CHAPTER III

RESEARCH METHOD

This chapter describes the research design, population, sampling and sample, variable of research, data collection method and instrument, the validity of test, the reliability of test, and technique of data analysis.

A. Research Design

In this study the research design used experimental design. This research is intended to investigate the effectiveness of using Index Card Match strategy on the student's reading comprehension's in recount text by comparing two groups of study (experimental and control group). The experimental group is exposed to the influence of the factor under consideration, the control group is not.

Experimental is tried to find the corelation between two groups that given treatment or did not given special treatment, the method is comparing. The experimental group will be taught without using this technique. Before and after doing treatment the researcher gives two kinds of test to the students, namely pre-test and post-test. Pre-test in this study was used to know the student get progress before the treatment given, whereas post-test is to know the student get progress after the treatment.The design of treatment is presented below:

Table 3.1

Design of the study

Group	Pre-test	Treatment	Post-test
Experimental group	Pre-test	Index Card Match strategy	Post-test
Control group	Pre-test	Conventional Learning	Post-test

We can see from the design above, we know that in this study the experimental group receive pre-test and then it is given treatment by cooperative learning by Index card match strategy and the last is given post-test. The control group receive pre-test and then it is taught by conventional learning by using lecture model strategy and the last also will be given post-test. So, both of them used the pre-test and post-test.

B. Variable of the research

Akunto (2010:161) said thet variable is the object of the research or what the attention research point. Jakson (2010:70) states "The variabels are merasured or manipulated consistenly durung the cours of the study". In this research, there are two variables Namely independent variable and dependent variable.

1. Independent variable

   According to Akunto (2010:162) Independent variable is variable that influences of dependent variable. The independent variable in this research is using Index Card Match strategy (ICM)

2. Dependent Variable

Akunto (2010:162) said variable that influenced by independent variable that is dependent variable. The dependent variable in his research is recount text reading.

3. Extraneous Variable

Best and khan (2006:169) say that extraneous variables are those uncontrolled variables (i.e., variable not manipulated by the experiment) thet may have a significant influence on the results of the study. n this research the extraneous variable are the interest structure students to learn English, their skill of writing and subject matter.

C. Population and Sample

A population is all the subject research (Arikunto.2006:130), states that a population is a set (or correction) of all elements processing one or more attribute of interest. Population is a set of all elements, which the caracteristic will be observed. It is important for the researcher area in conduct research easier. The population in this research at tenth grade of SMAN 7 Kediri in the academic year 2019. Selection of a sample is very important in conducting a research study. Suharsimi (2006) said that a sample is that is small group that is observed and a population is defined as all members of any well-defined cals of people, events or subjects. Based on the amount of population the researche choose class X-MIPA 4 that consists of 36 students as the control class, and class X-MIPA 5 that consists of 36 students as the experimental class. The total numbers of population are 72 students.

D. Research procedure

The researcher explains how the procedure of experiments in this study. There are sereval ways to make this method so easily captured by students and cand understand that part. there are also some things that have important roles related to research that are the materials, teaching schedules and the step of teaching reading.

The subject matter is recount text. The materials are taught in the second semester of tenth grade studens at SMAN 7 Kediri.

Table 3.2

The schedules of teaching

Experimental Group	**Control Group**
Pre-test	Pre-test
Treatment 1	Treatment 1
Treatment 2	Treatment 2
Treatment 3	Treatment 3
Post-test	Post-test

From the table above we can see there is is a treatment here. The treatment between two are different. The treatment is given to the group experiment (Lesson by Index card match strategy), while in the control group is not (Lesson by conventional learning). In the end of the experiment a post-test was held in both groups and the results were compared.(Kasiram 2008:217)

Table 3.3

The treatment procedure

Experimental group	Control group
• Teacher explain about recount text using ppt • Teacher gives a recount text to the student	• Teacher explain about recount text using ppt • Teacher gives a recount text to the student
• The teacher review about the material • Teacher gives a way to play Index card match strategy • Teacher asked the students to take a card • Teacher direct students to find their matching cards. When a match is formed, teacer asked each pair of students to fins seats together. The students read the question and answer (The teacher tell them not to reveal to other students what is contained on their chards.)	• The teacher review about the material • Teacher gives words related to recount text given to students. • The students write words alternatlely on the blackboard like lingking word . • Teacher ask the students to read the whole text while translate it. • Teacher and students translate together. • Teacher write down the question on the blackboard and ask the students to answer it .

