

III. RESEARCH METHODS

3.1 Research Design

This quantitative research was conducted in order to know whether there was significant improvement of students' ability in present continuous tense after being taught through pictures. *One-Group Pre-test and post test design* was used in the research. The research used one class as the experimental class. The treatment was conducted three times by using pictures. The researcher conducted pretest, treatment, and posttest. The design is as follow:

T1 X T2

T1 : Pretest

X : Treatments

T2 : Posttest

(Setiyadi, 2004: 40).

Before the test was used, the researchers firstly try it out the questions to the students. It was held before all the tests and treatments were given to the students. The aim of this try-out test was to find out the quality of the items of tests that would be used in the research.

3.2 Population and Sample

The population of the research was the first year SMP 22 Bandar Lampung. There were six classes of the first year and each class consists of 38 students. The researcher had taken two classes, one class as the administered class (VIIA), and one class as the try-out class (VIIB). In the research, the researcher used Simple Random Sampling using coin.

3.3 Data collecting Technique

In conducting the research, the writer applies two techniques: pretest and posttest

3.3.1 Pretest

Pre test is to know the students' basic ability on present continuous tense before being taught by using picture. The test is objective test in the written form. It consist of 30 questions. 10 items were test though multiple choices. The other 20 questions were test through sentences completion. For the first six questions, the students should put the verb in to the correct form; for the second six questions, the students should complete the questions by using the cues; and for the other eight questions, the students should complete some dialogues. The maximum score is 100. The time give for answering the test is 45 minutes.

3.3.2 Posttest

The post test was administrated to the students after the treatment. It is use to know the result of students' achievement of present continuous tense after applying picture. The time given for the answers the test is 45 minutes. The test and procedures are equal with the pre test.

3.4 Research Procedures

The procedures of the research are as follows:

1. Determining the sample of the research

The first step to be made in this research is selecting the class as the sample. The classes were not divided in a matter of their cleverness. The sample, therefore, had chosen using simple probability sampling, which was using coin. The researcher had taken two classes of grade VII students of SMPN 22 Bandar Lampung as the subjects. One class was as the experimental class and one class was as try out class. Each class consisted of 38 students.

2. Preparing the Pre-test Materials

In this research, there was once pre-test that is proper to the grade VII students of SMP. Subject matter is "Present Continuous Tense". The material had been taken from students' handbook that is based on the Communicative & Interactive English for Junior High School Students year VII.



3. Conducting Try Out

The researcher administered try-out test on March 5, 2011 in order to find out whether the test items were good or not in validity, level of difficulty reliability, and the discrimination power to be used to get the data.

4. Conducting the Pre-test

The pre-test on March 12, 2011 was aimed to find out the students' basic ability of present continuous tense. The researcher administered pre-test consisted of 30 items. There were 10 multiple choice items and 20 sentence completion items. The maximal score was 100. It was conducted in 45 minutes.

5. Giving Treatments

In this research, the researcher has taught the students' structure in present continuous tense by using picture. The researcher will give three times of treatments.

6. Conducting the Post-test

The researcher has been conducting the post-test on April 2, 2011 in order to find out the students' ability of present continuous tense after giving the treatments. The post-test consist of 30 items. There were 10 multiple items and 20 sentence completion items. The maximal score was 100. It was conducted in 45 minutes.

7. Analyzing the data (pretest and posttest)

This step was conducted in order to find out the students' achievement of present continuous tense. Repeated Measure T- Test formula was used to compare the means of the pretest and posttest results. The data was

computed through the Statistical Program for Social Science (SPSS) version 12.0.

8. Testing Hypothesis

The hypothesis was based on the comparison between both the students' scores in the pretest and posttest scores that was computed through SPSS version 12.0. If the posttest score was higher than the pretest score, it can be said that the hypothesis was accepted and it means that picture technique can increase the students' achievement in present continuous tense

3.5 Criteria of Good Test

A test was considered of having a good quality if it has a good validity, reliability level of difficulty and discrimination power.

3.5.1 Validity

Validity refers to the extent to which the test measures what it was intended to measure. This means that it relates directly to the purpose of the test (Shohamy, 1985:74). There are four types of validity, namely face validity, content validity, construct validity and empirical validity. To measure whether the test has a good validity, the researcher will use content validity and construct validity, the researcher use content and construct validity since the other two were considered to be less needed. Face validity is concerned with measuring the success in the future, as in the replacement test (Hatch and Farhady, 1982: 251).

The two types of validity use in this research were as follows:

1. Content validity

Content Validity is the extent to which the test measures a representative sample of the subject matter content. The focus of the content validity is adequacy of the sample and not simply on the appearance of the test (Hatch and Farhady, 1982:251).

