III. RESEARCH METHOD

This chapter discusses the method of research used in this study, namely: research design, population and sample, data collecting technique, research procedures, validity and reliability of the instruments, scoring system, and data analysis.

3.1. Research Design

This inferential quantitative research relied on second language learning to examine the relationship between students' interest in English songs and their achievement in listening section. To find out the answer to the research problem, a quantitative inferential research in form of *ex post facto* design was employed in this research, as Setiyadi (2006:118) states that inferential quantitative research is meant to generalize, predict, and conclude based on the data that have been obtained. With this method, the researcher tried to make a conclusion about something based on a sample from a population. It means that in this research, the researcher correlated the taken data by describing it and makes a conclusion from the finding and then she got whether students' interest in listening to English songs positively or negatively correlated with their listening achievement.

Ex post facto research design was used in this research because there is no treatment on subject of the research and the data was collected by seeing the

correlation between cause and effect that may happen (after the fact). *Ex post facto* design involved only one group and does not use control class, Hatch & Farhady (1982:26) state that *ex-post facto* design is used when the researcher does not have control over the selection and manipulation of the independent variable. This design is often called co-relational study.

Co-relational study focuses on the relationship among variables that exist naturally. It does not involve the manipulation of independent variables. Yet it involves collecting data in order to determine whether and what degree a relationship exists between two or more variables rather than the cause-effect relationship (Hatch and Farhady, 1982:27)

The research design of *Ex post facto* co-relational study is formulated as follows:

$$T_1 \quad \underline{\hspace{1cm}} \quad T_2$$

In which: T_1 :   Students' interest

T_2 :   Students' listening achievement

(Hatch and Farhady, 1982:27)

3.2. Population and Sample

The population of the research was the first year of SMAN 9 Bandar Lampung. There were ten classes of the first grades and those consisted of about 300 students. By using random sampling, the researcher has taken X.9 class consisting of 30 students as the sample and X.6 class consisting of 29 students as the try out class. The researcher preferred to take the class randomly because in this case, the individuals in the population become more varied and the data that would be collected later on were more random.

3.3. Data Collecting Technique

The procedures of collecting data were such the following:

1. Spread the Questionnaire Sheets

The questionnaire was divided into two categories of interest that was individual and situational interest. And the questionnaire itself was close-ended questionnaire type which consists of 30 statements that were answered by the students based on their own opinion. The questionnaire was administered after the listening test; it was conducted in order to determine the students' interest in listening to English song. Since the questionnaire is about individual interest and situational interest.

2. Administering Listening Test

Listening test was administered after the questionnaire was settled in order to find out their listening comprehension achievement. The test consists of multiple choices consisted of thirty items and a song that was analyzed by the students by interpreting the meaning of the song by writing their ideas in their own language. The materials that were tested are related to the curriculum used in the school and suitable with their level, the song used was also familiar with them; in this case the researcher used Jessie J song entitled 'Price Tag'.

3.4. Procedure of the Research

The researcher used the following steps in order to collect the data:

1. **Determining research instruments:** The instrument materials were listening test, questionnaire and interview. There are two kinds of listening test, the first is the multiple choices and the second is considering the song and it is in a

written form, the multiple choice tests are chosen from students' listening section on their hand book. The selecting process is considering the materials that have been taught to the students and the level of students. For the questionnaire, the making process is considering the classification of interest in English song, the interview was administered to strengthen the finding of questionnaire.

2. **Determining the sample of the research**: The sample of this research were determined though *simple random probably sampling.* There were ten classes of the second year of SMAN 9 Bandar Lampung. However, only class X9 that had a chance to become the sample of this research. The data was collected by seeing the correlation between the data from questionnaire and the data from listening test.

3. **Trying out the instruments:** the listening test was tried out to the students of X6 whose level is equal to the students of X9 SMAN 9 Bandar Lampung in order to balance their listening proficiency with the sample of the research. The questionnaire was also tried out to the students in order to find the reliability of the questionnaire by using *Cronbach alpha*.

4. **Final testing of the instruments:** In this phase, the instruments were revised based on the result of try out. The revision was done by changing or deleting the ambiguous statements, distracters, double correct answer, etc, from 30 items of the listening test and 30 items of interest questionnaire.

5. **Conducting the Interest questionnaire:** Before students took part in listening test, they have to fill Students' Interest Questionnaire in order to know their level of interest. They were given 15 minutes to complete the

close-ended questionnaire. The Students' Interest Questionnaires were distributed to the students directly after the students finish the listening test.

