CHAPTER III

RESEACH METHOD

In this chapter, researcher presents seven topics deals with the research method those are research design, population, sample and sampling, variable, research instrument, method of collecting data, and data analysis.

A. Research Design

Research design used to seek and answer research question that stated are Conditional Chain Games effective in teaching English vocabulary of the seventh graders at MTsN 7 Tulungagung? This study is an experimental research study, classified into pre-experimental research study that contains of three stages: giving pre-test, applying treatment, and administering the final test or post-test.

Difference attribute in implementing experimental treatment determined by comparing the score of the pre-test and post-test. The effective of conditional chain game identified after finding the significant differences trough calculating the student scores before - after applying by treatment. Creswell (2012:3) stated that research is steps used to collecting and analyzing the information in increasing our understanding of a topic or issue. This research conducted experimental design; a method of research used to looking for a particular influence in controlled condition (Sugyono, 2007:107).

This experiment research used pre-experiment design with one group (an experimental group) given pre-test, treatment and post-test. Pre-test; test

which is held before applying treatment and post-test; test which is held after the treatment implemented. The criteria whether Conditional Chain game able to elevate the students' English vocabulary determined by the differences score of pre-test - post-test. The design of this study can be seen at table below:

3.1 Design of one group pre-test and post-test

Class	**Pre-test**	**Treatment**	**Post-test**
Experimental	**Y_1**	**X**	**Y_2**

Y_1: Students score before taught by Conditional Chain Game

X : Conditional Chain Game

Y_2: Students score after taught by Conditional Chain Game

The data of this study was the form of quantitative. Quantitative data means that the data are in numerical form. This research intended to know the effectiveness of Conditional Chain Games on the students' English vocabulary of the seventh graders at MTsN 7 Tulungagung.

B. Population, Sample and Sampling

1. Population

Population is the individual groups that have a characteristic which is interest of researcher Gay (1992:124). Population can be said as a

subjects or object that being studied, this study population was all first grade students of MTsN 7 Tulungagung.

2. Sampling

To determine two groups of sample, this research uses purposive sampling; non-probability sampling where determination the sample by determining the specific characteristics in accordance with the aim of the study. Purposive sampling is sample toke by the researcher. In this study the sampling was the first graders of MTsN 7 Tulungagung which believed can give sufficient information in this study.

3. Sample

Sample is a subject or participant (students) chosen from a larger populations for measurement (Fraenkel and Wallen, 2009:90). In this study, the researcher uses purposive sampling technique; used to determine the sample with a particular consideration. The researcher was chosen students in VII-C that consists of 38 students, which suggested from English teacher at MTsN 7 Tulungagung as a sample.

C. Variable

Variable is one of the important elements in research. Variable can be divided into two: dependent variable and independent variable.

a. Independent variable (X)

Cresswell (2012:116) explain that independent variable; an attribute or characteristic that can affect dependent variable or an outcome. The

independent variable this study was the Conditional Chain Games, the important way to increase the students' English vocabulary.

b. Dependent variable (Y)

Cresswell (2012:116) explain that dependent variable; an attribute or characteristic which is influenced or which is the result of independent variable. This study dependent variable includes of students' English vocabulary score after taught by Conditional Chain Games.

D. Research Instrument

Instrument is tools that used in particular or certain task (Oxford: 231). The researchers use test as instrument to get a data in this study therefore, the researchers conduct a set of test those are pre-test - post-test. Arikunto (1997:18) explain that test is a questions draft utilized to know the ability, intellect, and skill from an individual of group. The researcher used pre-test and post test to collect the data. Pre-test; a set of test that done before the implementation of the treatment or before teaching the students by Conditional Chain Game while post-test; a set of test that done after conduct the treatment or after teaching by Conditional Chain Games. The test was consists of 25 items in multiple choices.

E. Data Collecting Method

The data collection method is the way researchers got data. Data collecting is an organized and standardized procedure in gaining required data (Tanzeh,

2009:127). The method of collecting data used in this study was administering test which consists of pre-test - post-test;

1. Pre-test was the test which given before implementing Conditional Chain game. The function of this test is to find out the basic competence and the student earlier knowledge before the implementation of treatment. The test administered at the first meeting in the form of multiple choices which consist of 25 numbers based on syllabuses. Time allocation is 30 minutes to finish the test. The score for each item are 4, for the wrong answer the score was 0.
2. Post-test was the test which given after implementation of Conditional Chain game, this aims to measures the students English vocabulary after the implementation of conditional chain game. The form of post-test was multiple choices consist of 25 number based on syllabuses. Time allocation is 30 minutes to finish the test. The score for each item are 4, for the wrong answer the score was 0.

