

### **III. METHOD**

This chapter will discuss about the research method. Everything relates to the model of the research, such as research design, data, data source, data collecting technique, research procedure, instrument, scoring criteria, data analysis, validity and reliability, and hypotheses testing will be described as follows.

#### **3.1. Research Design**

The researcher used quantitative descriptive design (*ex post facto*) in conducting the research. That design considered suitable to analyze level of motivation (very low, low, normal, high, very high) of the students and how it influenced the writing ability. Ex post facto design is a non-experimental research technique in which pre-existing groups were compared on some dependent variables. As Hatch and Farhady (1982) say, "Ex-post facto design are often used when the researcher does not have control over the selection and manipulation of the independent variable... correlation designs are the most commonly used subset ex-post facto design". Then, Karl (1996) adds "we may use the ex-post strategy when we wish to investigate the influence of variables like home environment, sex, motivation, intelligent, and parental reading habits".

In accordance with Setiyadi (2006), there are two types of ex post facto research design, “*co-relational study involves one group and causal comparative study involves two groups.*” Since this research was about correlation between the students’ motivation and their writing ability so the researcher would look at the type and/or degree of relationship between two variables rather than at cause-effect relationship. Thus, *co-relational* is used with its formula as follows:

$$X \longrightarrow Y$$

In which:

X: students’ motivation as an independent variable

Y: students’ writing ability as a dependent variable

The researcher used one class as the experimental class. Whereby, in collecting the research data, the researcher administers test of motivation in form of questionnaire and test of writing ability. The researcher shared a questionnaire first in order to know the students’ motivation level. After that, the researcher gives the test of writing ability in form of fostering a topic into paragraph to measure the students’ writing ability. Henceforth, the output from questionnaire will be correlated with the score of students’ writing test.

### **3.2. Population and Sample**

The researcher would choose the sample from the population.

#### **3.2.1. Population**

Population is the most often a theoretical group of all possible scores with the same trait or traits (Coolidge, 2000: 24). Simply, a population is the whole subjects of the research.

The population of this research is the students of second year of SMA Al Kautsar Bandar Lampung in the academic year of 2014/2015. There were 8 classes (four science classes and four social classes) and each class consisted of 29 to 40 students.

#### **3.2.2. Sample**

Sample is a smaller group of scores selected from population of scores (Coolidge, 2000: 24).

The researcher chooses second grade students because the researcher assumed that they had known English better than first grade or third grade and they also already had experienced of learning English. The researcher determined the sample by using random sampling technique. First, the researcher wrote those eight classes on a small-folded paper, one class for one piece of small-folded paper. Then she took one folded paper randomly to choose the class to be the sample.

Finally, the researcher got one class XI IPA 1 with the total number 34 students as the sample. Then the writer chose one class more to be the try-out class for trying and class XI IPA 2 as the experimental class.

### **3.3. Data**

The data of this research are the result in form of score of students' motivation test (questionnaire) and the result of writing test. The data were taken by questionnaire of motivation in learning English and writing test. In addition, data was being proceed by parametrics analysis using Product Moment Formula by Pearson. The researcher used random sampling technique to collect the data. Every class in population has the same chance to be chosen as sample. First, the researcher wrote those eight classes on a small paper, one class for one piece of small paper. Then she took one paper randomly to choose the class to be the sample.

Finally, the researcher got one class XI IPA 1 with the total number 34 students as the sample. Then the writer chose one class more to be the try-out class for trying out the questionnaire of motivation before it is conducted in the research class. That class XI IPA. The researcher chose this school because there was no research yet conducted here previously and the topic for testing the students' writing ability is appropriate for Senior High School students.

### **3.4. Data Collecting Techniques**

In collecting the data, the researcher will use:

#### **1. Questionnaire**

After deciding the subject, the researcher gave the questionnaire to the subject. To find out what is most influence students' motivation in their writing ability. There were 30 items of motivation questionnaire and the students had to checklist the optional honestly. There are four optional answer; A, B, C, and D. The indicators of motivation are (1) learning duration; (2) activity frequency; (3) persistency; (4) perseverance; (5) devotion; (6) aspiration level; (7) qualification level; and (8) attitude. Questionnaire was used by the researcher to gain the data of the students' English learning motivation.

#### **2. Writing test**

This step is done after the researcher had given the questionnaire to the subject. The researcher gave writing test to find out their writing ability. The writing test (essay form) is used to elicit the students' composition based on the given topic. The text is about descriptive text. In the writing test, the students focused only on descriptive text. Since the students had been done this text at the first grade so they will definitely understand this text well. The topic given was just one. It is about family tree. The students were instructed to finish the test for 45 minutes. They were given the expalanation and the example of desscriptive text about family tree

before they were asked to do their test. Thus, they just wrote about their family and developed it into a paragraph.