6. **Conducting the listening test:** The students were subjected to the test directly without any treatment. First they were instructed to listen to a dialogue and answer questions; there were 25 questions for this section related to the dialogue. Have they finished, they came to the second section that was listening to a monologue and answered questions based on the recorded monologue, there were five questions related to the monologue. After that they were listened a song and write down their own interpretation of the song. Each of the tests should be finished in 15 minutes, since there was three sections of test so for the two tests they have to finish it in about 45 minutes (dialogue, monologue, and song). For the song, the researcher used 2 two raters, the first rater was the researcher herself, while the second rater was her classmate, Silvia Agustina.

7. **Analyzing the data from the instruments:** The data from listening test and students' interest questionnaire was analyzed by using *Pearson Product Moment Correlation* in order to investigate whether there is any significant correlation between them or not.

3.5. Instrument of the Research

3.5.1. Questionnaire

Questionnaire is a set of questions that should be answered by respondents in order to get the information about identical data, experience, attitude, knowledge, opinion, etc. A questionnaire was used to find out the level of students' interest

toward listening to English songs. The questionnaire that has been prepared in this research contained of 30 items of interest variable in order to see the level of students' interest toward English song. This instrument assessed students' feeling of interest in song immediately after they have listening test. The statements in the questionnaires were made based on the criteria of two kinds of interest. They are individual interest and situational interest. The specifications of interest questionnaire are summarized below:

Table 1. Specification of Interest Questionnaire

No	Kinds of Interest	Item Number
1.	Individual Interest	1, 3, 5, 8, 9, 11, 13, 16, 17, 19, 22, 23, 25, 26, 29
2.	Situational Interest	2, 4, 6, 7, 10, 12, 14, 15, 18, 20, 21, 24, 27, 28, 30

The students' interest questionnaire as the instrument to gain data of students' level of interest in English song was also tried out by the researcher in order to find the reliability of the questionnaire by *Cronbach alpha* (see appendix 1).

Scoring:

Strongly agree   (SA)   : 3

Agree   (A)   : 2

Disagree   (D)   : 1

Strongly Disagree   (SD)   : 0

Then, sum the score for 30 items. The higher the score was the higher interest of students' in English songs would be.

3.5.2. Listening Test

Listening tests typically resembled listening comprehension tests except that the student listens to a passage instead of listening it. The student then answers multiple-choice questions that address various levels of literal and inferential

comprehension. Important elements in all listening tests are (1) the listening stimuli, (2) the questions, and (3) the test environment.

The test that was conducted divided into three sections, the first one is recorded dialogue and it contained 20 questions based on the dialogue, in this sections there were several dialogues with several questions for each dialogue. The second section was recorded monologues and it contained five questions of each based on the monologue. A song was played at the third section; the students had to write down their own interpretation of the song with their own language into a paragraph. And each of the section, the recorded dialogue, monologue, and song were played twice if necessary.

3.6.   Validity and Reliability of the Instruments

"A test can be said valid if the test measures the object to be measured and suitable with the criteria" (Hatch & Farhady, 1982:250). They also state that there are three basic types of validity. They are content validity, construct validity, and criterion-related validity. On the other hand, reliability refers to whether the test is consistent in its score and gives us an indication of how the test score is accurate (Shohamy, 1985:70). Reliability can be defined as the extent to which a test produces consistent results when it is administered under similar condition (Hatch and Farhady, 1982:243). That is why validity and reliability in this research are important to be measured.

3.6.1. Validity of Questionnaire and Listening Test

The validity of the questionnaire was found by using item analysis to know the power of discrimination of each items of the questionnaire (see appendix 5). Besides the validity of the listening test referred to the content and construct validity in which the question represent five sorts of listening skill that we are know that quite the same as the listening skill, I.e. *determining main idea, finding the detail, reference, inference, and vocabulary*. They are parallel to the skill required by the language curriculum. The test was tried out to the students whose level is equal to subject of the research. The text was taken from students' handbook.

Table 2. Summary of Specification of Listening Test:

No	Types of Listening Comprehension	Items Numbers	Percentage (%)
1	Determining the main ideas	1., 2., 12., 19.,21.	20 %
2	Finding detail information	17., 18., 20., 22., 25.	20%
3	Vocabulary	14., 15., 23., 24.	16 %
4	Inference	3., 4., 5., 7., 9., 10., 11.	28 %
5	Reference	6., 8., 13., 16.	16 %
Total		**25**	**100**

3.6.2. Reliability of Questionnaire and Listening Test

The data was gained by using the quantitative. First, the result of questionnaire is scored based on the *likert scale* (Ali, 1993:70). In order to know the coefficient reliability of the questionnaire, each items of the questionnaire is analyzed by using *Pearson Product Moment Correlation* (SPSS). The coefficient reliability of each item should be higher than r_{table}, in order to be reliable for this research.