Table 3.2 the schedule of the test and treatment

No.	Activity	Date	Material
1.	Pre-test	September 17th, 2019	-
2.	Treatment	September 18th, 2019	Noun, verb, adverb and adjective
		September 24th, 2019	
3.	Post-test	September 25th, 2019	-

The researcher conducted try-out on September 15, 2019 before held a pre-test. Try-out was conducted to another class that was VII-B class with 35 students. The try-out aim is to achieve validity and reliability of the instrument, from the validity result of the instrument, the researcher use try-out for pre-test also.

The table above showed that researcher conduct pre-test at September 17th, 2019. Treatment conducted twice on September 18th, 2019 and September 24th, 2019. The treatment contain with the subject of the study: verb, adverb, noun, and adjective.

Treatment is given after administering pre-test. At this study the treatment conducted twice. The researcher used technique namely Conditional Chain Games. Each student asked to write any of vocabulary that they know in paper sheet that was given by the researcher. Then, they have to analyze the vocabulary that they have written which classified into noun, verb, adverb, and adjective. The aims of giving paper sheet to the students was could make a list of new vocabulary that they have obtained after learning process in every meeting.

The topic for conducting the treatment was chosen; related to the chapter in English book that were discussed, that was about introduction our-self – asking and giving information about our-self. Researcher also gives an explanation about the treatment that will be held (Conditional Chain Game) and its procedure. Afterwards, the students asked to make a circle. Next, the researchers start the game by saying one sentence. For example:

If I have a plenty of time, I want to hang out to night.

The next participant who get in turn, must change the second phrase which is said by the researcher become his first phrase and add it a new second phrase so it complete one conditional sentence;

If I hang out to night, I will buy a cup of Starbucks coffee.

The next participants who get in turn must do the same way.

The procedure of conditional chain game which used in this study based on the explanation above is followed the procedure which is created by Joanna and Stolbova in variation 1.

F. Validity and Reliability

1. Validity

Fraenkel (2005:113) explains an instrument can be said valid if it could measure what it is should be measured. Validity became necessary part to determine the instrument that used. These are four types of validity; content validity, construct validity, face validity and criterion related validity. In this research, content validity and face validity used by the researcher to find out whether the instrument valid or not:

a. Content Validity

Content validity is a set of test that relevant with the purpose of the test. Ary (2010:226) mentions that the question which is include the test must representative some domain of content. It means the researcher must discover the test evidence which used to determine whether the

sampling is balanced and adequate of all relevant domains of knowledge, skill, and content. Content validity refers to the items on a test which presenting the entire domain of the test that want to measure. The researcher made a test which focused in measuring the students' English vocabulary with the content that they learnt at class. The test made based of main competence also basic competence of the student in syllabus curriculum 2013 and it provides in multiple choice which is consulted with advisor.

3.3 Content Validity of the Test

Main Competence	Basic Competence	Indicators	Type of test	No. of items
3. Memahami pengetahuan (factual, konseptual, dan procedural) berdasarkan rasa ingin tahunya tentang ilmu pengetahuan, teknologi, seni budaya terkait fenomena dan kejadian tampak mata.	3.2. Mengidentifikasi fungsi social, struktur teks, dan unsur kebahasaan teks interaksi transaksional lisan dan tulis yang melibatkan tindakan memberi dan meminta informasi terkait jati diri, pendek dan sederhana, sesuai dengan konteks penggunaannya.	Students can mention the similarity also the opposite of some word that presented.	Multiple choice	3, 6, 7, 18
		Students can answer about completing gaps in sentences	Multiple choice	1, 2, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15
		Students can explain the definition of a particular words related to the content	Multiple choice	16, 17, 19, 20, 21, 22, 23, 24, 25

b. Face Validity

Face validity is a test that aimed to measure what it expected to be measure (Gay, 1992:156). Researcher wants to measure the student's English vocabulary score after treatment. The test given in the form of multiple choices. The researcher will create 25 questions and answer about the material based on syllabus. There are some aspects to create a good test:

1. Questions instruction must be clear so that students get the clue in it.
2. The instructions of the test based on syllabus which suitable with the students' level.
3. The time allocation in test must clear; 30 minutes to finish 25 items of the test.

