

III. RESEARCH METHODS

3.1 Research Design

This research was a quantitative research. Hatch and Farhady (1982) states that quantitative is a kind of research in which the data used tend to use statistics as measurement in deciding the conclusion. The aim of this research is to find out whether there is a significant difference of students' vocabulary achievement between students who are taught through Information Gap Technique and those taught through Translation Technique or not. In this research, the writer used the Static Group Comparison design.

The design is as follows:

$$\begin{array}{l} \text{K1} = \text{T1 X1 T2} \\ \text{K2} = \text{T1 X2 T2} \end{array}$$

In which:

K1 = Experimental Group 1

K2 = Experimental Group 2

T1 = Pretest

T2 = Post test

X1 = Treatment (Applying Information Gap Technique)

X2 = Treatment (Applying Translation Technique) (Setiyadi, 2005:50-51)

The writer took two classes; one class as an experimental class 1 and other class as experimental class 2 where the students received pretest before three –times treatments and after treatments they received posttest. The pretest used to find out the students' preliminary ability and posttest used to look how far the increase of the students' vocabulary achievement after the treatments. The treatment are given to the students by applying Information Gap Technique and Translation Technique. The first treatment (X1 – Information Gap Technique) used in the experimental class 1 (K1) and the second treatment (X2 – Translation Technique) used in the experimental class 2 (K2). Both of the classes received the same pretest and posttest. The research intended to find out whether there is a significant difference of students' vocabulary achievement after being taught through Information Gap Technique and Translation Technique or not.

3.2 Subject of the Research

The subjects of this research were the first grade students of SMPN 10 Bandar Lampung in the year of 2010/2011. There are seven classes of first grade students. Each class was in same level. The writer took two classes; one class was as an experimental class 1 and other as an experimental class 2. Both classes were equal or homogeneous.

3.3 Data collecting technique

In collecting data, the students' learning process observed and put it into the data paper. Three tests administered, they were: try out, pre test and post test. The try out test conducted to know the quality of test, which is used as the instrument of

the research. On the other hand, pre test and post test given to know students' vocabulary achievement. The types of the three tests are objective test.

1. Try out test

This test conducted in try out class in order to know the level of difficulty, discrimination power, validity and reliability of pretest and posttest. There were 40 items in this test. The aim of this test was to determine which item should be revised for pretest and posttest.

2. Pre test

After getting the result of try out test, the writer gave the pre test. This test administered in order to find out the students' ability in vocabulary before the treatment.

2. Post test

This test administered after conducting the treatment to the students. This test used to find out the students' achievement after the treatment.

3.4 Instrument

The research instrument was vocabulary test in the form of objective test. The instrument used for pretest and posttest. Test is away getting feedback on teaching learning process. The test had measured through vocabulary test. The writer gave two test; pretest and posttest. The writer tried out the pretest and posttest to know whether the test items of the pretest and posttest were good or not. The pretest used to know the students' abilities about vocabulary before treatments. The writer gave the posttest to the students to know the students' vocabulary achievement after the treatments.

The test (Try out) consist of 40 multiple choice questions. Pre test and post test consist of 30 multiple choice questions and each item had 4 options of answer. One was as the correct answer and the others as the distracters. The validity of the instrument focused with the content and constructs validity in which questions were represent the vocabularies stated in the process of teaching vocabulary through Information Gap Technique and Translation Technique.

3.4 Research procedures

The procedures of this research were as follow:

1. Determining the sample of the research

The writer has chosen two classes of SMPN 10 Bandar Lampung's first grade students as the subject of the research .One class was as an experimental class 1 and other as an experimental class 2.

1. Conducting Trying out

The tryout of test item has carried out after choosing the subject of the research. There were 40 items. Try out was administered in 60 minutes. The aim of try out test was to determine which item should be revised for pretest and posttest and measure the level of difficulty, discrimination power, validity and reliability.

2. Conducting The Pretest

The pre test conducted to measure students' basic ability. This test was administered before the implementation. It consisted of 30 items in multiple choice question and each item had 4 options of answer. It was conducted in 45 minutes.

3. Giving the treatment

The writer gave three times of treatments. The first treatment (X1 – Information Gap Technique) was used in the experimental class 1 (K1) and the second treatment (X2 – Translation Technique) was used in the experimental class 2 (K2). The materials of treatments were based on English syllabus of first grade junior high school students.