### **3.5. Research Procedures**

In collecting the data, the researcher uses following steps:

#### **1. Selecting instrument of materials**

The instrument materials of writing test were chosen by the researcher. The selecting process is considered the materials that had been taught to the students and level of the students that was second year students. The researcher uses one type of writing text and it was descriptive text. The selecting process for the questionnaire test was considered based on classification of students' motivation in learning English. In order to get honest data, the questionnaire uses understandable sentence and Indonesian. Thus, it facilitated students to answer the questions.

#### **2. Determining the sample of the research**

A sample is a smaller group example chosen from the population that actually measures. Sample consists of some members of population. The sample of this research was determined by using purposive sampling. There were eight classes of second grade of SMA Al Kautsar Bandar Lampung. However, only class XI IPA 1 that had an opportunity to be the sample of this research. This research only uses one class because there was no treatment to the sample but the data are collected by seeing the correlation between the data from questionnaire and data from writing test.

### **3. Trying out the instruments**

The motivation questionnaire is tried out to the students in order to find out reliability and validity of the instrument that was given. While for writing test, it is not being tried out to the students.

### **4. Analyzing the try out result**

After the try-out class finished answering the motivation questionnaire and writing test, an analysis is done in this phase to find out the validity and reliability of the instruments.

### **5. Final testing of the instruments**

In this phase, the instruments are revised based on the result of try-out test. The revision is done by revising the items of instrument that had low validity and reliability.

### **6. Distributing the questionnaire of motivation**

The researcher distributes the questionnaire to the sample in order to get the information about the students' motivation and the students have to answer the questions based on the statements which are provided.

### **7. Conducting writing test**

The researcher distributes the writing test to the students in order to get the information about the students' writing. The students directly do the writing test without any treatment first. They are instructed to make a paragraph.

### **8. Analyzing the data from the instruments**

The output data from questionnaire and score of writing test were analyzed by using Pearson Product Moment because it is one of techniques to look

for the correlation between two variables. Therefore, whether there is any significant correlation between the students' motivation and their writing ability.

## 9. Scoring system

Five aspects evaluated by the researcher are content, organization, vocabulary, language use, and mechanic. The researcher uses computation of writing score revised from Heaton (1988: 146) as follows:

**Table 3.1. Computation of Writing Score**

a.	Content is scored as much as 30% from the total sentences supporting the main idea (unity).
b.	Organization is scored as much as 20% from sentences using correct grammar.
c.	Vocabulary is scored 20% as much as from vocabularies which are used correctly
d.	Language use is evaluated as much as 25% from the total sentences which are written in chronological order (coherence).
e.	Mechanic is evaluated as much as 5% from use punctuation, spelling and capitalization correctly.

Based on the explanation above, the researcher evaluates the aspects of descriptive text writing based on the content, organization, vocabulary, language use, and mechanic. The lowest score is 0 and the highest score is 100.

Those are all the steps to collect the data in this research.



### 3.6. Instrument

The researcher uses two instruments in this research. They are students' English learning motivation questionnaire and writing test.

#### 3.6.1. English Learning Motivation Questionnaire

In collecting the data, the researcher uses questionnaire as the tool of measurement. Questionnaire is an instrument which is very effective to measure aspects and variables in associated psychology aspect or sociology (Setiyadi, 2006). In this study, the researcher uses a closed direct questionnaire. A closed direct questionnaire is a questionnaire that provides several answers. So the respondents only give cross mark for the most suitable answer. The questionnaire that was used is in Indonesian language. There are 30 items of questionnaire with four alternatives answer (*a, b, c, and d*). The score is based on the *Likert Scale* which is most often used to measure attitude, opinion, and perception of respondent. That scale is chosen because it was relative easy and had high reliability. The range is 4 to 1 for the positive statements while the range which is from 1 to 4 for the negative statement.

The 30 items questionnaire asked about the motivation students in learning English implemented by respondent. The students are supposed to give their answers as factual and real information about themselves or the information that is close to the fact as provided in the four alternative answers. Thus, the researcher can differentiate students that have high, average, and low motivation.

Each of the alternatives is scored as follows:

A = 4, for the very high motivation answer.

B = 3, for the high motivation answer.

C = 2, for the middle motivation answer.

D = 1, for the low motivation answer.

Except items number 2, 6, 9, 10, 15, 20, 25 are the inverse answers which are scored as follows:

A = 1, for the low motivation answer.

B = 2, for the middle motivation answer.

C = 3, for the high motivation answer.

D = 4, for the very high motivation answer.

