CHAPTER III

RESEARCH METHOD

A. Research Design

In this research, the researcher use quasi-experimental quantitative design because this reseacrh planed to prove that picture word inductive model is effective for students in teaching vocabulary. The experimental is method to use in this research.

The result of the test analyzed by use ANCOVA. The purpose using the pretest scores as a covariate in ANCOVA with a pretest-posttest design is to reduce the error variance and eliminate systematic bias. With nonrandomized designs, the main purpose ANCOVA is to adjust the posttest means for differences among groups on the pretest, because such differences are likely to occur with intact groups. It is important to note that when pretest scores are not reliable, the treatment effects can be seriously biased in nonrandomized designs. This is true if measurement error is present on any other covariate in case ANCOVA uses more than one (the pretest) covariate.

The result of the test was analyzed statistically by using ANCOVA to know the effectiveness of teaching vocabulary by using picture word inductive model on the students experimental group and conventional teaching on the students control group of the seventh grade MTsN 1 Nganjuk.

TABLE OF RESEARCH DESIGN

Group	Pre-test	Treatment	Post-test
Experimental	TI	X	T2
Control	TI	-	T2

Notes:

TI : Pre-test

X : Treatment

T2 : Post-test

B. Subject of the study

The subjeck of the study are the students of the seventh grade of 2018/2019 academic year at MTsN 1 Nganjuk.

1. Population

The researcher take MTsN 1 Nganjuk and choose the seventh grade students. The population of this study was the seventh grade students in the academic year 2018/2019. It is consist of Sevent classes, they are VII A, VII B , VII C, VII D, VII E, VII F, VII G. So, there are 245 students at the seventh grade of MTsN 1 Nganjuk.

2. Sample

There are sevent classes in the seventh grade of 2018/2019 academic year but the class will take from class VII C and VII E. In the class VII C there are 30 students and in the class VII E there are 30 students. They are experimental and control group. Class C as experimental and class E as Control class. Total sample of both two classes are 60 students.

C. Instrument of the study

1. Test

Test is set tool that is use to measure toward value that abstract, not concrete, like the ability of thinking, ability memorizing, and other ability of language.[1] Here, researcher use two kind of the test, the first is pre-test and the second is post-test. Before the researcher doing pre-test and post test, researcher will give try-out first.

a. Try-out

Try-out is basic result use to make sure that test is good or not. Try-out condac in the class 1D. The researcher take 30 students for subject to do try-out and 50 items test multiple choise a,b,c, and d.

b. Pre-test

Pre-test is the test which gived before the researcher give treatment to students. The aim the pre-test is to know basic the students of the first in teaching vocabulary before treatment.

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[1] M.Soenardi Djiwandono. *Tes Bahasa: Pegangan Bagi Pengajar Bahasa* (Jakarta:PT INDEKS, 2008), 18

    c. Post-test

Post test will give to sample after experimental group gived some treatment. Material pre-test some with post-test. The aim of post-test is to know about develop of students of the first grade after treatment is effective or not.

D. Criteria of a good test

  1. Validity

John W. Best states that test is valid, if it measure what it claims to measure.[2] Validity is where test measure scope substance that wnats to measure. This reasearch use construct validity. Content validity is defined as any attempts to show that the content of a test is representative sample from the domain that is to be tested.[3] Content validity is concerned what go into the text, thus the degree of content validity is related to how to measure a content of test studied.

From the table item validity for Tryout Test in appendix, if r count > r table then the instrumens item are valid. The valid item are number 3, 6, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 28, 30, 31, 32, 33, 34, 36, 38, 39, 42, 43, 45, 46, 48, 50.

  2. Reliability

Reliability is test that extent which measure consistently from one time to another. Donald ary states that reliability a measuring instrument is degree that consistency with which it measures whatever

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[2] John W. Best. *Research in Education*. (New Jersey: Preatice Hall, 1981). 199
[3] Glenn Fulcher and Fred Davidson. *Language Testing and Assesment*. (New York:Roultedge,2007). P 6

it is measuring.[4] The researcher use internal consistency, Alpha score >
r table the instrumen is reliable. After validity test, there are 40 items
valid.