4. Conducting The Posttest

The post test conducted for 30 items in multiple choice questions and each item had 4 options answer. The post test conducted in 45 minutes and the aim was to measure whether there was increase of studnets' vocabulary achievement after being given treatments.

5. Analyzing data

After getting students' scores through the pre test and post test, the writer analyzed the data. The data is analyzed by using T-Test. It used to know whether Information Gap Technique and Translation Technique were able to increase students' vocabulary achievement significantly or not

3.6 Criteria of Good Test

The test is said to have a good quality if it has a good validity. In this research, the writer administered the try out test in order to know whether the test has a good quality or not. Some aspects to consider concerning the quality of the test were validity, reliability, level of difficulty and discrimination power.

3.6.1. Validity

To judge whether the test is valid or not, the writer only sees from the form of content and constructs validity. Heaton (1991; 159) says that the validity of the test is the extent to which it measures what is supposed to measure and nothing else. Arikunto (1992), a test can be said valid if the test measures the object to be measured and it is suitable with the criteria.

Content validity is the extent to which a test measures representative sample of the subject matter contents. In the content validity the material that will be given are suitable with the syllabus and English curriculum 2006 for Junior High School. In this case, the writer used the vocabulary of job that was supposed to be comprehended by first grade students.

To fulfill this validity, the writer saw all the indicators of the instrument and analyzed them whether the measuring instrument have represented the material that would be measured or not. In this research, the writer arranged the instrument based on the material that have already given, which was vocabulary and the researcher made the instrument related to vocabulary which was content words (noun, verb, and adjective). The writer only used content word because content words can cover the materials. The material was vocabulary of job, contain; verb, noun and adjective. Meanwhile, Function words, Substitute words, Distributed words was almost used for grammar structure or sentence pattern.

The writer used table of specification to check content validity of the test items. Gronlund (1981:1010) states that table of specification are to illustrate how such a table is used to check on content validity. The percentage in the table will indicate the relatives' degree of emphasis of each content area and each instructional objective will be given in the test. If the table represents the material that the writer wants to test, it can be said that it has content validity (Shohamy, 1985). In addition, to find out whether the test had a good validity or not, the writer used inters rater agreement of three experts. The item of test were discussed with the expert (advisors) and English Teacher of SMPN 10 Bandar Lampung.

Table of Specification

NO	Vocabulary Target	Item Numbers	Item	Percentage
1.	Name of Job	7, 15, 16, 17, 22, 23, 25, 26, 27, 40.	10	25%
2.	Work place	3, 5, 9, 10, 12, 18, 29, 32, 35, 36, 37, 39.	12	30%
3.	Responsibility	1, 2, 4, 8, 11, 13, 19, 20, 21, 24, 30, 31, 33, 34.	14	35 %
4.	The quality	6, 14, 28, 38	4	10%
Total			40	100 %

Construct validity focuses on the kind of the test that is used to measure the ability. According to Setiyadi (2006:26), if the instrument just measures one aspect, for example vocabulary; the construct validity can be measured by evaluating all items in the test. If all items have measured vocabulary achievement of the students, this instrument has fulfilled construct validity. As a result, the test should measure the students' vocabulary achievement of Job.

Table of Specification

Try out Items

Content	Aspect	Item Numbers	Percentage
Vocabulary of Job (Name of job, work place, responsibilities and performances)	1. Noun (22)	3, 5, 7, 9, 10, 12, 15, 16, 17, 18, 22, 23, 25, 26, 27, 29, 32, 35, 36, 37, 39, 40.	55 %
	2. Verb (14)	1, 2, 4, 8, 11, 13, 19, 20, 21, 24, 30, 31, 33, 34.	35 %
	3. Adjective (4)	6, 14, 28, 38.	10 %
Total	40		100%

3.6.2. Reliability

Hatch and Farhady (1982:243) state that reliability of a test can be defined as the extent to which a test produces consistent result when administered under similar conditions. To estimate the reliability of the test this research used split-half technique. To measure the coefficient of the reliability between odd and even group, this research used the Pearson Product Moment Formula (Arikunto, 1997:69) as follows:

$$r_x = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{(N \sum X^2) - (\sum X)^2\} \{(N \sum Y^2) - (\sum Y)^2\}}}$$

$[x$ = Coefficient of reliability between odd and even number

N = number of students

X^2 = square of x

Y^2 = square of y

ΣX = total of odd number

Σy = total of even number (Arikunto, 1997: 69)

Then this research used Spearman Brown's Paraphy Formula (Hatch and Farhady, 1982:286) to find out the coefficient correlation of whole items.

