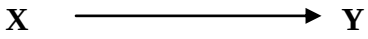
III . RESEARCH METHODS

The writer elaborates this chapter into seven topics and sub topics. They are research design, population and sample, research instruments, reliability and validity of the instruments, research procedure, data treatment, and hypothesis testing. Each of them is explained in specific way so that the reader can comprehend easily how the writer collected the data, calculated the data, prepared the test, and how reliable and valid the data were.

3.1 Research Design

Since, this research is correlation study where the writer investigated correlation between motivation and speaking ability of first grade students of SMA Al Azhar 3 Bandar Lampung. Therefore, the writer categorized this research as quantitative research where it belongs to pre-experiment. The writer was interested in measuring how far the relationship between those two variables. The design used in this research was *expost-facto design.* The writer did not need control classes and experiment classes but the writer only collected the data at the present moment from one class chosen as the sample of this research.

The design was presented as follow:



(Hatch and Farhady, 1982:27)

Where:

X = Motivation test (independent variable)

Y = Speaking test (dependent variable)

In other words, motivation is independent variable (X) that was tested by using Likert Measurement Technique (Likert Scale) where the result was students' motivation data. While speaking ability as dependent variable (Y) is one of the language skills that was tested by responsive speaking and the result was students' English speaking ability.

To process the data so that the writer can see the coefficient correlation between motivation and speaking ability, the writer applied Pearson product-moment correlation coefficient. While, to find how far the contribution of motivation to students' English ability is, the writer implemented regression technique

3.2 Population and Sample

The population of this research was the first grade students of SMA Al Azhar 3 Bandar Lampung in the first semester. This research was conducted after mid semester because the writer intended to investigate their motivation in speaking class after they had studied English before having semester. There were eight classes of the first grade of SMA Al Azhar 3 Bandar Lampung in the academic year of 2010/2011. They were X1, X2, X3, X4, X5, X6, X7, and X8. Furthermore, the writer chose one of them through purposive sampling where every class had probability to be chosen as a sample. Finally, the writer found one class X5 with total number 38 students as the sample. The writer believed that this method can fulfill the external validity aspect and to get normal distribution data. There procedure was as follows:

- The writer collected the data based on the absent to the teacher, there were eight classes of first grade students of SMA Al Azhar 3 Bandar Lampung.
- Then, the writer wrote eight names of the classes in the rolled papers and put it into a glass
- The glass was shaken and poured until one rolled of the paper came out then it was selected as the sample.
- Furthermore, the writer asked the absent of this class to the teacher where based on the absent there were 38 students which belong to this class, therefore automatically, these students were as the samples of this research.

3.3 Research Instruments

In collecting the data of variables X and Y (motivation and speaking ability), the writer used questionnaire applying Likert measurement technique (Likert scale) to measure students' motivation (variable X), while for measuring students' ability in speaking the writer applied a test where it was a set of questions and problems in form of subjective test (variable Y). And for the technique, the writer implemented pair work technique.

3.3.1 Test of Motivation

As mentioned previously, the measurement of motivation (X) was carried out through questionnaire. This questionnaire consisted of 25 items where each of them refered to integrative motivation and instrumental motivation. Actually, for the questionnaire, the writer applied Likert Scale where each item has mainly four alternative answers that is A, B, C, and D. By this the students were supposed to give their answers as factual and real information about themselves or the information that was close to the fact as provided in the 4 alternative answers.

Each of the alternatives is scored as the following:

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 6, 16, 20 are the inverse answers which are scored as following:

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 writer takes the indicators from Makmun, (1983, p: 33-34) as reference as follows:

1. The duration of students in learning English; How long is the ability of students to use time in doing activity of learning
2. The frequency of students' activity in learning English e.g., how often does the activity take place?
3. The persistence of students in learning English; How functual in doing activity; How strong his/her tenacity is.
4. The toughness or endurance of students in solving the difficulties of learning English and facing its problems or obstacles.
5. The aspiration of the students, for instance: purpose target etc.
6. The qualification level of students' achievement in learning English
7. The devotion of students to get the objective of learning English, for instance: though, time, money, effort.