The test consists of structure ability, namely action verb; affirmative sentence, negative sentence, and interrogative sentence. The content of try out test is presented in table below :

Table 1 Table of Specification

No	Material Taught	The Spread of The Items
1.	Action Verb - Affirmative sentence - Negative sentence - Interrogative sentence - Yes/No question - WH-Question	1, 2, 3, 5, 10, 12, 13, 14, 16, 18, 20, 26, 27, 28, 29, 30, 31, 50, 53, 54, 56, 57, 58, 59, 60, 33, 34. 4, 9, 15, 21, 22, 23, 24, 25, 32, 35, 52. 6, 17, 19, 42, 43, 44, 45, 46, 51, 55, 48. 7, 8, 11, 36, 37, 38, 39, 40, 41, 49, 47.

2. Construct validity

Construct validity is concerned with whether the test is actually in line with the theory of what it means to know the language (Shohamy, 1985: 74). A kind of test consists of several factors that should be weight in the scoring analysis. The justification of

these factors lies in a theoretical construct that claims those factors as a major component of a test.

3.5.2 Reliability

Hatch and Farhady (1982:243) says 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 use spilt-half technique. To measure the coefficient of the reliability between odd and even group, the writer use The Pearson Product Moment Formula (Arikunto, 1997:69).

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

Where:

r_{xy} : coefficient of reliability between odd and even number

x^2 : Total Square of x (total score of odd number)

y^2 : Total Square of y (total score of even number)

xy : Total score of odd and even number items.

Then researcher was used “Spearmen Brown’s Prophecy Formula” (Hatch and Farhady, 1982:286) to know the coefficient correlation of whole items.

The formula is as follows

$$r_{11} = \frac{2r_{xy}}{1 + r_{xy}}$$

Where:

r_{11} : Reliability Coefficient

r_{xy} : coefficient between odd and even number.

The criteria of reliability are:

0.90 - 1.00 = high

0.50 - 0.89 = moderate

0.00 - 0.49 = low

(Hatch and Farhady, 1982: 286)

In this research, the result of the reliability was 0.994. It can be concluded that the test has high reliability since the criteria for high reliability is in the range of 0.90 to 100. It indicated that this instrument would produce consistent result when administered under similar condition, to the same participant and in different time (Hatch and Farhady, 1982:286). So it can be stated that the test has fulfilled the criteria of reliability. In other words, the test was reliable. The calculation of reliability of try out test is shown on Appendix 8.

3.6.4 Level of Difficulty

A good test item is the one, which is neither too difficult nor too easy. The formula of Difficulty Level as follows:

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

Where:

LD: level of Difficulty

R: number of students who answer correctly

N: the total number of students following the test

The criteria are:

<0.30 : difficult

0,30 – 0,70 : average

>0.71 : easy

(Shohamy, 2985:79)

Table 2 The Result of the Level of Difficulty Calculation

Easy Items	Difficult Items	Average Items
16	8	36

The easy and the difficult items were dropped, meanwhile for the average items in difficulty index were used in the pre test and post test. The complete results of try out difficulty level are shown on Appendix 9.

3.6.5 Discriminating Power

Discriminating power is the capacity of a test item to discriminate a group of the upper that the lower. The formula:

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

DP: discrimination power

U: the proportion of upper group students

L: the proportion of lower group students

N: total number of students

The criteria are:

< 20 : Poor discrimination

> 20 : Good discrimination

1. If the value is positive discrimination a larger number of more knowledge students then poor students got the item correct. If the value is zero, no discrimination
2. If the value is negative, it means that more low- students than high level students got the item correct.
3. In general, the higher the discrimination index, the better. In classroom situation most items should be higher than 0.20 indexes. (Shohamy, 1985: 81)

Table 3 The Result of the Discrimination Power Calculation

Poor Discrimination	Good Discrimination
18	42

Based on the table above, we can see that there were 18 which did not fulfil the standard of discrimination power since those items had discrimination power index under 0.20. It means that the items had poor discrimination power. The discrimination power of try out test is shown in Appendix 9.

1. Scoring the pretest and posttest
2. Tabulating the score of the students' ability results using *Repeated measures T-tes*
3. Drawing conclusion from the tabulated result of the pretest and posttest administering, that is statistically analyzed using SPSS (Statistical Program for Social Sciences)

3.8 Hypothesis Testing

It was used to prove whether the hypothesis proposed by the researcher is accepted or not. The researcher used SPSS version 12.0. The hypothesis was analyzed at the Significant level of 0.05 ($p < 0.05$) in which the hypothesis was approved if Sign. <