	Pronunciation problem necessities concentrated listening occasionally lead to misunderstanding

		2	Very hard to understand because of pronunciation problem, most frequently be asked to repeat
		1	Pronunciation problem to serve as to make speech virtually unintelligible
2.	Grammar	5	Make a few (if any) noticeable errors of grammar and words order
		4	Occasionally makes grammatical and or words order errors that do not, however obscure meaning
		3	Make frequent errors of grammar and word order, which occasionally obscure meaning
		2	Grammar and word order errors make comprehension difficult, must often rephrases sentence and or rest rich himself to basic pattern
		1	Errors in grammar and word order, so, severe as to make speech virtually unintelligible
3.	Vocabulary	5	Use of vocabulary and idioms is virtually that of native speaker
		4	Sometimes uses inappropriate terms and must rephrases ideas because of lexical and equities
		3	Frequently uses the wrong words conversation somewhat limited because of inadequate vocabulary
		2	Misuse of words and very limited vocabulary makes comprehension quite difficult
		1	Vocabulary limitation so extreme as to make conversation virtually impossible
4.	Fluency	5	Reading as fluent and efforts less as that of native speaker
		4	Speed of reading seems to be slightly affected by language problem
		3	Speed and fluency are rather strongly affected by language problem
		2	Usually hesitant, often forced into silence by language limitation
		1	Reading is so halting and fragmentary as to make conversation virtually impossible
5	Comprehensio	5	Appears to understand everything without

		4	Understand nearly everything at normal speed although occasionally repetition may be necessary
		3	Understand most of what is said at slower than normal speed without repetition
		2	Has great difficulty following what is said can comprehend only social conversation spoken slowly and with frequent repetition
		1	Can not be said to understand even simple conversational English

The oral ability test divided into five elements; pronunciation, grammar, vocabulary, fluency, and comprehension. Each elements characteristics are then defined into five short behavioral statements as stated in the frames above. This helps to make the test reliable, since it avoids subjectivity because it provides clear, precise and mutually exclusive behavioral statements for each point of the scale. The researcher have looked objectively at the characteristics of each students.

Reading ability whether they achieve 1,2,3,4 or 5 score. Then, it can easily calculate the score. The amount of maximum scores gained is 25. It is gained from the five elements of reading as stated above.

This amount of score can be

described as follows:

Pronunciation	:	5	
Grammar	:	5	
Vocabulary	:	5	
Fluency	:	5	
Comprehension	:	5	+
		<u>2</u>	
		5	

Since our reading class rating system is used the range of point 1-10 or 1-100, then, to make it easier to calculate, the score is converted into 100 point scale by multiplying it with 4. So, it is clearly seen that the resercher modifies the range score because the need of the scoring system

as stated in the previous page. According to the rounding off system, researcher concludes that 100 point is the highest score gained by a student and 20 point is the lowest score gained by a student.

D. Data Collection Techniques and Tools

1. Data Collection Techniques

Data collection is an important aspect of research. Data collection techniques are the most strategic step in research, because the main purpose of research is to obtain data (J. W. Creswell, 2012). Data collection technique is conducted steps by steps. The researcher will use quasi-experimental designs are similar to randomized control designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups. The researcher would be applied the Pre-and Posttest design. Creswell (2008: 301) explains that a pre-test provides a measure on some attributes or characteristics that would be assessed for participants in an experiment before they receive a treatment. Meanwhile, a posttest is a measure on some attributes or characteristic that will be assessed for participants in an experiment after a treatment.

2. Data Collection Tools

Data collection is the process of collecting and measuring information about targeted research variables in a particular system and then enabling people to answer relevant questions and evaluate the results. Cohen et al., (2017) states data collection instruments are tools that are selected and used by researcher in collecting data so that these activities can be systematic and made easier by them. In this study, researcher has already used speaking test to know the student speaking ability and a questionnaire to measure students' speaking anxiety level of the eight grade students at SMP Negeri 1 Nanga Pinoh in academic year 2022/2023.

E. Technique of Data analysis

Various statistical data analysis were employed to answer all research questions. This data will be analyzed by using suitable formula and statistical analysis by means of computer program SPSS 26 (Statistical Package for Social Sciences).

The following are the various data analysis that used to answer the research questions:

1. Normality Test

Normality test is a test that is performed as a pre-conditional for performing data analysis. According to Siregar (2017:153) "The purpose of his normality test on a data set is to find out whether a data population is normally distributed or not." The study was conducted using the *Kolmogorov-Smirnov* method. The test criteria according to Siregar (2017:167) are as follows:

- a. If the probability (sig) is $> 0,05$, then the data is distributed normally.
- b. If the probability (sig) is $< 0,05$, then the data is not distributed normally

2. Homogeneity

Homogeneity test is used to know whether experimental class and control class, that are decided, come from population that has relatively same variant or not (Ary, 2010: p.280). To calculate homogeneity, the researcher applied SPSS 22 program using Levene's testing with level of significance α (5%).

3. Testing Hypothesis

The sources of data interval or score for this research were divided into two. They were from experimental group and control group. This formula was computed by using SPSS.26. Here the researcher used F_{value} and F_{table} (Sig.) from F_{test} output to interpret the result and answer the hypotheses. The result would be interpreted as follow:

Ha is accepted:

If p-value (Sig.) < Alpha level ($\alpha = 0.05$) or there is a significant effect of using communicative activities on speaking skill ad speaking anxiety.

Ho is accepted:

If p-value (Sig.) > Alpha level ($\alpha = 0.05$) or there is no significant effect of using communicative activities on speaking skill ad speaking anxiety.

4. Formulation of the Effect Size

In order to assure whether the effect of the treatment was strong. Cohen's formulation on Muijs was adapted as follow:

$$d = \frac{(M1 - M2)}{\text{Poled Standard Deviation}}$$

$$\text{Pooled Standard Deviation} = \frac{(SD1 + SD2)}{2}$$

Daniel Muijs (2004:136-137)

After obtaining the results, it can be interpreted based on the criteria:

0 – 0.20	= Weak Effect
0.21 – 0.50	= Modest Effect
0.51 – 1.00	= Moderate Effect
> 1.00	= Strong Effect

Ibid (2013:139)