Items of the questionnaire were analyzed by using *Cronbach Alpha* to indicate that the coefficient reliability of questionnaire are reliable and applicable for

measuring both students' interest and its correlation with students' listening achievement on this research

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The reliability of listening test was found out by using split-half method. It was done by dividing the number of the test items into two groups (odd and even) and correlated by using *Pearson Product Moment Correlation*, the formula is as follow:

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

Notes:

r_{xy} = Coefficient correlation

n = Number of students in sample

$\sum x$ = Sum of total score of odd number

$\sum y$ = Sum of total score of even number

$\sum_x 2$ = Sum of square of total score of odd number

$\sum_y 2$ = Sum of square of total score of even number

$\sum_{xy} 2$ = Sum of product of x and y scores for each students.

(Sujana, 1996:369)

After being correlated, the calculation was continued by using formula of *Spearman Brown*. This formula was used to measure the coefficient reliability of all items of listening test. The formula can be seen in the following page:

$$r_n = \frac{2r_{xy}}{1 + r_{xy}}$$

Notes:

r_n = Reliability all items

r_{xy} = Coefficient of reliability between odd and even number of listening test

The criteria are:

Score		Indication
0.00 – 0.49	=	Low
0.50 – 0.89	=	Moderate
0.90 – 1.00	=	High

In interpretation test, to avoid the subjectivity of the researcher, and to find out the reliability of the score, the *inter-rater reliability* was evaluated. Gay (1987:141) in Luki Wulandari (2011) says that inter-rater reliability refers to the situations for which reliability must be investigated such as essay test, rating scale, and observation instrument. Therefore, besides the researcher herself as the first rater, there was another rater, her classmate Silvia Agustina. Both raters analyzed the listening test of the song to find out the score by considering their comprehension of the song.

3.7. Scoring System

Mikado and Matsumoto in Danahar (1994:4) suggest that in order to improve the reliability of listening comprehension test, the number of questions is added and also the number of multiple choices is multiplied. Thus, the researcher used multiple choices in order to gain the objectivity of the result, in form of thirty multiple choices and five alternative answers. One was as key answer and the other four were the distracters. In evaluating the students' listening comprehension scores, the researcher used this formula:

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

Note:

S   = score of the test

R   = right answer

N   = number of item test

3.8. Data Analysis

To analyze the data, the normality test should be done firstly. Because normality test is an idealized model which can be used to dealing with natural behavior (Hatch and Farhady 1982:64). This test is used to measure whether the data in the class is normally distributed or not. And then the result questionnaire-based data and the result of listening comprehension test were used in order to find the coefficient correlation between them. The data was correlated by using *Pearson Product Moment Correlation* (SPSS) in order to investigate whether there was any correlation or not. After that the researcher described the taken data by considering the result of the correlation and the hypothesis.

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

Notes:

r_{xy} = Coefficient correlation

n   = Number of students in sample

$\sum x$ = Sum of students' listening test score

$\sum y$ = Sum of students' interest questionnaire score

$\sum_x 2$ = Sum of square of students' listening test score

$\sum_y 2$ = Sum of square of students' interest questionnaire score

$\sum_{xy} 2$ = Sum of product of x and y scores for each students.

Setiyadi (2006:167) states that coefficient correlation is always between -1 up to +1. To find out whether there were any correlation between students' interest in English song and their achievement in listening section, the criteria of coefficient correlations were used:

$$0.00 - 0.19 \qquad = \text{Very low}$$
$$0.20 - 0.39 \qquad = \text{Low}$$
$$0.40 - 0.59 \qquad = \text{Average}$$
$$0.60 - 0.79 \qquad = \text{High}$$
$$0.80 - 1.00 \qquad = \text{Very high}$$

(Hatch and Farhady, 1982:122)

3.9. Hypothesis Testing

To determine whether the hypothesis accepted or rejected, the following criterion acceptance were used:

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

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

$H_0 \qquad$: There is no correlation between students' interest in English song and students' achievement in listening section.

$H_1 \qquad$: There is correlation between students' interest in English songs and their achievement in listening section.