In addition to the indicator of motivation, the researcher took the indicators from Samsudin in Sadewo (2009: 32). Learning motivation consists of some aspects, they are: (1) learning duration, that is, how long someone is able to use the time to do an activity; (2) activity frequency, that is, how often an activity is done in a period; (3) persistency, that is, the continuity at the purpose of the activity; (4) perseverance, that is, the ability in facing hindrance and difficulty; (5) devotion, that is, sacrifice to achieve the aim; (6) aspiration level, that is, the target that would be achieved with the activity that would be done; (7) qualification level, that is, achievement which is achieved from the activity; and (8) attitude, that is, the target of learning activity.

**Table 3.2 Specification of Motivation Questionnaire Test**

<b>No.</b>	<b>Category</b>	<b>Item Number</b>	<b>Total Item</b>
1.	The duration of students in learning English; how long is the ability of students to use time in doing activity of learning.	3, 12, 16, 20, 24	5
2.	The frequency of students' activity in learning English; how often does the activity take place.	2, 4, 13, 17	4
3.	The persistence of students in learning English; how functional in doing activity; how strong his/her tenacity is.	1, 5	2
4.	The perseverance of students' in learning English; how to solve the difficulties and face the problems in learning English.	7, 8, 11, 16	4
5.	The devotion of students to get the objective of learning English. For instance: thought, time, money, effort.	14, 19, 29	3
6.	The aspiration of the students, for instance: purpose target etc	21, 25, 26	3
7.	The qualification level of students' ability in learning English.	10, 28	2
8.	The students' attitude to the purposes of learning English.	13, 15, 18, 22, 23, 27, 30	7
<b>Total number</b>		<b>30</b>	<b>30</b>

### 3.6.2. Writing Test

The Instrument of this research is descriptive text writing test. The researcher conducted writing test to find out which motivation that the students have and use in fostering their writing ability. Thus, the researcher differentiates the students' writing test score according to their motivation. The students are asked to write descriptive text based on their own thought with the topic is about family tree. The students are given a chance to make writing for about 45 minutes.

### **3.7. Reliability and Validity of the Instruments**

#### **3.7.1. Reliability of Questionnaire**

Even though reliability is only supporting data, but reliability aspect is really important. Reliability can be defined as the extent to which a test produces consistent results when administered under similar conditions (Hatch and Farhady, 1982: 244). The instrument which has low reliability means invalid instrument. A test is called reliable if the score gained by the examiners is constant whenever and by whomever the test is conducted. To make sure whether the instruments are reliable or not the researcher used the Cronbach's Alpha. It was counted based on the motivation scale and the range of 1 to 4. The higher Alpha is the more reliable the questionnaire will be (Setiyadi, 2006: 35).

According to Arikunto (1998: 260), the standard of reliability of the instrument can be described as follows:

1. 0.80 – 1.0 : very high reliability
2. 0.60 – 0.79 : high reliability
3. 0.40 – 0.59 : medium reliability
4. 0.20 – 0.39 : low reliability
5. 0.0 – 0.19 : very low reliability

As stated before, to measure whether the test is reliable or not, the researcher used Cronbach's Alpha. Each item in motivation questionnaire is analyzed to make sure that the items consisted of good unity. Motivation questionnaire was made up

of 30 items on four point Likert Scale from one to four, ranging from very high motivation, high motivation, normal motivation, and low motivation.

From the calculation of reliability analysis, the alpha point is 0,921. It means that the questionnaire has very high reliability. It could be interpreted that the questionnaire is proper to be used for the research. The analysis of each item showed that if an item deleted, it would make alpha lower. By considering this, it could be stated that if item number 1 was deleted, Alpha would be lower than 0,921 whereas the higher alpha was the better the questionnaire is.

### 3.7.2. Reliability of Writing Test

For writing test, inter rater reliability is used as the standard for measuring the writing test's reliability. Two raters would score the students' compositions. First rater is the researcher herself, while for the second rater is Mrs. Liszia Devi Mutiara, S.Pd. She is the English teacher for second grade two of science class at SMA AL Kautsar Bandar Lampung. To measure the reliability, Pearson's Product Moment formula is used as the means for calculation. The formula is:

$$r = 1 - \frac{6 \sum d^2}{N(N^2 - 1)}$$

Where:

r : Coefficient of rank correlation

d<sup>2</sup> : Square of differences of rank correlation

d : Sum differences between each pair of ranks

N : Number of students

(Sugiyono, 2006: 228)

The criteria of the reliability are as follows:

0.8 – 1.0	: very high reliability
0.6 – 0.79	: high reliability
0.4 – 0.59	: medium reliability
0.2 – 0.39	: low reliability
0 – 0.19	: very low reliability

(Arikunto, 2005)

### **3.7.3. Validity of Questionnaire**

Validity is a matter of relevance; it means that the test measures what will be claimed to measure. To measure whether the test has a good validity, it can be analyzed from its content validity and construct validity. Content validity concerns whether the tests will sufficiently representative for the rest of the test or not. While construct validity focuses on the relationship between indicators within the test. The validity of questionnaire is being tested using Pearson's Product Moment Formula. The questionnaire is being tried out to 60 respondents or students of the two classes. The result of the test is being tested its validity and reliability. In analyzing the validity of English learning motivation questionnaire try-out, the researcher uses continuum score which has score range 1 to 4.