The formula is as follows:

$$r_k = \frac{2r}{1+r}$$

The criteria of test reliability are:

0.90 – 1.00 = high

0.50 – 0.89 = moderate

0 – 0.49 = low

3.6.3 Level of difficulty

A good test is the one which is not too easy or too difficult. To find out the level of difficulty, this research used the following formula:

$$L = \frac{R}{N}$$

LD = Level of difficulty

R = the number of students who answer correctly

N = the number of students

The criteria are:

0.0 – 0.30 = difficult

0.31– 0.70 = average

0.71– 1.00 = easy (Arikunto, 1997: 121)

3.64.Discrimination Power

The discrimination power (DP) is the portion of the high group students getting the item correct minus the proportion of the low level who got the items correct.(Shohamy, 1985:81)

To see the discrimination power of the test, the researcher used the following formula:

$$DP = \frac{U - L}{\frac{1}{2}N}$$

DP = discrimination power

U = The proportion of upper group

L = The proportion of lower group

N = total number of students

The criteria are:

0.0 – 0.19 = poor

0.20 – 0.39 = satisfactory

0.40 – 0.69 = good

0.70 – 1.00 = excellent

(Shohamy,1985:81)

3.6.5. Scoring System

In scoring students result of test, this research used Arikunto's formula. The highest score is 100. The scores of pretest and posttest were calculated by using formula as follow:

$$S = \frac{R}{N} \times 100$$

Note:

S = Score

R = the right answer

N = number of items

(Arikunto, 1993:240)

3.7. Criteria for Evaluation students' vocabulary achievement

The aim of vocabulary test is to measure the comprehension and production of words used in speaking and writing. Madsen (1983:12) says that there are four kinds of vocabulary test, they are: Limited Responses, Multiple Choice Completion, Multiple Choice Paraphrase, and Simple completion.

1. Limited Response

It is for beginner. Test item requires either a simple verbal such as yes or no.

2. Multiple Choice Completion

Multiple Choice Completion is a test in which a sentence with a missing words; students choose one of four vocabulary items given to complete the sentence.

3. Multiple Choice Paraphrase

It's a test in which a sentence with a word underlined is given. Students choose which one of the four words is closest in meaning to the underlined item.

4. Simple Completion

It's a test in which the students write in missing part of words that appear sentences.

In this research, writer used Multiple Choice Completion for testing the vocabulary achievement.

3.8 Data Analysis

The writer analyzed the data in order to see whether there was a significant increase of students' vocabulary achievement or not.

The researcher analyzed the students' vocabulary achievement by using these steps:

1. Scoring pre test and post test.
2. Tabulating the result of the test and calculating the score of pre test and post test.
3. Drawing conclusion from the tabulated result of pretest and posttest.

3.9 Data Treatment

The researcher used T-Test for hypothesis testing. The procedures to treat the data were as follows:

3.9.1. Normality Test

The normality of test is used to measure whether the data in the experimental class 1 and experimental class 2 are distributed normally or not. The hypothesis for the normality test is as follow:

H_0 : the data is not distributed normally

H_1 : the data is distributed normally

H_1 is accepted if significant two tailed (p) > . The writer used the level of significant = 0, 05.

3.9.2. Homogeneity Test

The test is used to know whether the data in the experimental class 1 and experimental class 2 were homogenous or not. In this research, the writer used Independent Sample Test to know the homogeneity of the test.

H_0 : The data is not homogenous

H_1 : The data is homogenous

In this research, the criteria for the hypothesis were H_1 is accepted if Significant two tailed (p) > . The writer used the level of significant = 0, 05.

3.10 Hypothesis Testing

The hypothesis is used to prove whether the hypothesis proposed in this research is accepted or not. The researcher used SPSS (Independent T-test). The hypotheses analyzed at the significant level of 0.05 in which the hypothesis is approved if significant two tailed (p) < . It means that the probability of error in the hypothesis is only about 5%.

The hypotheses are:

1. There is a significant difference of students' vocabulary of job achievement between the students who are taught through Information Gap Technique and those taught through Translation Technique at first grade of SMPN 10 Bandar Lampung.
2. Information Gap Technique is better than Translation Technique for teaching vocabulary at first grade students of SMPN 10 Bandar Lampung.