III. RESEARCH METHODS

This chapter discusses about the methods of research were used in this study, such as: research designs, population and sample, research procedures, research instrument, validity and reliability of instrument, data analysis, schedule of research, and hypotheses testing.

3.1. Research Design

This is a quantitative study. The design used in this research is ex post facto design. There is no treatment in this research. Hatch and Farhady (1982:26) states:

> Ex post facto design is often used when the researcher does not have control over the selection and manipulation of the independent variable. This is why the researcher looks at the type and/or degree of relationship between two variables rather than at a cause-and-effect relationship.

Ex post facto design is as follows:

(Hatch and Farhady, 1982:27)

Note:

T1 : The test of self efficacy

T2 : The test of students' engagement

The aim of this study were to find out the correlation between students' academic self efficacy and their engagement in speaking English class and find out how far students' academic self-efficacy contributes their engagement in speaking English class. The score for each student on one test can be correlated with the score on the other, allowing us to see whether those students who score high on one test also score high on the other.

The data of this study were students' self efficacy and students' engagement in speaking English class. Self efficacy is one of the language attitudes symbolized as 'X' variable that was scored by using Self-Efficacy subscale from the Motivated Strategies for Learning Questionnaire (MSLQ) for Middle and High School students developed by Pintrinch and De Groot (1990) and the result was self efficacy data. Students' engagement is one of aspect in someone successfulness factor and the result was students' engagement score, symbolized as 'Y'. The researcher used the Engaged Learning Index developed by Laurie A. Schreiner and Michelle C. Louis (2006).

To find the coefficient of correlation between self efficacy and students' engagement, the researcher used Pearson Product Moment Correlation, while for analyzing how far the self efficacy contributes their engagement in speaking English class; Simple Regression was applied.

3.2. Population and Sample

3.2.1. Population

The population of this research was students of SMA Sugar Group Lampung Tengah in 2013/2014 academic year. Totally there were 17 classes with the total number 380 students. There were six classes for grade X with the total number 148 students; five classes X IPA and one X IPS. For grade XI there were six classes with the total number 130 students; five classes XI IPA and one XI IPS. The last for grade XII there were five classes with the total number 102 students; four classes XII IPA and one XII IPS.

3.2.2. Sample

The sample was taken through purposive sampling with the purpose of that individual or selected cases may represent a case that could answer the problem. The determination of the individual or the case was based on theoretical knowledge possessed by the researcher. The researcher took the class with high competency in speaking English because the write wanted to find out the level of good learners' self efficacy and the correlation with their engagement. Good learners surely had good self efficacy in other words high self efficacy. By taking the class with high competency, the researcher wanted to find out whether their high self efficacy has relationship with their engagement in class or not because many literature say that the level of self efficacy will influence students' engagement in the classroom activity. So, there were three classes from three grades as the sample of this research.

3.3. Research Procedures

In conducting the research, the research procedure used these following steps:

1. Stating research problems
2. Determining the objectives

   The objectives of the research are:

   a. To find out whether there is significant correlation between students' academic self efficacy and their engagement in speaking English class.
   b. To analyze how far students' academic self efficacy contributes their engagement in speaking class.

3. Determining the sample population

   The researcher took one class each grade from SMA Sugar Group Lampung Tengah as the sample in this study. There were 17 classes and the total of population is 380 students. The researcher took three classes which were one class from each grade to be chosen as sample by using purposive sampling.

4. Constructing research instrument

   a. Test of self efficacy

      Self efficacy questionnaire was taken from Pintrinch and De Groot (1990) in which the score were based on the Likert Scale and the range of 1 to 7.

   b. Test of students' engagement

Students' engagement questionnaire used in this research is Engaged Learning Index developed by Laurie A. Schreiner and Michelle C. Louis (2006) in which the score were based on the Likert Scale and the range of 1-5

5. Administrating self efficacy test

   The researcher gave a questionnaire of self efficacy to the students.

6. Administrating students' engagement test

   The researcher gave a questionnaire of students' engagement to the students.

