

III. RESEARCH METHODS

A. Research Design

This research was intended to find out whether or not Flashcards can motivate the students in learning vocabulary. The writer distributed motivation questionnaire to the students before and after the treatment in order to know whether there was a change of students' motivation after the treatment. In this research, the writer used one class, as experimental class.

The scores of questionnaire were based in the likert scale and range of 10 to 30. The scores were given for each item function as the symbol in showing that one of activity was higher or lower than the others. By using scale in the questionnaire, the writer collected the ordinal data in form of numbers, so that the data collected were easier to be analyzed by using the statistical formula, therefore this research was included into quantitative research.

In this research, the writer used one of the pre experiment design that was one group pretest-post test design. This design was used because it was most suitable to measure a change of personality aspects, including motivation or attitude, so that through this design, the writer was enable to see whether there was a negative or positive change of all personality aspects after treatment.

The design was as follows:

T₁ X T₂

In which: T₁ = Pre Test

X = Treatment

T₂ = Post test

(Setiyadi, 2006:131-133)

In this research, the writer gave pre test before treatment and post test after treatment. The treatment was given in three times by learning vocabulary through flashcards. The writer found and measured the students' motivation in learning vocabulary by using questionnaire.

B. Subject of the Research

The subjects of this research were the first grade students of SMPN 19 Bandar Lampung that consisted of seven classes. Each of which consisted of 32 students. But the writer only took one class as the experimental class. The writer chose the students by using lottery.

C. Research Procedures

The procedures of this research were as follow:

1. Determining the subject

There were seven classes of the first grade of SMPN 19 Bandar Lampung and the writer chose one of the classes as the subject randomly.

2. Determining the questionnaire

There was one kind of questionnaire was used in this research. A set of the questionnaire consisted of 25 items of close-ended questions that was used to measure students' motivation in learning vocabulary. It was adopted and modified by Setiyadi's (1999).

3. Distributing the first questionnaire to the subject

The questionnaire was distributed to the subject before treatment. The subject was asked to answer the questionnaire based on their experience in learning vocabulary through flashcards.

4. Conducting the treatment

Conducting the treatment in which the writer applied flashcards in learning vocabulary.

5. Distributing the second questionnaire to the subject

The questionnaire was distributed to the subject after the treatment. The subject was asked to answer the questionnaire based on their experience in learning vocabulary through flashcards.

6. Analyzing data

In analyzing mean score and significance of the score improvement before and after the treatment, the writer used *Repeated measures T-test* which were computed by using *SPSS*.

D. Data Collecting Technique

In collecting data, the writer used motivation questionnaire as the instrument. The questionnaire was used in this research because this instrument was an effective instrument in measuring personality aspects or psychology aspects like motivation. By using questionnaire, the students were able to report their motivation toward the language they have learnt. The writer distributed the questionnaire to get more sources of the data from the subjects. The writer used close-ended questionnaire in order to help the writer in selecting the data. So that, the writer did not waste time for the data that was not relevant to the objective of the research. The respondents were directed to give the data that were relevant to the research problem. The writer distributed the questionnaire before and after treatment. The scores were based on the Likert Scale and the range of 10 to 30. There was no vocabulary instrument test because in this research was designed to see the students' attitude change in learning vocabulary including their motivation to learn vocabulary.

E. Data Collecting Instrument

1. Reliability of the Instrument

To know the reliability of questionnaire, the writer used the Cronbach's alpha reliability that was counted based on the correlation between each items of motivation scale and the range of 0 to 1. According to Setiyadi (1999; 77), the higher alpha is, the more reliable the questionnaire will be. The writer considered the reliability of the questionnaire with the alpha $\geq 0,70$.