• If the students can not match the card with friend card and the card is worong (unable to find the question card or answer card) will get a punishment, which has been agreed before. • The teacher together with students draw conclusion on the subject matter	• The teacher asks the students to answer the questions one by one. • The teacher and students discuss the answer.
• The teacher review about the material before • Students who are in pairs and those who was wrong before will be come foward present themselves • Th teacher gives reward to the studens who was present themselves and the teacher give explanation • The teacher together with students draw conclusion on the subject matter	• The teacher review about the material before • The teacher together with students draw conclusion on the subject matter

Table 3.4

Schedule of Activities during Research

Meeting	Stages	Topic	Control Group	Experimental Group
Try out		Recount text	February 17, 2019	
First	Pre-test		February 20, 2019	February 20, 2019
Second	Treatment 1		March 06, 2019	March 06, 2019
Third	Treatment 11		March 13, 2019	March 13, 2019
Fourth	Treatment 111		March 20, 2019	March 20, 2019
Fifth	Post-test		March 27, 2019	March 27, 2019

E. Research Instrument

An instrument has important function in this research. The researcher used a test as the instrument of the research. Using instrument is one of the significant steps in conducting the research. Therefore the writer must choose some instrument in data gathering process. Concerning with the aim, here in collecting data the researcher used test. The test are pre-test and post-test.

1. Try-Out

   In this test, Try out is used to merasure the instrument (test) before it used into pre-test and post-test. This stage aims to arrange good item test. So it is reasonable for searching the data need. The question of the test was tajen from internet, research data and students's worksheet's. The researcher make 50 numbers of traying out questions. All question are in multipel choices.

2. Pre-Test

This test was given in order to know how far the students' ability in reading recount text. Pre-test done to find out the students' understanding in some question before the researcher give some treatments. Pre-test is given to both of groups. The test item consist of 20 items for pre-test, all of the question are in multiple choice. The students have 60 minutes to do it.

3. Post-Test

The researcher conducted post-test in both experimental group and control group. Pre-test done to find out the students' understanding in some question after the researcher give some treatments. The test item consist of 20 items for pre-test, all of the question are in multiple choice. The students have 60 minutes to do it. This test can be exactly same as the pre-test (Kasiram,2008:215)

4. Creteria of good test

To know whether the test is good or not, the researcher check it through the reability, validity, difficulty of level and discriminiation power of each items of test. The following is explaination about reability, validity, difficulty of leavel and discrimination.

a. Validity

Validity is a measurement which shows the grades of number ofan instrument. A valid instrument must have high validity, it means that an instrument which lack validity is said to be in valisd instrument (Suharsimi, 2002:158). The test will have content validity if it includes a proper sample of the structure or contenct whic is relevant with the purpose of the test. In this research, the validity computed by using SPSS aplication.From the table item validity for

try out test in appendix 1, if rcount ≥ r table then instrumen's items are valid. We take example form item 2. In item 1, r count is 0,350, while r table is 0,349 and a is 0,05,thus the r count t<r table. The condition fulfilled, therefore item 1 is valid. The valid items number are 4, 6, 7, 9, 14, 15, 17, 18, 19, 20, 21, 24, 26, 31, 32, 33, 34, 36, 39, 41, 44, 46, 47, 48, 49, and 50.

b. Reability

According to Tuckman W. Bruce said that "test reability means that a testis consistent". Reability can be defined as the extent to which a test procedure consistent result when administrated under similiar condition.To get the reability of the test in this resesarch, the researcher used Cronbach Alpha Reliability Coefficient in SPSS program 16.0 version to analyze the data. If alpha score > r table then the instrument is reliable.After valid test, there are 26 valid items.The computation result from SPSS as follows:

Table 3.5

Case Processing Summary

		N	%
Cases	Valid	33	97.1
	Excluded[a]	1	2.9
	Total	34	100.0

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

Case Processing Summary

		N	%
Cases	Valid	33	97.1
	Excluded[a]	1	2.9
	Total	34	100.0

Table 3.5.1

Reliability Statistics

Cronbach's Alpha	N of Items
.751	51

From table 3.4 N is the participant. The participants are 34 students, and then the table 3.4.1, the cronbach"s Alpha is 0,751 is higer than r table (0,349).

c. Difficulty level

An item is considered has a good difficulty level if it is not too easy or too difficult for students, so they can answer the items, if the test contains many items which are too easy and too difficult, it cannot be as a good test. The lowest one (means the most difficult) is 0 and the higgest (the easier one) is 1.

The formula as follow:

$$P = \frac{n}{N}$$

P= The facility value (index ogf difficulty)

n=Thr number of correct number

N=the number of the students taking the test

Table 3.6

THE CLASIFICATION OF DIFFICULT INDEX	
Scale	Criteria
P<0,30	Difficult
0,31≤P≤0,70	Fair
0,71≤P≤1	Easy

From the caculation items that belong to fair criteria are 4, 7, 9, 14, 17, 18, 19, 20, 21, 24, 26, 31, 33, 34, 36, 39, 41, 46, 47, 48,50 and 49 . Next the items belong to easy criteria are 6, 15, 32, 44.