### **3.7.4. Validity of Writing Test**

Construct validity concerns with the teacher and the test is actually in line with the theory of what it means to know the language that is being measured; it examines

whether the test questions actually reflect what it means to know a language. In this research, the researcher focuses on descriptive text writing.

### **3.7.5. Try Out of the Instrument**

The try-out of the instrument aims to test the quality of the test used as the data collecting instrument of the research. There are two elements to test quality of the students' motivation questionnaire; validity and reliability. While for the writing test, it does not need to be tried out. The researcher gave the writing test only once and used inter rater to know the reliability of writing test.

### **3.8. Reliability of the Students' Motivation Questionnaire Try Out**

The paragraph below is the result of reliability and validity of the students' motivation questionnaire try out class.

#### **3.8.1. Reliability of Motivation Questionnaire**

Try out of motivation questionnaire consists of 30 items that refer to high or low of motivation level. The calculation of reliability analysis of questionnaire from the tryout class by using Cronbach Alpha formula is 0.753. It means that motivation had very high reliability. So it can be interpreted that motivation questionnaire is proper to be used in this research.

### 3.9. Data Analysis

In order to find out the correlation between the students' motivation and their writing ability, the researcher analyzes the data as follow:

- a. Tabulating the score of motivation and writing test.

All the students' answers are tabulated and scored. For the writing test, the students' writing are scored by inter rater; first rater is the researcher herself and the second rater is the English teacher from its school, Mrs. Liszia Devi Mutiara, S.Pd.

- b. Analyzing the data

The data that had been tabulated and scored were analyzed. It analyzes the validity and reliability of motivation questionnaire and writing test. Then the researcher analyzes the correlation between the students' motivation and their writing ability.

In analyzing the data, the result of the students' motivation questionnaire and the result of writing test are used to find the coefficient correlation between them. The data are correlated by using Pearson Product Moment Correlation in order to investigate whether there is any correlation or not.

The two groups are correlated by using Pearson Product Moment, the formula as follows:

$$r_{xy} = \frac{N \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{\{N \Sigma X^2 - (\Sigma X)^2\} \{N \Sigma Y^2 - (\Sigma Y)^2\}}}$$

Notes :

$r_{xy}$  : Coefficient correlation



- N : The number of students in sample
- $\Sigma x$  : The sum of students' writing score
- $\Sigma y$  : The sum of students' motivation questionnaire score
- $\Sigma x^2$  : The sum of square of students' writing test score
- $\Sigma y^2$  : The sum of square of students' motivation questionnaire score
- $\Sigma xy$  : The sum of product of x and y scores of each students.

(Hatch and Farhady, 1982: 222)

The researcher also uses statistical computerization by using Statistical Package for Social Science (SPSS) for windows version 16.0 to find whether there is any correlation between the students' motivation and their writing ability.

### 3.10. Hypotheses Testing

After the researcher found the coefficient correlation between the students' motivation and their writing ability, the researcher also found out the criterion for the hypotheses acceptance. To determine whether the hypothesis are accepted or rejected, the following criterion acceptance is used:

$$H_0 : r_{\text{value}} < r_{\text{table}}$$

$$H_1 : r_{\text{value}} > r_{\text{table}}$$

Notes:

$H_0$  (Null Hypothesis): There is no significant correlation between the students' motivation and their writing skill. The  $H_0$  can be accepted if  $r_{\text{value}}$  is lower than  $r_{\text{table}}$ .

$H_1$  (Alternative Hypothesis): There is a correlation between the students' motivation and their writing skill. The  $H_1$  can be accepted if  $r_{\text{value}}$  is higher than  $r_{\text{table}}$ .

The coefficient is between -1 up to +1. The negative coefficient shows contrary correlation, while the positive coefficient shows that there is a correlation.

Below is the interpretation of coefficient correlation:

- a. Between 0.800 to 1.00 : very high correlation
- b. Between 0.600 to 0.800 : high correlation
- c. Between 0.400 to 0.600 : medium correlation
- d. Between 0.200 to 0.400 : low moderate
- e. Between 0.00 to 0.200 : very low correlation

(Setiyadi, 2006: 67)

The researcher uses the level of significance 0.05 in which the hypothesis is approved if  $\text{sign} < p$ . It means that the probability of error in hypotheses is only 5%.

That is the method of this research. The explanations about the research design, data, data source, data collecting technique, research procedure, instruments, scoring criteria, data analysis, validity and reliability, and hypotheses testing were discussed in order to provide an answer to this research.