III. METHOD

This chapter discusses some points dealing with research method, namely: research design, population and sample, data collecting technique, procedures of data collecting technique, scoring system, try out of the instrument, data analysis, and hypothesis testing. The points are classified as the followings.

3.1 Design

In this research, the researcher intended to find out the significant improving of students' ability in identifying the non-literal meaning of narrative text in the implementation of Contextual Teaching Learning approach. The researcher only took one class as experimental class, which got treatment through CTL. In this quantitative research, the researcher applied experiment design; one group pre-test and post-test design. The design of the research consisted of one pre-test and one post-test in order to know students' achievement in reading comprehension and in understanding the non-literal meaning before and after using CTL (Hatch and Farhady, 1982:22). One group pre-test and post-test design is represented as follows:

T1 X T2

Where:

T1 = Pre-test
X = Treatments (Contextual Teaching and Learning)
T2 = Post-test

The researcher provided a reading test in conducting the pre-test at the first meeting of the research. After that, she gave the post-test by the end of the treatment. The result of the pre-test was used to indicate the students' previous knowledge and their reading comprehension and the researcher analyzed and compared the result of post-test to see the improvement of students' reading comprehension through CTL.

3.2 Population and Sample

The population of the research was the second grade of SMA Negeri 3 Bandar Lampung since they had learnt narrative text at the first semester. There were seven classes of the second grade. Each class consisted of about 30 students. By using lottery drawing, class XI IPS 3 was chosen as the experimental class. The materials were applied based on the curriculum.

3.3 Data Collecting Technique

To gain accurate data, the researcher employed an observation and tests (pre-test and post-test) as the instruments. In collecting the data, she used the following technique:

1. **Observation**

   The observation was focused on finding out more information about teaching and learning process based on seven elements of CTL, which were provided in observation sheet. This observation was needed to make sure whether the teaching learning process used CTL and its seven components or not. According to Setiyadi (2001:101), the purpose of observation was to

explain the situation being investigated; activities, person, or individuals involved in an activity and the relationship among them. In this research, an observer was involved to validate the data collected. The observer was Ferayani Ulrica who had also conducted a research about the implementation of CTL. The observer made sure that the activities in teaching learning process implied all the components of CTL.

The samples of the observation sheet are presented in table below:

Table1. Observation Sheet of Implementation of CTL Components during the Teaching Learning Process

No	Components	Implementation	
		Yes	No
1	Constructivism • The students are involved in learning process based on the previous knowledge. • The students construct their knowledge through real experience.		
2	Inquiry • Students seek the truth, information or knowledge by themselves. • The teacher plans any activities and the students have a chance to do an observation. • Students make their own hypothesis • Students make a conclusion		
3	Questioning • Teacher creates a situation that makes the students curious. • Students ask more to their teacher or their classmates when they have curious		
4	Learning Community • Students interact with one another in sharing the information/ideas that they get from the text. • Students who do not know ask the students who know.		
5	Modeling • Teacher acts as a model or source. • Teacher involves students as the model. • Students imitate or learn from the source or model.		
6	Reflection • Teacher and students review and respond the activities and experiences they have done. • Recording what they have learnt, how they feel, and appeared new ideas.		
7	Authentic Assessment • Follow up by giving direction or task as an evaluation.		

2. Pre test

The pre-test was administered before the treatments, in order to know the students' ability in identifying the non-literal meaning of narrative text before getting the treatment. The pre-test was consisted of reading narrative texts with 20 items of multiple choices. The pre-test was conducted within 60 minutes. The materials of the test were based on the curriculum.

3. Post test

The post-test was administered to the students after the treatment was applied in order to find out the improvement of students' reading comprehension after being taught using Contextual Teaching and Learning (CTL). The test consisted of reading texts with 20 items of multiple choices test. The post-test was conducted within 60 minutes.

3.4 Procedures of Data Collecting Technique

In collecting the data, the researcher used the following procedures:

1. Determining the samples of the research

   The first step to be made in this research was selecting class as the sample. The researcher chose experimental class randomly by using lottery, since every class had learnt the narrative text in the first semester and had the same opportunity to be chosen. From the lottery drawing, the researcher took XI social 3 as the experimental class. There were 38 students in the class.

2. Determining the research instrument

   The researcher took the materials for the reading test (pre-test and post-test) from some English book and internet.

3. Administering the try out

   The try out was given to the students in order to know the quality of the test as the instrument of the research. The test was a multiple-choice test consisting of 30 items and conducted for 60 minutes. Try out test was conducted to know the Reliability, Level of difficulty, and Discrimination Power of the test. The result of the try out test would be analyzed in order to know which items are good to be used in the pre-test.

4. Administering the pre-test

   This test was given to find out the students' basic knowledge about the non-literal meaning in reading narrative text. The good items that had been analyzed in tryout test were given in the pre-test. The researcher administered the pre-test before giving the treatments. The pre-test used a narrative text and 20 of multiple choices with each correct answer load 5 points.

5. Conducting the treatments

   After the pre-test, the experimental class was given treatment by using CTL as a method and narrative text as a media. The treatment was conducted in three meetings. In this step, the observer did the observation during the teaching learning process.

6. Administering the post-test

   The post-test was given in the last meeting. The post-test was conducted to measure the students' ability in identifying the non-literal meaning of narrative text after being taught contextual teaching and learning (CTL). The test was in form of reading and multiple choices test. The post-test was conducted in 60 minutes.

7. Analyzing the data

   After collecting the data, the data gained was done. The data was computed through *SPSS* (Statistical Package for Social Science) 16.0 for Windows.