7. Collecting the data

   After administrating the tests, the data from both tests was collected.

8. Analyzing the data

   The data was analyzed by using Pearson Product Moment Correlation which was computed using SPSS to investigate whether there was any significant correlation or not.

3.4. Research Instruments

In collecting the data, the researcher used two kinds of questionnaire as the instrument. Those two kinds of questionnaire were to score self academic and students' engagement in speaking class.

The researcher distributed self efficacy questionnaire to the students in order to classify whether they were having high self efficacy or low self efficacy, while

distributes students' engagement questionnaire to students in order to score students' engagement in speaking class.

1. Self Efficacy Questionnaire

There were two kinds of questionnaire in this research as the instrument. The first questionnaire was used to get the data about students' self efficacy. This method was effective to measures the aspects or variables concerning with behavioral or psychological or sociological aspects.

This questionnaire was including in Closed-ended questionnaire. Closed-ended means the option are provided and there are no other alternatives. Closed-ended questionnaire is used to help the researcher in selecting the data, so that the research will not have to waste the time for the data which are not relevant to the research problem.

A set of the self efficacy questionnaire was taken from Pintrinch and De Groot (1990) in which the score were based on the Likert Scale and the range of 1 to 7 for the positive statements and the range of 7 to 1 for the negative statements. The last scores were taken from the total answers given so that the high and low score showed the self efficacy range. The questionnaire was translated into Bahasa Indonesia to help the student in filling out the questionnaire.

2. Students' Engagement Questionnaire

While for collecting data students' engagement the researcher used a set of questionnaire which was consist of two types; Close-ended and Open-ended questionnaire. For the Close-ended, the researcher used Engaged Learning Index developed by Laurie A. Schreiner and Michelle C. Louis (2006)**.** The questionnaire was scored based on the Likert Scale and the range of 1 to 5 for the positive statements and the range of 5 to 1 for the negative statements. The last scores were taken from the total answers given so that the high and low score showed the students' engagement range. The questionnaire was translated into Bahasa Indonesia, in order to ease the students' difficulty when they answered the questionnaire. Besides that, the Open-ended questionnaire was used to find out the reasons why they were being engaged in learning.

3.5. Validity and Reliability of the Instrument

3.5.1. Validity of Questionnaire

Validity is important to find out the validity of instrument. According to Hatch and Farhady (1982: 250), validity is the extent to which an instrument really measures the objective to be measured and suitable with the criteria. According to Hatch and Farhady (1982: 281) there are three basic types of validity; content, construct and face validity. In this research, the researcher used content validity and construct validity to measure whether the test has good validity or not.

a. Content Validity

It is extent to which the test measures a representative sample of the subject matter content and not simply on the appearance of the test (Hatch and Farhady, 1982:251). To get content validity of the test, the researcher adopted the questionnaire which measured three types of student's engagement and motivation and learning strategies. Besides that, the researcher measured the content validity using inter-rater reliability that needs some evaluators as a team and done before collecting the data (Setiyadi, 2006:26).

b. Construct Validity

Construct validity is concerned with whether the test is actually in line with theory of what it means to know the language that is being measured, it will be examined whether the test questions actually reflect what it means to know a language. According to Heaton (1991:161) states that construct validity is capable of measuring certain specific characteristics in accordance with a theory of language behavior and learning and it assumes the existence of certain learning theories underlying the acquisition of abilities and skills. Besides that, we can measure the construct validity using inter-rater reliability that needs some evaluators as a team and done before collecting the data (Setiyadi, 2006:26).

For engagement questionnaire, engaged learning was thus conceptualized as a multidimensional construct that contains both the

physical and psychological energy. Comprised of affective, behavioral, and cognitive components (Fredericks, Blumenfeld, and Paris, 2004:62-64), they theorize that engaged learning could be measured globally but also could be measured in specific local instances, such as within a particular class session. The researcher specified them in the table of specification to make sure that the items of test were good in the term of construct validity.