8. The students' attitude to the purposes of learning English.

- Durasi kegiatan, (berapa lama kemampuan penggunaan waktu dalam melakukan kegiatan)
- Frekwensi kegiatan (seberapa sering kegiatan itu dilakukan dalam periode tertentu)
- Persistensinya (ketepatannya dan keuletannya pada tujuan kegiatan)
- Ketabahan, keuletan, dan kemampuan dalam menghadapi rintangan untuk mencapai tujuan.
- Tingkat aspirasinya (maksud, rencana, cita-cita sasaran atau target idolanya yang hendak dicapai dengan kegiatan yang dilakukan.
- Tingkat kwalifikasinya dari prestasi atau produk atau out put yang dicapai dari kegiatannya (berapa banyak memadai serta memuaskan atau tidak).
- Devosi atau pengabdian dan pengorbanan untuk mencapai.
- Arah sikap terhadap sasaran kegiatan

(Abin Samsudin Makmun, 1983, p: 33-34, Psikologi Pendidikan)

3.3.1.1 Table Specification of Motivation

No	Category	Item Numbers	Total Item
1.	The duration of students in learning English; How long is the ability of students to use time in doing activity of learning	**1, 2, 25**	**3**
2.	The frequency of students' activity in learning English e.g., how often does the activity take place?	**3, 6, 23**	**3**
3.	The persistence of students in learning English; How functual in doing activity; How strong his/her tenacity is.	**4, 8, 24**	**3**
4.	The toughness or endurance of students in solving the difficulties of learning English and facing its problems or obstacles.	**11, 17, 22**	**3**
5.	The aspiration of the students, for instance: purpose target etc.	**7, 9, 14, 18**	**4**

6.	The qualification level of students' achievement in learning English	**5, 19, 20**	**3**
7.	The devotion of students to get the objective of learning English, for instance: though, time, money, effort.	**11, 12, 21**	**3**
8.	The students' attitude to the purposes of learning English.	**7, 13, 15, 16**	**4**

Note:
Items number 6, 16, 20 are inverse answers which answer D is scored 4 while A is scored 1

3.3.2 Speaking Test

In gathering students' speaking data, the writer matched the test with the syllabus of the first year of SMA student based on school based curriculum or KTSP (an English operational curriculum which is arranged and applied by each education unit) which the newest curriculum used by the School. The writer conducted speaking test, which last for 90 minutes. In conducting the test the learners were provided a topic and guided to make a short dialogue in pair. The test was done orally, and directly the teacher called the group one by one in front of the class to perform the dialogue.

The learners were asked to speak clearly since their voice was recorded during the test. The material of the test was taken from person to person book which was appropriate for the students in the first grade. The form of the test was subjective test since there were no exact answers. The score of the students' speaking ability was given based on the oral rating sheet provided. Since, this research applied Heaton (1991) as a guidance in measuring students' speaking ability, the teacher and the

writer assessed the students concerned on 3 aspects namely pronunciation, fluency, and comprehension. As stated previously, in this test inter rater was applied; the first rater was the writer himself and the English teacher as the second rater.

3.3.2.1 Speaking Topics

As stated at the previous page, the writer took the material that was considered matching with the syllabus so that the students already had the background knowledge about its topics before. It also can be considered that students who have good motivation will not forget the material they have learnt before because the writer believes that they will use it in their daily activity with their friends, while students that have low motivation will forget it soon.

Pair work technique was used to assess English speaking ability of the students. The writer asked the students to work in pairs so that they can learn several things when working with a partner. Students learnt to clarify, confirm, and comprehend information; students learnt to assist each other in language learning and pronounce words correctly; and students learnt what they need to work on the most.

The students played role as the citizen census committee and the citizen in one section. After the test covered asking and giving personal information, for example name, date of birth, hobbies address, etc. Moreover, the writer recorded their conversation by using recording tools while they were speaking. The result of this test was considered as the data of students' English ability.

3.3.2.2 Speaking Scoring System

The writer applied the oral ability scale proposed by Heaton (1991) as guidance for scoring the students' speaking test that implements holistic scoring which covers accuracy, fluency, and comprehensibility. Therefore, the writer scored those aspects collectively. Since, the writer applied pair work technique in testing the students' speaking ability and the materials were dialogue, therefore the writer divides 38 students into a pair where one pair consists of 2 students so that there were 19 pairs. Each pair had 3 minutes to speak. During the speaking test the writer recorded the students' conversation in the recording tools (hand phone) so that it can be transferred into compact disk while the teacher saw the process. The writer gave the copy of data that had been transferred into compact disk to the teacher in order that data can be measured by her. Furthermore, the recorded data was scored to measure the English speaking ability of the students individually then the writer accumulated the result of the test with the English teacher to fulfill the reliability of the test.

