

CHAPTER III

RESEARCH METHOD

A. Design of the Research

In this research, the writer uses an experimental design of the actual/real experiment with the pattern of randomized control-group pre test - post test design. In this design, a group of subjects taken and certain populations grouped into two groups namely experimental group and control group. The experimental group subjected to certain treatment variables in a certain period, and then both groups are subjected to the same measurements, and then compared the results. Differences arising are considered based on treatment variables.

Before doing the research, the researcher observed the location and population was carried out. The research was done in two classes namely experiment class and control class. Before treating the students using CTL and non CTL, the researcher administered the pre-test to the students in both classes with the same instrument to know the homogeneity of student's reading skill.

The next step was the treatment, where the Class of VIII A as the experiment class was taught using CTL and class of VIII B as the control class was taught using non CTL. The presentation of the lesson was done by the researcher.

Then, post-test was administered after finishing the treatment. The researcher used the same format of question that was administered in the pre-test. Even though the test instrument was the same, students didn't realize that it would be examined again later. Finally, the researcher made a calculation of the result from both test.

B. Research Setting

The research of this study was held at MTs At-Thosari Kalirejo Ungaran Timur. The researcher conducted the research about three

weeks. It was begun by observation and finished by giving the test in reading ability. From 21th February up to 28th March 2011, the researcher did the research for seven meeting. It consisted of giving pre-test, presenting lesson and giving post-test.

C. Population and Sample

a. Population.

Population is all data that concerns us in a scope and time that we specify¹. The population in this research is all students of grade eighth of MTs At-Thosari, Kalirejo, Ungaran Timur in academic year of 2010/2011. The population of the research was distributed as follow:

1. Class VIII A with the number of 30 students.
2. Class VIII B with the number of 20 students.

b. Sample and Technique Sampling

Sample is part of population, which is chosen to participate in the study. The researcher will observe not at all of classes but only a class, that is eight grade. Sampling is the process done to choose and take sample correctly from population so that it can be used as valid representative to the population². In this research, the researcher will take the subject of research randomly. The subjects are regarded that each of them has the equal chance to be chosen as the sample. The sample might be categorize in paired sample because there are experimental and control group that are compared. Two classes are chosen randomly, in which the each class consists of 20 students. Class VIII A is chosen as the experimental group which is taught by contextual teaching and learning method while class VIII B is chosen as the control group which is taught without contextual teaching and learning method.

¹ Margono, *Metodologi Penelitian Pendidikan: Komponen MKDK*, (Jakarta: Rineka Cipta, 2009), p118

² Sugiarto, et al, *Teknik Sampling*, (Jakarta: Gramedia Pustaka Utama, 2003), p.4

The researcher's consideration choosing the sample is based on the cognitive structure of the students in each class. At this school, the students are distributed thoroughly into their classes without regarding their cognitive competence. So, every class has the same right to be the sample of the research. In addition, there is a pre-test to ensure that students' competence of both class are equal.

D. Variable of The Research

Variable is the object of research or something that become the concern of research. In this study there are two variables³. They are Independent Variable (x) and Dependent Variable (y).

1. Independent Variable (x)

Independent variable is variable that influences or those to be cause of change or emergence the dependent variable⁴. Independent variable in this research is the use of Contextual Teaching and Learning in teaching reading.

2. Dependent Variable (y)

Dependent variable that was affected or that be the result because of the existence of the independent variable⁵. Dependent variable in this reaserch is the vocabulary achievement score of students for the eight year students of MTs At-Thosari Kalirejo Ungaran Timur.

E. The Technique of Data Collecting

The researcher used the test to collect the data. The pre-test and post test were administered to both classes. The pre-test was done before the teaching learning process and the post-test was done after

³Arikunto Suharsimi, *Prosedur Penelitian Suatu Pendekatan Praktik*, (Jakarta: PT Rineka Cipta, 2006), p.118

⁴ Mohammad Ali, *Strategi Penelitian Suatu Pendekatan Praktik*, (Bandung: Angkasa, 1993), p. 26

⁵Arikunto Suharsimi, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 118

teaching learning process. The pre test was done in order to know the homogeneity of the two classes in reading skill and the post-test was done in order to know the influence and the effectiveness of using CTL in teaching reading skill.

In collecting data, the writer has designed the item for reading test. The writer used the interaction with peer technique. In this technique, the writer divided the students into two groups and then they are asked to discuss a certain topic. Meanwhile, in determining the score gained by student, the writer used an oral rating scale that proposed by David P. Harris. Table 1.1 below is the frame of Harris's oral English rating scale⁶.

Table 1.1. 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

⁶ David P. Harris, *Testing English as a Second Language*, (New York: McGraw Hill Book Company, 1969), p.84

		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 farced into silence by language limitation
		1	Reading is so halting and fragmentary as to make conversation virtually impossible
5	Comprehension	5	Appears to understand everything without difficulties
		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 writer will objectively see the characteristics of each student.

