CHAPTER III

RESEARCH METHODOLOGY

A.   Research Design

This study applied quasi-experimental design which was not based on the random assignment of the subjects to the experiment group and control group. This design was chosen based on the situation of the subject of the study.[37]

B.   Approach of the Study

Base on the study, the writer used quantitative approach it because the aim of the study to measured the effectiveness of KWL strategy towards reading comprehension scores of eight grade students of SMPN-2 Danau Sembuluh.[38]

The writer used *nonrandomized control group pre-test post-test design*. The design consisted of two groups that were chosen without random, they were experimental group and control group. Both of groups were given pre-test before having treatment. The experimental group was given treatment (teaching reading by using KWL strategy) and the control group was not given treatment (teaching reading without using KWL strategy). After given treatment, both groups (experiment and control group) were given post test. Finally, the result of post test was compare used T test.

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[37]   Ibid, p.162

[38]   Syamsudin,dkk.2011.*Metode Penelitian Pendidikan Bahasa*.Bandung : remaja rosdakarya. p.127.

The scheme of the research design can be seen in the following table[39]:

Table 3.1 The Scheme of Quasi Experimental Design

Subject	Pre- test	Treatment	Post- test
E	Y1	X	Y2
C	Y1	-	Y2

Where:

E   : experimental group

C   : control group

X   : treatment

Y2   : post-test

Y1   : pre-test

C.   Population and Sample

1. Population

Arikunto states that "population is a set (or collection) of all elements processing one or more attributes of interest".[40] The population of this research was about three classes, there were VIII A, VIII B, VIII C and VIII D. Because the number of population was too big, the writer considered to take sample for collecting data. The sample of this research consisted of two classes. The number of students in table 3.2.

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[39] Donald Ary dkk, *Introduction To Research In Education*, Canada : Wadsworth, 2010

[40] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan dan Praktik,* Jakarta: PT Asdi Mahasatya, 2002, p.108.

Table 3.2

The Number of Eight Grade Students of SMPN-2 Danau Sembuluh.

No	Classes	Male	Female	Total
1	VIII A	17	13	29
2	VIII B	15	16	31
3	VIII C	14	16	30
4	VIII D	16	15	30

2. **Sample**

Sample is a smallest group of population[41]. To determine the sample from population, the writer used cluster sampling, in cluster sampling took based on established class. On this study, the writer determined the two classes into two groups. Class VIII A and VIII C were chosen as the sample. They are 29 students of VIII A as experimental group and 30 students of VIII C as control group.

D. **Data collection technique**

The technique to collecting data, the writer used a test and documentation. The writer used a test as technique to find data of students' scores, it was consisted of 20 items of multiple choices. Documentation used to find the number of students, condition of school, condition of students and syllabus.

E. **Data Collection Procedure**

In this study the writer used some procedures to collect the data based on the design of the study:

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[41]Ibid . p. 109

a. The writer observed to the school and interviewed to the English teacher in SMPN-2 Danau Sembuluh. The interview done to get the data about the number of class, the number of students, and the teaching learning process.

b. The writer gave Try Out to VIII B, where the question consisted of 50 items.

c. The writer took score the result of Try Out.

d. The writer analyzed validity and reliability of Try Out.

e. The writer chose the class of experiment class and control class.

f. The writer gave pre-test to the both of experiment and control class

g. The writer was taught to the experimental group by using KWL Strategy for four times.

h. The writer taught the control group by using W5+1H method based on method that usually used by English teacher in SMPN-2 Danau Sembuluh also for four times.

i. The writer gave post-test to the both of groups. It consisted of 20 items of multiple choices.

j. The writer took scores from the pre-test and post test done and analyzed the data obtained.

k. The writer interpreted and concluded the result of data analysis.

F.   Instruments of the Study

Instruments of the study are tools or facilities that was used by the writer in collecting the data. The writer used a reading comprehension test about invitation as an instrument to collect data because the students' reading score is known by using test.

G. Instrument Try Out

The writer conducted Try out of instrument to know the reliability, validity and level of difficulties of the test. The try out consisted of 50 items of multiple choices, which was administrated to the VIII B students of SMPN-2 Danau Sembuluh. The procedures of instrument try out as follows:

1. The writer conducted try out instruments to the testees.

2. The writer took score of the testees' answer.

3. The writer analyzed the obtained data to know the instrument validity, instrument reliability, and index of difficulty

H. Instrument Validity

The validity of a test is extent to which it measures what is supposed to measure and nothing else.[42] An instrument is considered to be a good one if it meets some requirement. One of them is validity. Provide a true measure of a particular skill which it is intended to measure, to the extent that is measures external knowledge and other skills at the same time, and it will not be a valid test.