Table 3. Table of specification the Engaged Learning Index

NO	Factor	Number of items	Persentage
1.	Meaningful Processing (Cognitive Engagement)	2, 3, 5, 8, 11, 12, 15, 16, 18, 19, 20	55%
2.	Participation (Behavioural Engagement)	1, 4, 6, 9, 13	25%
3.	Focused Attension (Emotional Engagement)	7, 10, 14, 17	20%
	Total	20 items	100%

(Fredericks, Blumenfeld, and Paris, 2004:62-64)

While The MSLQ consists of 81, self-report items divided into two broad categories: (1) a *motivation* section (motivational beliefs scale) and (2) a *learning strategies* section (self regulated scale). According to the MSLQ Manual:

The motivation section consists of 31 items that assess students' goals and value beliefs for a course, their beliefs about their skill to succeed

in a course, and their anxiety about tests in a course. The learning strategy section includes 31 items regarding students' use of different cognitive and metacognitive strategies. In addition, the learning strategies section includes 19 items concerning student management of different resources. (Pintrich et al., 1991: 5)

Pintrich and De Groot (1990) say the MSLQ can be used either in its entirety or its subscales and has most frequently been applied to evaluate the motivational and cognitive effects educational programs have on students. The instrument is completely modular, and thus the scales can be used together or individually, depending on the needs of the researcher, instructor, or student. However in this research, the reasercher only used a shortened form of MSLQ that was Self-Efficacy subscale from the Motivated Strategies for Learning Questionnaire (MSLQ) for Middle and High School students developed by Pintrinch and De Groot (1990) which was consists of eight (8) statements from 81 statements.

The researcher specified them in the table of specification to make sure that the items of test are good in the term of construct validity.

Table 4. Table of Specification of MSLQ

Scale	Items Comprising the Scale	Mount
Motivation Scales		
1. Intrinsic Goal Orientation	1, 16, 22, 24	4
2. Extrinsic Goal Orientation	7, 11, 13, 30	4
3. Task Value	4, 10, 17, 23, 26, 27	6
4. Control of Learning Beliefs	2, 9, 18, 25	4
5. Self Efficacy for Learning and Perfomance	5, 6, 12, 15, 20, 21, 29, 31	8
6. Test Anxiety	3, 8, 14, 19, 28	5
Learning Stategies Scales		
7. Rehearsal	39, 46, 59, 72	4
8. Elaboration	53, 62, 64, 67, 69, 81	6
9. Organization	32, 42, 49, 63	4
10. Critical Thinking	38, 47, 51, 66, 71	5
11. Metacognitive Self-Regulation	33r, 36, 41, 44, 54, 55, 56, 57r, 61, 76, 78, 79	12
12. Time/Study Environmental Menegement	35, 43, 52r, 65, 70, 73, 77r, 80r	8
13. Effort Regulation	37r, 48, 60r, 74	4
14. Peer Learning	34, 45, 50	3
15. Help Seeking	40r, 58, 68, 74	4
Total		81
Scale	Items Comprising the Scale	Mount

(Pintrich et al., 1991: 5)

3.5.2. Reliability of Questionnaire

Reliability is measure of accuracy, consistency, dependability or fairness of scores resulting from administration of particular examination. Meanwhile, Heaton (1991: 162) also state that reliability is a necessary characteristic of

good test, if the tests are given to the same person in other time without any treatment or language learning then it produce different significance result it is no where reliable.

A. Reliability of Students' Academic Self Efficacy Questionnaire

The researcher used Self-Efficacy subscale from the Motivated Strategies for Learning Questionnaire (MSLQ) for Middle and High School students developed by Pintrinch and De Groot (1990) and to find out the test was reliable or not, the researcher used Cronbach Alpha. Every item in self efficacy questionnaire was analyzed to make sure that the items consist of good unity. The researcher used Cronbach Alpha that was measured based on the average of the questions correlation. Self efficacy score was made up of 8 items rated on a 7-point Likert type scale, from seven to one (for the positive statements) and from one to seven (for the negative statements).