2. Validity of the Instrument

An instrument can be said valid if the instrument measures the object that should be measured, and suitable with the criteria. To measure whether the instrument has good validity or not, the writer used construct validity. The questionnaire was valid because it was tested by the inter-rater in the pre-research. This is supported by Setiyadi (2006:55) that to improve validity of the questionnaire before using it, inter-rater validity can be done to test the indicators and answers. Construct validity is often correlated with instrument of measurement that is related to psycholinguistic such as perception, linguistic attitude, and motivation in learning foreign language (Setiyadi, 2006:25-26). The writer used *Pearson product moment Correlation* to measure all items which is used in the questionnaire. It was used to measure correlation between two variable of continuous (Setiyadi, 2006:166). It involved 32 students as object of research.

F. Data Treatment

In order to know the students' motivation in learning vocabulary through flashcards, the writer calculated the students' score that was devised from Harris (19974:84) cited in Sepliana (2006) as follow:

1. Calculating the students' answers

The table below was tested by the inter-rater. Inter-rater is another person who gives scores besides the writer herself. The questionnaire was tested by the inter-rater before research was done. There were 3-raters that checked the

questionnaire. It supposed to check whether the questionnaire was valid or not and reliable or not. The score were based on the likert scale and range to 10 to 30.

Table 1. The Category of motivation questionnaire

NO	KINDS OF MOTIVATION		STUDENTS' SCORE		
	INTRINSIC MOTIVATION	EXTRINSIC MOTIVATION	A	B	C
1	√	–	10	20	30
2	–	√	30	20	10
3	√	–	10	20	30
4	–	√	30	20	10
5	–	√	30	20	10
6	√	–	10	20	30
7	√	–	30	20	10
8	√	–	10	20	30
9	√	–	10	20	30
10	√	–	10	20	30
11	√	–	10	20	30
12	√	–	10	20	30
13	√	–	10	20	30
14	–	√	30	20	10
15	–	√	10	20	30
16	√	–	10	30	20
17	–	√	30	20	10
18	–	√	30	20	10
19	–	√	10	20	30
20	√	–	10	20	30
21	√	–	10	20	30
22	√	–	10	20	30
23	–	√	30	20	10
24	–	√	30	20	10
25	√	–	10	20	30

As we see on the table above, the items which belong to the intrinsic motivation and extrinsic motivation could be seen on the table above. The questionnaire was divided into two kinds of motivation. As we know that theory of motivation based on Setiyadi (1999), motivation is divided into two kinds; intrinsic and extrinsic motivation. At the end of the result, the writer

wanted to show that there were parts of motivation that came from indicators of intrinsic and extrinsic motivation (Appendix 11).

After the writer did pre research, the questionnaire was valid and reliable because the 3-raters agree with the indicator that was for measuring students' motivation in learning vocabulary through flashcards. Here is the table of specification after the writer did the pre research. This table below is the result between inter-rater and the writer herself:

Table 2. The Category of motivation questionnaire after pre research

NO	KINDS OF MOTIVATION	QUESTION NUMBER
1	Intrinsic Motivation	1,3,6,7,8,9,10,11,12,13,16,20,21,22,25
2	Extrinsic Motivation	2,4,5,14,15,17,18,19,23,24

2. Tabulating the result of the scores of quantitative and finding the mean score of the students' motivation before and after the treatment. The mean were calculated by applying:

$$M = \frac{\sum x}{N}$$

Where: M : mean

$\sum x$: Total scores of the students

N : Numbers of the students

(Setiyadi, 2006:111)

3. Drawing conclusion from the tabulated result of the questionnaire were given, that was by comparing the means score of the students' motivation before and after the treatment.

G. Hypothesis Testing

To check whether the students' score of motivation after treatment was statistically significant to support the writer's hypothesis or not, the writer used *Repeated measures T-test* in *SPSS* program.

The hypotheses are:

H_0 : Flashcards can not improve the students' motivation in learning vocabulary.

H_i : Flashcards can improve the students' motivation in learning vocabulary.

(Sudjiono, 2001: 382)

The criteria are:

1. If the t-value is higher than 0, 05: H_i is accepted (flashcards can be used to improve students' motivation in learning vocabulary).
2. If the t-value is lower than 0, 05: H_0 is accepted (flashcards cannot be used to improve students' motivation in learning vocabulary).