

### III. RESEARCH METHODS

#### A. Research Design

This research is quantitative research because it is focused on the product (result of the test) not the process of teaching learning and the objective is to find out the correlation between achievement in generic structure and listening comprehension. In this research, the writer used co-relation study, which is one of the kinds of ex-post facto design. Correlation study here means the writer used one group and took the data in one time without giving any treatment. The data collected by seeing the correlation between cause and effect that may happen (after the fact). (Hatch and Farhady, 1982:26).

In doing this research, the data took by generic structure test (X) and listening comprehension test (Y) to the students. This is illustrated as follow:

X Y

X = generic structure test

Y = listening comprehension test

(Hatch & Farhady, 1982:26)

#### B. Population and Sample

In the *Encyclopedia of Educational Evaluation* (cited in Arikunto, 2006: 130), *population* is defined as “a set (or collection) of all elements processing one or

more attributes of interests”. Moreover, Coolidge (2000:24) states that population is “most often a theoretical group of all possible scores with the same trait or traits”. Simply, a population is the whole subjects of a research.

Bases on Arikunto (2006:131), sample is a half or the representative of the examined population. In addition, Coolidge (2000:24) states that sample is a smaller group of scores selected from the population of scores.

The population of this research will be the first year students at SMAN 5 Bandar Lampung. There were ten classes with total number of 371 students. In this research, the researcher determined the sample by using simple probability random sampling, where every individual in population has probability to be chosen as sample. The researcher chose one class as sample by using lottery. The use of this method was to fulfil external validity aspect and to get normal distribution data.

### **C. Research Instrument**

According to Arikunto (2006:149), instrument is a medium of collecting data used when the research is delivered by using a certain method. In other words, this research must gain some information and data about the topic of this research before the data were analyzed.

In collecting the data, two instruments used, as follow:

#### **1. Listening test**

Listening test is one of objective test, one true answer. Listening comprehension test consisted of 30 items, with four options each (A, B, C, and

D). Objective test used rather than other types of test because it assumed that objective test was more familiar to the students than other types of test. So, they must understand the instruction of the test more easily, besides, it was easy to score.

## 2. Generic Structure Test

Generic structure test is an objective test with one true answer. In generic structure test consisted of 15 items, with four options each (A, B, C, and D).

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

### 1. Validity of the Instrument

Generally, the validity of a test shows how far the test measures what supposed to be measured (Setiadi, 2006). Validity can be defined as the degree to which a test actually tests what it is intended to test. To measure whether instruments have a good quality or not, the writer saw them from the content validity and construct validity. Content validity is the extent to which a test measures a representative sample of the subject matter content (Hatch & Farhady, 1982).

Since the purpose of the test was to measure as well as to know students' achievement in listening comprehension, the writer applied tests to measure it.

As well as for listening test, to claim it is valid, the writer took the topic that suitables with the ability of first grade students. The writer used objective test scoring by Arikunto's formula (1997) as guidance for scoring the students' listening test. The formula can be seen as follow:

$$S = \frac{r}{n} \times 100$$

Where:

S = The score of the test

r = The total of the right answer

n = The total items

**Table 1. Specification of Listening**

No	Skills of listening	Item numbers	Percentage of items
1.	Determining main idea	11, 16, 21, 26	13,33%
2.	Finding detail information	1, 2, 6, 7, 12, 17, 22, 27	26,67%
3.	Referencing	3, 8, 13, 18, 23, 28	20%
4.	Inferencing	4, 9, 14, 19, 24, 29	20%
5.	Vocabulary	5, 10, 15, 20, 25, 30	20%
Total		30	100%

**Table 2. Specification of Recount, Narrative, and Procedure Generic Structure**

No	Parts of generic structure	Item numbers	Percentage of items
1.	Orientation, goal	1, 9, 13, 14, 15	33,33%
2.	Complication, events, materials	5, 10, 11	20%
3.	Resolution, Re-orientation, steps	2, 3, 4, 7	26,67%
4.	Generic structure	6, 8, 12	20%
Total		15	100%

## 2. Reliability of the Instrument

Reliability is simple a consistency of a test. In other words, how far it can measure the same subject at separated time, but it shows the same result relatively (Setiyadi, 2006:113). Reliability can be defined as the extent to which a test produces consistent results when administered under similar condition (Hatch and Farhady, 1982). The score of the items and their answers will divide into two similar parts, odd and even, so that they become two groups of students. The scores of the students on the two halves will correlate.

The result of the correlation is then called the reliability of the half of the test. That means the reliability of the whole test should be obtained.

Therefore, the product moment correlation will use to calculate the reliability of the half test. The formula is:

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

In which :

$r_{xy}$  = coefficient reliability between X variable and Y variable

(Product Moment Correlation formula)

n = number of the students

x = total score of odd number

y = total score of even number

$x^2$  = square of X

$y^2$  = square of Y

(Arikunto, 2006)

In order to determine the reliability of the full test, Spearman Brown's Prophecy Formula (Hatch & Farhady, 1982:246) will use, with formula as follows:

$$r^k = \frac{2 \cdot r_{xy}}{1 + r_{xy}}$$

In which:

$r^k$  = the coefficient of reliability of the whole test

x = coefficient of reliability of the test half test (odd number items)

y = coefficient or reliability of the test half test (even number items)

The criteria are:

Score	Indication
0.00 – 0.49	Low
0.50 – 0.89	Moderate (satisfactory)
0.90 – 1.00	High

(Ali, 1987)

### **E. Research Procedure**

In doing the research, the writer will use procedure as follows:

1. Determining the subject

The subject of the research was the first year students of SMAN 5 Bandar Lampung. One class took as the subject of the reseach.

2. Determining the test of listening ability

The test was multiple choice, consist of 30 items with four options (A, B, C, and D).

3. Determining the generic structure test

The test was multiple choice, consist of 15 items with four options ( A, B, C, and D).

4. Administrating listening test

The writer conducted English listening test to the students. They heard the recordings and answer the questions.

5. Administrating generic structure test

The writer gave generic structure test to students after they finished the listening test.

## 6. Collecting the data

After administrating the tests, the data collected.

## 7. Analyzing the data

The data analyzed by using SPSS to investigate whether there is any correlation or not and to analyze whether there is influence or not.

### **F. Data Analysis**

To find the correlation between students' achievement in generic structure and their listening comprehension, Pearson Product Moment used to analyse the data with formula 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 & Farhady, 1982:198)

In which:

r = The coefficient correlation

x = Generic structure score

y = Listening comprehension 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 scores in Y distribution

N = The number of paired X and Y scores.

After that, Simple Regression was done to find how far the contribution of achievement in generic structure to their listening comprehension. With the formulation as follow:

$$R = r^2$$

In which:

$r$  = coefficient correlation

### **G. Hypothesis Testing**

After finding the coefficient correlation between students' achievement in generic structure and their listening comprehension, the writer should found out the criterion of the hypothesis acceptance. To determine whether the first hypothesis was accepted or rejected, the following criterion acceptance was used:

$$H^0 = r_{\text{value}} < r_{\text{table}}$$

$$H^1 = r_{\text{value}} > r_{\text{table}}$$

$H^0$  is:

“There is no correlation between students' achievement in generic structure and their listening comprehension. We could accept this hypothesis if  $r_{\text{value}}$  is lower than  $r_{\text{table}}$ .”

$H^1$  is:

“There is significant correlation between students' achievement in generic structure and their listening comprehension. We could accept this hypothesis if  $r_{\text{value}}$  is higher than  $r_{\text{table}}$ .”