From the calculation of reliabilty analysis of questionnaire, tha alpha is 0.780. 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 the item deleted, it will make alpha lower. For example, item 1 (see Appendix 4), the alpha is 0.592. It means that, if item 1 is deleted, alpha of the whole items will be lower than 0.780. The higher the alpha is, the better the questionnaire is.

Another example, on item 17 the alpha is 0.016. Alpha of this item (0.016) did not make the alpha of coefficient reliability (0.780) increased if this item is deleted. With alpha 0.780, the researcher reported that the questionnaire has high reliability and is reliable to be administered.

B. Reliability of Students' Engagement Questionnaire

The researcher used a set of Engaged Learning Index developed by Laurie A. Schreiner and Michelle C. Louis (2006), and to find out the test was reliable or not, the researcher used Cronbach Alpha. Students' engagement was made up of 20 items rated on a 5-point Likert type scale, from five to one (for the positive statements) and from one to five (for the negative statements).

From the calculation of reliabilty analysis of questionnaire, tha alpha is 0.739. 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 the item deleted, it will make alpha lower. For example, item 5 (see Appendix 5), the alpha is 0.873. It means that, if item 1 is deleted, alpha of the whole items will be lower than 0.739. The higher the alpha is, the better the questionnaire is.

Another example, on item 8 the alpha is 0.169. Alpha of this item (0.169) did not make the alpha of coefficient reliability (0.739) increased if this item is deleted. With alpha 0.739, the researcher reported that the questionnaire has high reliability and is reliable to be administered.

3.6. Data Analysis

This research has two variables, dependent and independent. Since, this research was correlation study, in collecting the data the researcher only used two kinds of questionnaire for those variables. They were self efficacy questionnaire and students' engagement questionnaire. The researcher classified the self efficacy as independent variable because theoretically, self efficacy influences the students' engagement. The data from students' engagement was classified as dependent variable because the aspect was influenced by self efficacy.

After analyzing the result of students' academic self efficacy, the researcher correlated it with the result of students' engagement in order to determine whether there is correlation or not by using Pearson Product Moment Correlation. The data were analyzed both by using SPSS and manual as follow:

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

(Hatch and Farhady, 1982: 198)

Note:

r : the coefficient correlation

x : self efficacy score

y : students' engagement score

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

$\sum y$: the sum of score 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 score in Y distribution

N : the number of paired X and Y scores

After that, simple regression will implement to find how far the contribution of students' academic self-efficacy to their engagement. With the formulation as follows:

$$R = r^2$$

R = coefficient correlation

3.7. Schedule of Research

Below, it is the schedule of the researcher doing research. The research was done almost three weeks.

Table 4. Schedule of Research

No	Time	Activity
1.	21st February	Ask permission to do research
2.	21th – 26th February	Meet up with the English teacher for asking students' speaking score
3.	27th February	Administrate the questionnaire to the students as the sample of the research
4.	28th February – 2nd March	Calculate the reliability of two kinds of questionnaires
5.	3rd – 9th March	Tabulate and analyze the data from those two questionnaires

3.8. Hypotheses Testing

After finding the coefficient correlation between students' self efficacy and students' engagement in speaking English class and the coefficient influence value of students' self efficacy and students' engagement in speaking English class, the researcher should find out the criterion of the hypothesis acceptance. To

determine whether the first hypothesis was accepted or rejected, the following criterion acceptance was used:

$$H_0 = r_{value} < r_{table}$$
$$H_1 = r_{value} > r_{table}$$

a. H_0 If r-value is lower than r-table then H_0 is accepted.

   It means there is no significant correlation between students' academic self efficacy and students' engagement in speaking class. We could accept this hypothesis if r_{table} is lower than r_{value}

b. H_1 If r-value is bigger than r-table then H_1 is accepted.

   It means there is significant correlation between students' academic self efficacy and students' engagement in speaking class. We could accept this hypothesis if is r_{value} higher than r_{table}

As can be clearly seen that this chapter has discussed about the methods of research had been used in this study, such as: (1) research designs, (2) population and sample, (3) research procedures, (4) research instrument, (5) validity and reliability of instrument, (6) data analysis, (7) table of research, and (8) hypotheses testing.