# III. RESEARCH METHOD

This chapter discusses the methods of research that will be used in this study, such as: design, subject, instruments, data analysis, and hypothesis testing.

## 3.1 Design

Descriptive quantitative was implemented in this research. The design used in this research is *ex post facto design*. Hatch and Farhady (1982:26) state that 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.

The aim of this study is to find out the correlation between two variables (motivational behavior and speaking proficiency) in English. The data of the research are students' motivational behavior and their English speaking proficiency. The data about motivational behavior is included in motivation's questioner that has motivational intensity, attention and persistence aspects. Students' motivation is in the form of perception based on Likert scale with the range 1 − 5. English speaking proficiency is in the form of score based on the criteria proposed by Heaton (1991).

Motivational behavior is one of the language attitudes symbolized as 'X' and the result is motivational behavior data. English speaking ability is one of the language skills which are tested by transactional speaking test and the result is students' English speaking proficiency scores symbolized as 'Y'. The correlation design is illustrated as follows:

$$X \rightarrow Y$$

To find the coefficient of relationship between motivational behavior and speaking proficiency, the researcher used Pearson Product Moment Correlation, while for analyzing how far the motivational behavior contributes students' speaking ability, Simple Regression Technique was applied.

**3.2 Subjects**

The subject of this research was the second year students of SMA Negeri 1 Pringsewu in even semester of 2014/2015 academic year. There were nine classes with the total number of the students were 288. The selection of the sample was done through probability sampling, by using simple random sampling, where every individual had probability to be chosen as sample. The researcher took four students from five classes and five students from four classes to be chosen as sample by using lottery so there were 40 students as the sample. The use of this method was to fulfill the external validity aspect and to gain normal distribution of the data.

**3.3 Instruments**

In collecting the data, the researcher used questionnaire and transactional English speaking tests as the instrument.

The researcher distributed motivational behavior questionnaire to the students in order to classify whether they had high motivational behavior or low motivational behavior, while for speaking test, the students were provided three issues to be discussed with their partner. After that, the students had to deliver the result of their discussion in oral dialogue.

1. Questionnaire

Questionnaire method was used to get the data about students' motivational behavior in learning English. This method is effective to measure the aspects or variables concerning with behavioral or psychological or sociological aspects (Setiyadi, 1999).

Close-ended questionnaire means the options are provided and there are no other alternatives. Close-ended questionnaire was used to help the researcher in selecting the data, so that the researcher did not waste the time for the data which were not relevant to the research problem. The respondents were directed to give the data relevant to the research problems.

The score of students' motivational behavior in learning English was taken after students answered the questionnaire. The questionnaire covers the learners' effort in learning English, the average time of doing English work, learners' sacrifice

and interest to gain the purpose, also learners' ability to solve the problem, those are; intensity, attention, and persistence.

The researcher set the motivational behavior's questionnaire in which the scores are based on the Likert Scale and the range of 1 to 5 for motivational intensity and attention, and persistence. The last scores were taken from the total answers given so that the high and the low score show the motivational behavior range. The questionnaire was made in Bahasa Indonesia in order to make students answer the questionnaire easily.

**Table 3.1 Table of Specification of Questionnaire**

| Indicator | Sub Indicator | Statements | Total Number |
|---|---|---|---|
| 1. Intensity | Learners' effort in learning English, the average time of doing English's work | 1,2,3,4,5,6,7,8,9,10 | 10 |
| 1. Attention | Learners' concentration and interest to gain the purpose | 11,12 13,14,15,16,17,18,19 20 | 10 |
| 2. Persistence | Learners' ability to solve the problem | 21,22,23,24,25,26,27 28,29,30 | 10 |
| Total Number | | | 30 |

The reason of giving score is to facilitate and to make the counting and giving score easily for each student's answer about their motivational behavior.

2. English Speaking Test

Transactional dialogue was used to assess English speaking proficiency of the students. In this technique, researcher provided paper contains of hot issues happening in Indonesia. The students chose one of the issues given by the researcher. The researcher gave the students 10 minutes to prepare the test. The test covered asking and giving personal opinion of the issues discussed. The issues related to the condition of education, culture, and technology. The result of this test was considered as the data of students' English speaking proficiency.

The researcher used the oral ability scale proposed by Heaton (1991) as guidance for scoring the students' speaking test. In scoring the test, the researcher used two ratters; the researcher and the teacher in the school, and implements holistic scoring which covered accuracy, fluency and comprehensibility. So the researcher scored the three aspects: accuracy, fluency, and comprehensibility separately.

The following table is the oral ability scale proposed by Heaton (1991). The table is used as the scoring standard for the students' speaking ability. As speaking is highly subjective measurement, the great weakness of oral ratings is their tendency to have rather low reliability. So, to see the consistency of rating of that subjective measurement, then the inter rater reliability was used as it relates to this study.