3.5 Scoring System

Based on Arikunto's formula (1989:271), the researcher used the ideal test highest score 100. The researcher calculated the average of the pre-test and post-test by using formula:

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

Note:
S : Score of the test
R : right answer
N : total items

3.6 Try out of the tests

The try out was given to the students before giving the pre-test and post-test to the sample class. The test was a multiple-choice test consisting of 30 items with the option a, b, c, d. The test can be said to have a good quality if it has a good validity, reliability, level of difficulty and discrimination power.

The composition of the test items was presented in the table of specification below:

Table2. Table of Specification of Try-Out Test

No	Objectives	Items	Number of Items	Percentage
1	Metaphor	19, 21, 23, 24	4	13,3 %
2	Simile	4, 16, 28, 29	4	13,3 %
3	Hyperbole	17, 20, 22, 26	4	13,3 %
4	Metonymy	3, 7, 9, 18	4	13,3 %
5	Litotes	14, 15, 30	3	10 %
6	Personification	5, 8, 12, 13	4	13,3 %
7	Oxymoron	6, 25, 27	3	10 %
8	Irony	1, 2, 10, 11	4	13,3 %
Total			30	100%

3.6.1 Validity

Validity is the extent to which a test measures what is intended to measure. According to Hatch and Farhady (1982:251), there are four types of validity. They are face validity, content validity, construct validity and criterion-related validity. To measure whether the test has a good quality, the researcher used content validity and construct validity in this research. These two validities were illustrated as follow:

1. Content Validity

Hatch and Farhady (1982:251) define Content validity as the extent to which a 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.

2. Construct Validity

Construct validity is concern with whether the test is actually in the line with the theory of what it means to know the language (Shohamy, 1985:74). Knowing the test is true reflection of the theory of non-literal meaning, the researcher would examine whether the test questions actually reflects the means of non-literal meaning or not. The test in this research consisted of eight types of non-literal meaning namely metaphor, simile, hyperbole, metonymy, litotes, personification, oxymoron and irony.

To support the validity of the data, the researcher involved an observer to validate the data collected. The observer was Ferayani Ulrica who also conducted a research about CTL. She made sure whether the teaching learning process used CTL and its seven components or not by using observation sheet (see Appendix 4). From the observation, it could be concluded that the data collected was valid.

3.6.2 Reliability

The test items used in this research are reliable. The researcher measured the reliability of the test by applying Pearson product moment formula on the data. The formula is:

$$rxy = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{(n\sum x^2 - (\sum x)^2\,(n\sum y^2 - (\sum y)^2))}}$$

Where:

r : coefficient of reliability between odd number items
x : total number of odd number items
y : total number of even number items
n : number of students who take part in this test
x^2 : the square of odd number items

y^2 : the square of even number items
$\sum x$: total score of odd number items
$\sum y$: total score of even number items

(Lado (1961) in Hughes, 1992:32)

The researcher also used Spearman Brown's Prophecy formula to know the coefficient correlation of whole items of the test as follows:

$$Rk = \frac{2\ rl}{1 + rl}$$

Note:
Rk : the reliability of the test
Rl : the reliability of half test

The criteria of reliability are:
0.90-1.00 = high
0.50-0.89 = moderate
0.0 –0.49 = low

(Hatch and Farhady, 1982:246)

The result of reliability of the try-out test showed that rl (the coefficient reliability between odd and even number) was 0.72 (see Appendix 10). The result of rk (the coefficient correlation for all items) was 0.83. Based on the criteria of reliability, it confirmed that the reliability of the test was moderate. That indicated that this instrument would produce consistent result when it was administered under similar condition, to the same participants, and in different time (Hatch and Farhady, 1882: 286). So, it could be concluded that the test was reliable.

3.6.3 Level of Difficulty

The researcher used Shohamy's formula (1985:79) to see the level of difficulty of the test, as follows:

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

Note:
LD : level of difficulty
R : the total number of students who answer correctly
N : the total number of students

Where the criteria are:
< 0.30 = difficult
0.30-0.70 = average
>0.70 = easy

3.6.4 Discrimination Power

To see the discrimination power, the researcher used Shohamy's (1985:82) formula:

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

Note:
DP : discrimination power
U : the proportion of upper students who answer correctly
L : the proportion of lower students who answer correctly
N : total number of students

According to Heaton (1975:182), the criteria are:
0.00-0.20 = poor
0.21-0.40 = satisfactory
0.41-0.70 = Good
0.71-1.00 = Excellent
- (negative) = bad items (should be omitted)

3.7 Data Analysis

The data were analyzed in order to know whether there was a significant improvement of the students' ability in identifying the non-literal meaning of narrative text. In this research, the researcher used repeated measured T-test since

there was only experimental class used in this research. To analyze the data, the researcher scored the students' pre-test and post-test. The scores were taken the average to be the final score that would be analyzed statistically using *Repeated Measured T-test*. Then to draw a conclusion, the data that had been analyzed using *Repeated Measured T-test* would be computed through *SPSS 16.0 for Windows* with level of significant 0.05.

3.8 Hypothesis Testing

The hypothesis was statistically analyzed using Repeated Measured T-test at the significant level of 0.05 ($p<0.05$) in which hypothesis was approved if $Sig<\alpha$. It means that the probability of error in the hypothesis is only about 5%. The result of pretest and posttest in experimental class implied that CTL could made significant improvement on the students' ability in identifying non-literal meaning of narrative text. It meant that H_0 is accepted and H_1 is rejected.

The researcher used Hatch and Farhady's (1982: 116) formula as follow:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_{D^-}} \qquad \text{in which} \qquad S_{D^-} = \frac{S_D}{\sqrt{n}}$$

Where:

$\bar{X}_1$ = mean score of pre-test

$\bar{X}_2$ = mean score if post-test

S_{D^-} = standard error of differences between two items

S_D = Standard Deviation

N = number of students