Range	Pronunciation	Fluency	Comprehensibility
90-100	Pronunciation only very slightly influenced by mother-tongue.	Speak without too great an effort with a fairly wide range of expression. Search for words occasionally but only one or two unnatural pauses.	Easy for listener to understand the speakers' intention and general meaning
80-89	Pronunciation is still moderately influenced by the mother tongue with errors causing a breakdown in communication.	Has to make an effort at times to search for words. Neverthless smooth very delivery on the whole and only a few unnatural pauses.	The speaker's intention and general meaning are fairly clear. A few interruptions by listener for the sake

			of clarification are necessary.
70-79	Pronunciation is still moderately influenced by the mother tongue but no serious phonological errors.	Although she/he has made an effort and search for words, there aren't too many unnatural pauses. Fairly smooth delivery mostly.	Most of the speakers say is easy to follow. His/her intention is always clear but several interruptions are necessary to help him to convey the message or to see the clarification
60-69	Pronunciation is influenced by the mother tongue but only a few serious phonological errors	Has to make an effort for much of the time. Often has to look for the desired meaning. Rather halting delivery and fragmentary.	The listener can understand a lot of things being said. But he/she must constantly seek clarification. Cannot understand many of the speakers' more complex or longer sentences
40-59	Pronunciation is influenced by the mother tongue with errors causing a breakdown in communication/global errors	Long pauses while he/she searches for the desired meaning. Frequently halting delivery and fragmentary almost gives up for making the effort at times.	Only a little bit (usually short sentences and phrases) can be understood and then with considerable effort by someone who is used to listening to the speaker.
30-49	Serious pronunciation errors. No evidence of having mastered any of the language skills and areas practiced in course.	Full of long and unnatural pauses. Very halting and fragmentary delivery. At times gives up making the effort	Hardly anything of what being said can be understood. Even when the listener makes a great effort or interrupts the speaker is unable to clarify anything being said.

3.4 Reliability and Validity of the Instruments

Every research including social science and language research always use the reliable and valid instrument in order for the result to be more meaningful and believable. Therefore, the writer tried to define the definition of reliability, and validity as well as what kinds of tests that can be said valid and reliable.

3.4.1 Reliability of the Instruments

Even tough, reliability is only supporting data, but reliability aspect is really important. The instrument which has low reliability will mean invalid instrument. Shohamy (1985:70) states that reliability refers to the extent to which the test is consistent in its score, and it gives an indication of how accurate the test score. It means that the test score is dependable, stable and consistent when given to different situation or different people; in order words, the score of odd and even numbers have no high differences. To make sure whether the instruments were reliable or not the writer used the Cronbach's Alpha. It was count based on the motivation scale and the range of 0 to 1. The higher Alpha is the more reliable the questioner will be (Setiyadi, 2006: 190-191).

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 was reliable or not the writer used Cronbach Alpha. Every item in motivation questioner was analyzed to make sure that the items consist of good unity. Motivation questioner was made up of 25 items that refer to integrative and instrumental motivation rated on four point Likert type scale from one to four, ranging from very high motivation, high motivation, middle motivation, and low motivation.

From the calculation of reliability analysis, alpha is 0.731. It means that the questionnaire has high reliability. It can be interpreted that the questionnaire is proper to be used for a research. The analysis of each item showed that if an item deleted, it would make alpha lower. For example, *VAR00001* on if item deleted column (see Appendix 3), the alpha is 0.729. By considering this, it can be said that if item number 1 was deleted, Alpha would be lower than 0.731 whereas the higher Alpha is the better the questionnaire is. It also happened if *VAR00002* on if item deleted column (see Appendix 3), the alpha is 0.721. It also did not make the alpha coefficient reliability 0.731. Therefore, with alpha 0.731, the writer believed that the questionnaire had high reliability and reliable to be administered. It also fulfilled the criteria of standard of reliability which is proposed by Arikunto (1998: 260). The

alpha score was 0.731, it means that the reliability of the instrument can be categorized as high reliability.

For speaking test, to ensure the reliability of scores and to keep away from the subjectivity of the research, the writer used inter-rater reliability. Inter-rater reliability is used when scores of the test are independently estimated by two or more judges or raters. It means that there will be another person who gives score besides the writer himself. She was Mrs. Tien Yati Authon, SS., as the English teacher at SMA Al Azhar 3 Bandar Lampung.

The writer considered that one inter rater was qualified to measure the learners' speaking ability since she had a lot of experiences in teaching English and had much experiences in teaching speaking class at LIA. Moreover, she had graduated from university (minimally S1) in English major.

3.4.2. Validity of the Instruments

In this research, to measure whether the test has good validity or not, the writer analyzed from content and construct validity. Content validity means that the test is a good reflection of what has been taught and the knowledge which the teacher wants the students to know (Shohamy, 1985:74). It means that the items of the test should represent the material being discussed. While construct validity focuses on the kind of test that is used to measure the ability.