Table 3.2 The Scoring Standard for the Students' Speaking Ability

| Range | Pronunciation | Fluency | Comprehensibility |
|---|---|---|---|
| 90-100 | Pronunciation only very slightly influenced by mother-tongue. | Speaks without too great an effort with a fairly wide range of expression. Searches for words occasionally but only one or two unnatural pauses. | Easy for listener to understand the speaker's intention and general meaning. |
| 80-89 | Pronunciation is slightly influenced by the mother tongue. Most utterances are correct. | Has to make an effort at times to search for words. Nevertheless 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 are not too many unnatural pauses. Fairly smooth delivery mostly. | Most of the speakers say is easy to follow. His intention is always are 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 search for the desired meaning. Rather halting delivery and fragmentary. | The listener can understand a lot of what is said, but he must constantly seek clarification. Cannot understand many of the speaker's more complex or longer sentences. |
| 40-59 | Pronunciation is influenced by the mother tongue with errors causing a breakdown in communication. | Long pauses while he searches for the desired meaning. Frequently halting delivery and fragmentary. Almost gives up for making the | Only small bits (usually short sentences and phrases) can be understood – and then with |

| | | | |
|---|---|---|---|
| | | effort at times. | 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 is said can be understood. Even when the listener makes a great effort or interrupts, the speaker is unable to clarify anything he seems to have said. |

**(Heaton: 1991)**

For speaking test, to ensure the reliability of scores and to avoid the subjectivity of the research, the researcher used inter-rater reliability. Inter-rater reliability is used when scores of the test are independently estimated by two or more judges or raters. That means there is another person who gives score besides the researcher herself.

### 3.4. Validity and Reliability of the Instruments

 1. The Validity of the questionnaire

Validity is a matter of relevance; it means that the test measures what is claimed to measure. To measure whether the test has a good validity, it has to be analyzed from content and construct validity. Content validity is concerned with whether or not the content of the test is sufficiently representative and comprehensive for the test to be valid measure it is supposed to measure. While construct validity focuses on the kind of test that is used to measure the ability.

Since the purpose of the test is to measure as well as to know students' motivational behavior, the researcher applied a questionnaire that dealt with students' intensity, attention, and persistence.

2. The Validity of the Speaking Test

A test is considered valid if the test measures the object to be measured and suitable with the criteria (Hatch and Farhady, 1982:250). According to Hatch and Farhady (1982:281) there are three basic types of validity; content, construct, and face validity.

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).

In content validity the materials given are suitable with the curriculum. In this case, the researcher gave the speaking material that supposed to be comprehended by the second year student of Senior High School.

b. Construct Validity

Construct validity is concerned with whether the test is actually in line with the 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.

In this research, the researcher focuses on speaking ability in form of dialogue. The topics chosen are asking and giving personal opinion about the recent news or hot news happening in Indonesia.

c. Face Validity

According to Heaton (1991:159), face validity concerns with what teachers and students think of the test. If a test item looks right to other testers, teachers, and students, it can be described as having at least face validity.

In this research, the face validity of the speaking test has been previously examined by both advisors and colleagues, until the test which is in form of instruction looked right and understandable to others.

3. Reliability of Questionnaire

Reliability is a measure of accuracy, consistency, dependability or fairness of scores resulting from administration of particular examination. The researcher set the questionnaire. Every item in motivation questionnaire was analyzed to make sure that the items consist of good unity. Motivation score was made up of 30 items that refer to intensity, attention and persistence rated on a 5-point Likert-type scale. To find whether the question was reliable or not, the writer used Cronbach Alpha. The alpha ranges between 0 and 1. The higher the alpha, the more reliable the questionnare will be (Setiyadi, 2006:167).

$$r$$
$$11 = (\frac{n}{n-1})\left(\frac{1-\Sigma\,\sigma_i^2}{\sigma_i^2}\right)$$

Explanation:

$r$

11     = Reliability

n        = The number of items

$\Sigma\,\sigma_i^2$    = Total variance of all items

$\sigma_i^2$      = The total of variance

To find the variance, the researcher used the formula as follow:

$$\sigma^2 = \frac{\Sigma\,X^2 - \frac{(\Sigma X)^2}{N}}{N}$$

Explanation:

$\sigma^2$      = Variants

$\Sigma\,X^2$    = The number of data quadrate

$(\Sigma X)^2$ = The number of data being quadrate

N        = The number of Data

And for knowing the classification of reliability are as follow:

     a.    Between 0,800 to 1,00 = very  high reliability

     b.    Between 0,600 to 0,800 = high reliability

     c.    Between 0,400 to 0,600 = moderate reliability

     d.    Between 0,200 to 0,400 = low reliability

     e.    Between 0,00 to 0,200 = very  low reliability

From the calculation of reliability analysis of the questionnaire, the alpha is 0.846. 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 15 (see appendix 3), the alpha is 0.564. It means that, if item 1 is deleted, alpha of the whole items will be lower than 0.846. The higher the alpha is, the better the questionnaire is.

Another example, on item 3 the alpha is 0.337. Alpha of this item (0.337) did not make the alpha of coefficient reliability (0.846) increased if this item is deleted. With alpha 0.907, the researcher reported that the questionnaire has high reliability and is reliable to be administered.