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	:	$\frac{5}{25} +$

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 writer modifies the range score because the need of the scoring system as stated in the previous page. According to the rounding off system, writer concludes that 100 point is the highest score gained by a student and 20 point is the lowest score gained by a student.

F. The Technique of Data Analysis

Data analysis is the last step in the procedure of research. In analyzing the data from the pre-test and post test, the researcher used the statistical calculation of T-test. T-test is used in order to find out the differences of the result/score of student's achievement in studying reading by using CTL and non CTL.

1. Try-out Instrument of the test

The writer prepared 25 items as the instrument of the test. Measurement is said well if it has good validity, reliability, degree of test difficult, and degree of question distinctive.

a) Validity

The validity of an item can be known by doing item analysis. It is counted using product moment formula⁷.

⁷Arikunto Suharsimi. *Prosedur Penelitian Suatu Pendekatan Praktik*, p, 231.

Product moment formula:

$$r_{xy} = \frac{N \sum xy - \sum x - \sum y}{\sqrt{(N \sum x - \{\sum x^2\}^2)(N \sum y^2 - \{\sum y\}^2)}}$$

r_{xy} = question correlation coefficient

N = number of students

x = number of each item score

y = number of total score

Calculation result of r_{xy} is compared with r table of product moment by 5% degree of significance. If r_{xy} is higher than r table, the item of question is valid.

b) Reliability

Reliability refers to the consistency of test score. Besides having high validity, a good test should have high reliability too. K-R 21 formula is used to know reliability of test⁸.

K – R 21 formula:

$$r_{11} = \left(\frac{k}{k-1} \right) \left(1 - \frac{M(k-M)}{kVt} \right)$$

Where:

k = the number of items

M = the number of the score

Vt = the total of the variants

c) Degree of test difficulty

A good question is a question that not really difficult and not really easy. Index difficulty formula:⁹

$$P = \frac{B}{J_s}$$

Where:

P : difficulty's index

⁸Arikunto Suharsimi. *Prosedur Penelitian Suatu Pendekatan Praktik*, p, 189.

⁹Arikunto Suharsimi. *Prosedur Penelitian Suatu Pendekatan Praktik*, p, 208.

B: number of students who has right answer

Js: number of students

The criteria are:

P: 0, 00 too difficult question

0, 00 < P ≤ 0, 03 difficult question

0, 00 < P ≤ 0, 70 average question

0, 70 < P ≤ 1, 00 easy question

P = 1 too easy question

d) Degree of question distinctive

It is used to know how accurate the question differs higher subject and lower subject is¹⁰. The formula is:

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B} = P_A - P_B$$

Where:

D: degree of question distinctive

J : the number of participants in the test

J_A: the number of participants in the upper class

J_B: the number of participants in the low class

B_A: the number of participant in the upper class that applied the matter was true

B_B: the number of participants in the low class that applied the matter was true

P_A: the proportion of participants in upper class that answered true

P_B: the proportion of participants in low class that answered true.

The criteria are:

0, 00 < D ≤ 0, 20 bad degree of distinctive

0, 21 < D ≤ 0, 40 average degree of distinctive

0, 41 < D ≤ 0, 70 good degree of distinctive

0, 71 < D ≤ 1, 00 very good degree of distinctive

D < 0 question is not good and should be deleted

¹⁰Arikunto Suharsimi. *Prosedur Penelitian Suatu Pendekatan Praktik*, p, 213.

After getting the data, they are preceded and analyzed through the following steps:

- a. Seeking gained score from student's reading test and describing it in the tables. The gained scores of experiment class are variable I that symbolized by X and the gained scores of control class are variable II that symbolized by Y.

- b. Determining mean of variable of experiment class with formula

$$MX = \frac{\sum X}{N}$$

- c. Determining mean of variable of control class with formula

$$MY = \frac{\sum Y}{N}$$

- d. Determining deviation score of variable X with formula $\mathcal{X} = X -$

MX Sum of \mathcal{X} or $\sum \mathcal{X}$ must equal to null from the square of \mathcal{X} ,

the researcher found out $\sum \mathcal{X}^2$

- e. Determining deviation score of variable Y with formula $y = Y -$

MY

Sum of y or $\sum y$ must equal to null from the square of y, the

researcher found out $\sum y^2$

- f. Analyzing the result by using statistic calculation of T-Test

$t_0 =$

$$t_0 = \frac{Mx - My}{\sqrt{\frac{(\sum x^2 + \sum y^2)}{(NX + NY - 2)} \cdot \frac{(NX + NY)}{(NX \cdot NY)}}}$$

- g. Giving interpretation