To get the content validity, the test is adapted from Likert Scale which was developed by Uniroh (1990, p. 91-97). In this test, the writer will give 25 questions which each item had the purposed to measure students' motivation in learning English. It was believed that this questionnaire had content validity since this test had been already applied many times by other researchers who had the same intention.

For the speaking test, the writer adapted the topic that had been discussed in the class. It was about interpersonal text where the students gave some information about their self whether about their biography and also family in form of dialogue. The material taken from persons to person book and also adjust it so that relevance on the English curriculum. The writer also applied the oral ability scale proposed by Heaton (1991) as guidance for scoring the students' speaking test that implemented holistic scoring which covers accuracy, fluency, and comprehensibility.

3.5 Research Procedure

In conducting this research, the writer used the steps as follows:

1. Administrating Motivation Test

   The writer provided a questionnaire of motivation to the students.

2. Administrating English Speaking Test

   The writer conducted English speaking test by recording the result. The recorded result was rated by two raters.

3. Collecting Data

   The writer gathered those data after the test by giving score.

4. Analyzing the Data

   The data was analyzed by using SPSS software to observe whether there is any significant correlation or not and to analyze whether there is also influence or not.

3.6 Data Treatment

Since this research was a correlation study, the writer divided these variables into two variables. They were dependent variable and independent variable. The writer categorized speaking skill as a dependent variable since this ability is influenced by motivation while motivation was as an independent variable. The writer assumed that motivation has an influence toward the language achievement.

According to Setiyadi (2006:168-169), before analyzing correlation there are some assumptions that should be fulfilled. They are as follows:

a. The data should come from the same sample

b. The data should be interval or ratio

c. The data is distributed normally

d. The relationship between the data is linear

Therefore before testing the hypothesis using Pearson Product Moment Correlation, it was necessary to find out whether the data in the samples are normally distributed and homogenous or not. This study applied these following procedures:

1. Normality Test

The purpose of computing the normality test was to find out whether the data was distributed normally or not. In this research, the significant level of 0.05 was used to determine the normality of the data. The hypothesis of normal distribution can be described as follows:

H_0 : the distribution of the data is normal

H_1 : the distribution of the data is not normal.

The hypothesis is accepted if the result of the normality test is higher than 0.05 (sign > α). In this case, the level of significance of 0.05 is used.

2. Homogeneity Test

The test was used to determine whether the data fulfill the criteria of the quality of variances. The hypothesis for the homogeneity test of two variables is as follows:

H_0 : there is no significant different in the level of ability (equal)

H_1 : there is a significant difference in the level of ability (not equal)

The criterion for the hypothesis is: H0 is accepted if the result of homogeneity test of pre-test is higher than 0.05 (Sign > α).

Furthermore, after fulfilling the criteria of normality and homogeneity test, the writer correlated the variables by using Pearson Product Moment Correlation in order to process whether there is correlation between motivation and speaking ability.

The formula is as follows:

$$r_{xy} = \frac{N\sum xy - \left(\sum x\right)\left(\sum y\right)}{\sqrt{\left[N\sum x^2 - \left(\sum x\right)^2\right]\left[N\sum y^2 - \left(\sum y\right)^2\right]}}$$

(Hatch & Farhady, 1982 : 198)

Note:

r : the coefficient correlation

x : motivation score

y : speaking ability score

$\sum x$: the sum of scores in X-distribution

$\sum y$: the sum of scores in Y-distribution

$\sum xy$: the sum of products of paired X and Y distribution

$\sum x^2$: the sum of the squared scores in X distribution

$\sum y^2$: the sum of the squared scores in Y distribution

N : the number of paired X and Y scores

For the next is Simple Regression was done to find how far the contribution of motivation to their English speaking ability. The formulation is as follow:

R = r^2

Note:

R : Regression

r : coefficient correlation

3.7 Hypothesis Testing

As well as coefficient correlation, the writer must also find out the criterion of the hypothesis acceptance to show whether the first hypothesis was accepted or rejected, the writer applied a critical value table for Pearson Correlation Coefficient, the following criterion acceptance is used:

$H_0 = r_{value} < r_{table}$

$H_1 = r_{value} > r_{table}$

With the explanation as follows:

a. H_0 : there is no significant correlation between motivation and students' English speaking ability. We could accept this hypothesis if r_{value} is lower than r_{table}.

b. H_1 : there is a significant correlation between motivation and students' English speaking ability. We could accept this hypothesis if r_{value} is higher than r_{table}.