Validity on this study is distinguished into some kinds as follows:[43]

1. Face Validity

Face validity is an estimate of whether a test appears to measure a certain criterion; it does not guarantee that the test actually measures phenomena in that domain. The test is intended to measure the students' reading scores in the eight

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[42] JB. Heaton, *Writing English Language Test,* England: Longman, h.153.
[43] Ibid p. 154

grade: it should cover material in the eight grade. It is based on syillabus and the test using English.

2. Construct Validity

This type of validity assumes the existence of certain learning theories or constructing underlying the acquisition of abilities and skills. If a test has construct validity, it is capable of measuring certain specific characteristic in accordance with a theory of language behavior and learning. Construct validity refers to the extent to which operationalization of a construct (e.g. practical tests developed from a theory and syllabus) do actually measures what the theory says they do. The question that given to the students which related to the syllabus it was consisted of 20 items where constructed base on the invitation to gain the students reading comprehension scores.

3. Content Validity

The content validity has something to do with questions as to how adequately the test content samples larger domain of situations at presents. In the other words a test is supposed to be valid in terms of its content when it is developed as to contain adequately representative sample of the course, the objective, and the items. The test is base on the material that contains short functional text about invitation. It was made based on the curriculum applied in SMPN-2 Danau Sembuluh.

Based on the explanation above, in making the test the writer tried to match each of the test items with the curriculum and syllabus used by SMPN 2

Danau Sembuluh. The purposed was to make the test was appropriate to the lesson that the students gotten.

I.   Instrument Reliability

The reliability refers to the consistency of score in measuring what it is intended to measure.

with which it measured whatever it was measuring.

J.   Level of Difficulty

Arikunto state the index of difficulty is used to know whether the students can accepted the test or not, whether the test are too easy, accepted or too difficult for them.

To measure the validity, reliability and level of difficulty of the instrument, the writer used the ANATES VERSI 4. ANATES is a computer application program that function to analyze test item especially for multiple choice. This program was developed by Karno To. [44]The contents of test items were then show in the following table:

Table 3.3 Content Specification of Items Research Instruments

Skill to measure	Level of comprehension	Percentage (%)	Number of Test Item
Reading Comprehension	Literal	60%	Pre-Test(1, 3, 6, 8, 9, 10, 12, 13, 14, 16, 17, 20,)Post-test(1, 2, 4, 5, 6, 8, 10, 15, 16, 18, 19, 20,)
	Inferential	40%	Pre-test (2, 4, 5, 7,11, 15, 18, 19) Post-test(3, 7, 9, 11,1 2, 13, 14, 17)

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[44] Yudha Andana Prawira, *Analisis Butir Soal Dengan Menggunakan Software Anates v4,*modul. Bandung : UPI.2008.td.

K. **Data Analyze Procedures**

To analyze the data in this study, the writer used quantitative statistical techniques as follow:

1.   In this research, the writer used statistic calculation of T-test to determine the final of t0 (t – observation). That was done to measure the last score of experiment and control group by using T-test. T-test was used to measure the differences between the mean scores of the experimental group and control group of the Eighth Grade Student's post- tests of reading comprehension.[45]

2.   Before the writer calculated the result of both groups, sample data must have the normal frequency distribution. The writer did normality test and Variance Homogeneity Test.

   a. Normality Test

   Test normality was needed to know whether the data that analyzed distributed normal or not. It was important to take kind of statistic used. In this study, the writer used the SPSS 20 for windows to analyze the normality distribution of the scores with the steps as follows: Stating the hypothesis and setting the alpha level at 0.05 (two tailed test) Analyzing the normality distribution using Kolmogrov- Smirnov formula in SPSS for windows.

   b. Variance Homogeneity Test

   In analyzing the variance homogeneity of the scores, the writer used the Levene Test formula in SPSS 20 for window. Comparing the probability with the

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[45] Lia Maretnowati, *The Effectiveness of Pre-Reading Activity (Questioning And Viewing Pictures) In Student's Comprehension In Reading Recount Text*, Jakarta : English department of Syarif Hidayatullah university, 2014.t.

level significance for testing the hypothesis. If the probability > the level of significance (0.05) the null hypothesis is accepted; variance of the experimental and control group are homogenous.

3.   The result of between experiment and control groups was calculated by t-test independent sample. The result of between experiment and control groups is calculated by t-test formula as follows :

$$\mathbf{To} = \frac{\mathbf{Mx-My}}{\mathbf{SE\,Mx-My}}$$

Where :

      M   = The Average of Students Score

      SD   = Standard Deviation

      SE   = Standard Error

      X   = Experiment Class

      Y   = Control Class

If t-test (the value) $\geq$ t table, it means Ha is accepted and Ho is rejected.

If t-test (the value) < t table, it means Ha is rejected and Ho is accepted.

4.   Discussing and conclusion the result of data analysis.

To analyze the data in this study, The result of between experiment and control groups was calculated by t-test independent sample with SPSS 20. 00 for windows.