4. The Reliability of Speaking Test

For speaking test, to ensure the reliability of scores and to avoid the subjectivity of the research, the researcher 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 is another person who gives the score besides the researcher herself. In this research, the inter rater was Ms. Novi. She is the English teacher of the second year class in SMA Negeri 1 Pringsewu.

In the researcher's consideration, the rater was qualified to measure the learners' speaking ability because she had experiences in teaching English more than ten

years, had experiences in teaching conversation class more than three years, and graduated from university (S1 degree) in English Education.

The score from both of the researcher and English teacher was combined and divided by two to get the final score. In determining the reliability of the test, the researcher used Rank Order Correlation with the formula as follow:

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

Where:

$r$ = coefficient rank of correlation

$D$ = different of rank correlation

1 and 6 = constant number

$N$ = numbers of students

After the coefficient between raters was found, the coefficient of reliability was analyzed based on the standard of reliability bellow:

0.80 – 1.00 = very high

0.60 – 0.79 = high

0.40 – 0.59 = average

0.20 – 0.39 = low

0 – 0.19 = very low

(Slameto, 1998)

Statistical computation of SPSS 17 was used to measure the inter rater reliability in this research. The result gained was reported as below:

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

$$r = 1 - \frac{546}{40 (40^2 - 1)}$$

$$r = 1 - \frac{546}{63.960}$$

$$r = 1 - 0.0085$$

$$r = 0.991$$

The result shows that the coefficient between raters is 0.991, and that was belonged to very high reliability.

## 3.5 Data Analysis

The researcher used two variables, dependent and independent. This research consisted of correlation study. In collecting the data the researcher only used test and questionnaire for those variables. They were speaking proficiency test and questionnaire of motivational behavior. The researcher classified the motivational behavior as independent variable because theoretically, motivational behavior has influence to the language proficiency. The data from speaking performance test was classified as dependent variable because speaking proficiency is influenced by motivational behavior.

After analyzing the result of the students' motivational behavior, the researcher correlated it with the result of their speaking proficiency in order to determine

whether there is a relationship or not by using Pearson Product Moment Correlation. The data were analyzed by using SPSS 17 or 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 & Farhady, 1982: 198)

Note:

| | |
|---|---|
| r | : the coefficient correlation |
| x | : motivational behavior 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 X distribution |
| N | : the number of paired X and Y scores |

After that, simple regression was implemented to find how far the contribution of motivation to their English speaking achievement, with the following formula:

$$R = r^2$$

Where:

R is regression, and

r is coefficient correlation

The researcher also analyzed the data statistically by normal distribution test and homogeneity test of variance.

1. Normal Distribution Test

This test was administered in order to find out whether the data from both tests were normally distributed. The hypothesis of the normal distribution test was:

    H = The distribution of the data is normal

The criterion for the hypothesis was:

The hypothesis was accepted if Sign > $\alpha$. Level of significant that used in this research is 0.05.

The result of normality test of students' motivation showed the value of 0.126 (see appendix 7). In this case, the hypothesis was accepted if sign higher than $\alpha$. The result was 0.126 > 0.05. This meant that the data distribution of the test was normal. Result of normality in speaking test showed the value 0.302 (see appendix 8). Since Sign > $\alpha$, 0.302 > 0.05, it could be stated that the data of the speaking test was normal.

Seeing the result above, it could be stated that the hypothesis proposed in both tests were accepted. This meant that the data in both tests were normally distributed.

2. Homogeneity Test of Variance

To find out whether the data from the two tests were met the criteria of the equality of variance, the researcher used homogeneity test.

In this research, the hypothesis for homogeneity test was:

H = the data is homogenous

Criterion for the hypothesis was:

The hypothesis was accepted if Sign > α. In this case, researcher used level of significant of 0.05.

From the result of homogeneity test for the students' motivation scores in all class was 0.098 (see appendix 10). It showed that Sign > α (0.098 > 0.05). Therefore the hypothesis was accepted.

The same result was showed for the speaking test. The value of homogeneity test from all classes was 0.106 (see appendix 9). It showed that Sign > α (0.106 > 0.05). Therefore the hypothesis was accepted.

## 3.6 Hypothesis Testing

After finding the coefficient relationship between students' motivational behavior and their English speaking proficiency and the coefficient influence value of students' motivational behavior and their English speaking proficiency, 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:

$$H0 = r_{value} < r_{table}$$
$$H1 = r_{value} > r_{table}$$

a. H0. There is no relationship between students' motivational behavior and their speaking proficiency. We can accept this hypothesis if r value is lower than r table.

b. H1. There is relationship between students' motivational behavior and their proficiency in speaking. We can accept this hypothesis if r value is higher than r table.

The second aim of this research was finding attention as the kind of motivational behavior gave the biggest influence to the students speaking proficiency. The researcher used the result of speaking proficiency test and the result of motivational behavior questionnaire. It means that the second hypothesis could be accepted if the percentage of the impact of attention was bigger than persistence and intensity.