Table 3.2

Case Processing Summary

		N	%
	Valid	30	100,0
Cases	Excluded[a]	0	,0
	Total	30	100,0

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

Table 3.2.1

Reliability Statistics

Cronbach's Alpha	N of Items
,732	33

From table 3.2 N is the participant. The participans are 30 students.
Then in the table 3.2.1, the Crombach's Alpha is 0,732. It means that
the instrument is reliable because 0,732 is higher than r table 0,30

3. **Difficulty of Level**

Level of difficulty is considered to be one of the most improtant
characteristic item test, it is good or not. Item is considered has a good
difficulty level if it's not too easy or too difficult for the students. If a
test contain many item which are too easy or too difficult. It can not to

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[4] Yuslia Styawati. *The Effectivenes of Guessing Game to increase Students' vocabulary in Learning English* at SDN Campurejo 2 Kediri

be good mans of evaluation. So, every item must analysed first before it is used in a test. The level of difficulty can be counted by using formula as follows:

$$\mathbf{P} = \frac{B}{JS}$$

Where:

P = index of difficulty

B = number of students who answer correctly

JS = total number of students

Arikunto state, the category difficulties of level are asfollows:[5]

0,70 - 1,00 = Easy

0,30 – 0,70 = Medium

P<_0,30 = Difficults

4. **Discrimination**

Heaton states that the discrimination index of item indicates the extent to which the item discriminated between the test. The index discrimination power the test item is the difference between the correct and incorrect number of high and low students.

The formula of discrimination power the following:

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[5] Suharsimi Arikunto. *Dasar-dasar Evaluasi Pendidikan (Edisi Revisi).* (Jakarta: Bumi Aksara, 2001), P 210

$$D = \frac{BA}{JA} - \frac{BB}{JB}$$

D : the discrimination index

BA : the number of the students in upper group who answered the items correctly

BB : the number of the students in lower group who answered the items correctly

JA : the number of students in upper group

JB : the number of students in upper group

0,00 <D ≤ 0,20   = Poor

0,21 <D ≤ 0,40   = Satisfactory

0,41 < D ≤ 0,70   = Good

0,71 < D ≤ 1,00   = Excellent

To get good item, it is not only limited in cheking of reliability. To acceptable item test, the researcher checked their item difficulty (p) and item discrimination (D).

After get level of difficulty, the item must be acceptable in item discrimination. From the explein above, it can be see there are many items which discriminate the students ability effectively, those are item

number 3, 8, 9, 10, 15, 19, 20, 21, 22, 23, 25, 26, 30, 31, 34, 36, 38, 39, 42, and 45.

E. Research Procedure

There are two stages in doing experiment reasearch, the first is pre-test, pre-test is given before treatment. Before researcher give treatment to the experimental, the researcher give experimental and control group pre-test to know their ability in vocabulary before given treatment. The first the teacher come to the class then the teacher explein to students what should their to do. The secod procedure is giving treatment. In this part, the researcher give treatment which applies picture word inductive model to the experimental group. In the other hand, the control group is taught using conventional method.

The schedule of Experimental

Experimental Group		Material	Control Gorup	
Date	Activity			Activity
6 April 2019	Pre-test		7 April 2019	Pre-test
13 April 2019	Treatment I	Descriptive Text	14 April 2019	-
18 April 2019	Treatment II	Descriptive Text	15 April 2019	-
20 April 2019	Treatment III	Descriptive Text	21 April 2019	-
27 April 2019	Post-test		28 April 2019	Post-test

F. Technique of Collecting Data

The researcher will get data from this step, the first is the researcher takes two classes to be experimental and control group. After that, the researcher give the pretest for the both group. And then the researcher give treatment for experimental and control group. The researcher teaches experimental group using picture word inductive model and the control group using conventional method. After getting treatment, the researcher gives posttest for the both group. The next step is the researcher scores the result. Then the researcher compores the mean score of both group. After that analysis the score by procedure of ANCOVA

G. Data Analysis

Data obtained from the score of test was quantitative data, where the researcher had to analyze by applying statistical method to get the generalization data or conclusion. Because the objective of this research to know the effectiveness of teaching vocabulary by use picture word inductive model on the students of the seventh grade of MTsN 1 Nganjuk. The score of experimental and control group will calculated by using procedure ANCOVA. In thid case, Analysis of Covarian (ANCOVA) is done by using SPSS 21.