2. Reliability

Reliability is referred as the consistency of a series of measurement or a series of measuring instruments used in the same way, the same conditions and the same subject. In short, it is a measurement that is repeated: to measure the test items reliability, researchers do the try-out at the VII-B with 35 students. The aimed of it is to get proof whether the test instruments are valid and reliable. The test of the Try-out was multiple choices that contain of 25 questions and answer. The score each question was 4 if they guess the right answer while 0 point for the wrong answer. The result of the try-out score of the VII-B students can be seen bellow:

Table 3.4 Students Try-out Score

No.	Subject	Score
1.	A.C.M	80
2.	A.D	44
3.	A.F.S.R	72
4.	A.R.S	64
5.	B.N.T	68
6.	B.T	80

7.	B.W.N	52
8.	D.E	72
9.	D.S.R	40
10.	D.T.E	80
11	D.W.A	68
12.	E.F.T	72
13.	E.S	44
14.	F.R.A.S	72
15.	F.S.T	52
16.	H.R.S	68
17.	K.A	88
18.	L.I.N	76
19.	M.H.S	64
20.	M.I	52
21.	M.M	52
22.	M.R.G	44
23.	M.T.D	56
24.	M.Z.A	96
25.	N.R	72
26.	N.R.M	60
27.	P.A.A	68
28.	P.D.A	44
29.	P.H.S	60
30.	R.D.W	92
31.	S.T.A	80
32.	T.D.Y	48
33.	W.E.K	80
34.	W.S.U	72
35.	Z.N.D	64

The test reliability is its own consistency (Horizon, 1983:10). Thus, it can be said that reliability is the accuracy, consistency, precision and dependability of a measuring instrument in a measurement procedure. Reliability requires the characteristics of each test to be valid, test must reliable if it is used as a measuring tool or instrument (Heaton, 1989:162). Reliability instrument test can be done by Cronbach's Alpha test.

Table 3.5 Cronbach's Alpha Interpretation

Value	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

Researcher used SPSS to obtain the reliability instrument value. The output can be seen bellow:

Table 3.6 Reliability Result of Try-out

Case Processing Summary

		N	%
Cases	Valid	35	100.0
	Excluded[a]	0	.0
	Total	35	100.0

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

Reliability Statistics	
Cronbach's Alpha result	items
.775	25

The data on table 3.6 showed the result reliability test using Cronbach's Alpha (0.775), it said that the test is reliable.

G. Normality and Homogeneity Testing

1. Normality Testing

Normality testing used to find whether the data was distributed in normal way or not. The data called normal distribution if the data was symmetrical, it did not skew to left or right. Normality test supposed to prove that the sample data got from a normal distribution population. Komogorov Smirnov test and Saphiro Wilk are the way to test the normality of the data. The researcher used Shapiro-Wilk to calculate the data. The null-hypothesis test was the data distributed normally. Null hypothesis is rejected if the *p* value (sig. value) less than the alpha level (0.05). In another hand there is proof that proved if data are not distributed normally. However, the null-hypothesis stated data distributed normally accepted if the *p* value (sig. value) greater than alpha level (Shapiro, Wilk, 1965:591-611). The calculation of the normality testing can be done after the researcher collected pre-test and post-test scores.

3.7 Test of Normality Pre-test

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Pretest	.136	38	.072	.960	38	.183
a. Lilliefors Significance Correction						

From the data above, it found the significance pre-test value is 0.183. It means, null hypothesis of pre-test can't be rejected. In another words, the data distribution was normal.

3.8 Test of Normality Post-test

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Posttest	.103	37	.200*	.962	37	.228
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Table 3.8 showed that the significance post-test value is 0.228. It shows, null hypothesis in post-test can't be rejected. In another words, the data distribution was normal.

2. Homogeneity Testing

The purpose of homogeneity test is to find whether the data has a homogeneous variant or not. The result of homogeneity test calculation

can be defined as homogenous, if *p* value (sig. value) greater than 0.05 or it said that null hypothesis of homogenous test accepted. On the other hand, null-hypothesis rejected if *p* value (sig. value) less than 0.05. The null hypothesis stated that the data was homogenous.

3.9 Test of Homogeneity of Pre-test

Test of Homogeneity of Variances				
	Levene Statistic	df1	df2	Sig.
Pretest	.181	1	36	.673

3.10 Test of Homogeneity of Post-test

Test of Homogeneity of Variances				
	Levene Statistic	df1	df2	Sig.
posttest	1.460	1	35	.235

The result shows (table 3.10) significance pre-test value is 0.673 while significance post-test value is 0.235. It means the null hypothesis of this test can't be rejected. In another words, the data both pre-test or post test were homogenous.

H. Data Analysis

Data analysis aimed to analyze the data which has been collected. This data was to measure the students' score of English vocabulary before and after implemented by Conditional Chain Game. The data is the score of pre-test and

post-test from the seventh graders at MTsN 7 Tulungagung which decided as the sample in this study. Researcher used t-test as statistical calculation that provided in SPSS to analyze the data, t-test utilized in order to discover the differences of the students' English vocabulary score after taught Conditional Chain Game.

The significant level of the pre-test - post-test score, should be more than 0.05 so that, can be said accepted, or simply said that there is a significant differences. However, if significance level less than 0.05, it can be said that there is no significance difference on the students' pre-test and post-test score.