d. **Discriminating Power**

Being able to discrimate between strong and weak examines in the ability being tested is also an important characteristic of good test. Accoroding to Heaton, the decrimination index of an items to show the extent to which the item discriminate beetwen the test . The index of discriminating tell us whether students who perform well on the test tended to do well or badly on each items in test. The formula used to know the descriminating power is as follows:

$$\boldsymbol{DP}: \frac{\boldsymbol{U-L}}{\boldsymbol{N}}$$

DP : index descrimination

U : the number of correct answer for upper group

P : the number of correct answer for lower group

n : the nummber of the upper of lowe group students

Table 3.7

Index descriminating power	
Interval	Criteria
0,00-0,20	Poor
0,21-0,40	Satisfactory
0,41-0,70	Good
0,71-1	Excellent

From the calculation, the items that belong to good creteria are 4 and 20. Next items belong to satisfactory criteria are 7, 9, 14, 17, 18, 19, 21, 24, 26, 33, 34, 36, 39, 41, 46, 47, 48,50 and 49. Items belong to poor criteria are 6, 15, 31, 39, and 44.For further details see the table below :

Table 3.7.1

NO	Item	N	N	Index of difficult	Criteria	U-L	N	Descriminating Power	Criteria	Note
1	4	18	34	0,529411765	Fair	15	34	0,441176471	GOOD	used
2	6	30	34	0,882352941	Easy	0	34	0	POOR	deleted
3	7	16	34	0,470588235	Fair	11	34	0,323529412	SATISFACTORY	used
4	9	19	34	0,558823529	Fair	13	34	0,382352941	SATISFACTORY	used

5	14	21	34	0,617647059	Fair	9	34	0,264705882	SATISFACTORY	used
6	15	31	34	0,911764706	Easy	3	34	0,088235294	POOR	deleted
7	16	21	34	0,617647059	Fair	11	34	0,323529412	SATISFACTORY	used
8	17	18	34	0,529411765	Fair	8	34	0,235294118	SATISFACTORY	used
9	18	17	34	0,5	Fair	9	34	0,264705882	SATISFACTORY	deleded
10	19	16	34	0,470588235	Fair	8	34	0,235294118	SATISFACTORY	used
11	20	18	34	0,529411765	Fair	14	34	0,411764706	GOOD	used
12	21	19	34	0,558823529	Fair	10	34	0,294117647	SATISFACTORY	used
13	24	18	34	0,529411765	Fair	12	34	0,352941176	SATISFACTORY	used
14	26	19	34	0,558823529	Fair	13	34	0,382352941	SATISFACTORY	used
15	31	22	34	0,647058824	Fair	6	34	0,176470588	POOR	deleted
16	32	31	34	0,911764706	Easy	1	34	0,029411765	SATISFACTORY	used
17	33	17	34	0,5	Fair	10	34	0,294117647	SATISFACTORY	used
18	34	18	34	0,529411765	Fair	12	34	0,352941176	SATISFACTORY	used
19	36	21	34	0,617647059	Fair	8	34	0,235294118	SATISFACTORY	used
20	39	16	34	0,470588235	Fair	4	34	0,117647059	POOR	deleted
21	41	19	34	0,558823529	Fair	9	34	0,264705882	SATISFACTORY	used
22	44	29	34	0,852941176	Easy	3	34	0,088235294	POOR	deleted
23	46	18	34	0,529411765	Fair	8	34	0,235294118	SATISFACTORY	used
24	47	21	34	0,617647059	Fair	9	34	0,264705882	SATISFACTORY	used
25	48	15	34	0,441176471	Fair	13	34	0,382352941	SATISFACTORY	used
26	50	21	34	0,617647059	Fair	8	34	0,235294118	SATISFACTORY	used

The try out test consist of 50 number question. They are in multiple choices. From the try out test the researcher takes 20 numbers as the pre-test and post-test. And 30 other are discarded because they do not fulfil the condition.

F. Data Collection

The researcher collect the data by collecting the documentation from the result of the pre-test and post-test from the experimental group and control group . From the test the researcher will count them to get the result of the test.

The researcher uses the documentation to check that Index card match strategy can improve student's ability in reading comprehension. From the result of pre-test the researcher counted significance between two means to check

whether the difference between the experimental group and control group was significant or not .

G. Data Analysis

The data obtined from the score of the test is quantittive data, the researcher use ANCOVA (Analysis of covariance) to analyze the data. the researchers wants to know the significancet difference of teaching reading using Index Card Match strategy. The formula is councted by SPSS 16.0. Data analysis is one of the important ways to know whether teaching learningprocess is succesful or not. Pre test is given to the students before the treatment and post test are given to collect data after the treatment. Because this research pre-test and post-test in experimental and control group. Before analyzing the hypothesis, the researcher needs to do normaity test. The researcher uses Kolmogrov-smirnov test in SPSS to know whether data is distributed normally.Thenresearcher uses ANCOVA (analysis of covarience) to analyze the data from pre test and post test means different among group on the pre test, because such dffereences are likely to occur with intact group.