

### **3.2.2 Sample**

For the sample in this study is one class for first grade students of SMPN 1 Gresik and one class for first grade students of SMAN 1 Gresik. In this sampling using purposive sampling technique. Using purposive sampling technique, because in this study researcher determine their own samples taken because there are certain considerations. For the sample in this study, only took one class for first grade of SMPN 1 Gresik that is VII A class which amounted to around 29 students, and one class for first grade of SMAN 1 Gresik that is X MIPA 7 class which also amounted to around 29 students. These two different samples is used to make comparison and find the differences in pronunciation errors in vowel sound between of junior and senior high school students and also to determine whether early adolescence learners have good ability of pronunciation than mid adolescence learners in English learning.

## **3.3 Data Collection**

### **3.3.1 Research Instruments**

In collecting the data, the necessary instruments as a means to collect the data, since the instrument is very important. In this study, data collection technique performed by using one instrument, namely instrument in the form of test are given to students.

#### **a. Test**

This test assessing the skill and ability of students in reading aloud using reading text about descriptive text that containing some words about vocabulary

likes physical characteristics, character, profession, adjective, noun, verb etc.

There are 25 words about vocabulary that contains the vowel sounds in English.

Reading text about descriptive text is given by researcher to the students.

Researcher taking descriptive text from internet. Reading aloud test will be carried out on first grade students of SMPN 1 Gresik and first grade students of SMAN 1 Gresik. . The number of students is about 29 students (VII A class) for first grade of SMPN 1 Gresik and about 29 students (X MIPA 7 class) for first grade of SMAN 1 Gresik. Each student gets one same paper about descriptive text then students reading text loudly. By reading aloud test about descriptive text that containing some words about vocabulary, it can be seen how the students pronounce a word about vocabulary which there are the vowels in English and can also be known pronunciation mistakes made by the students. Reading aloud test is performed once for the two groups, namely students of SMPN 1 Gresik and students of SMAN 1 Gresik.

### **3.3.2 Procedure of Collecting Data**

Then students were given a test. Test here judge about the skill and ability of students in the pronunciation of the English by reading aloud. Therefore, the tests uses some words about vocabulary. Reading aloud test carried out on first grade students of SMPN 1 Gresik and then carried out to the first grade students of SMAN 1 Gresik. Each student is given a reading text that is the same about vocabulary then reading aloud by students in turn. With the reading aloud test, it can be seen how the students pronounce a word in the reading of the text in which there are the vowels in English and can also be known pronunciation mistakes made by the students. In the reading aloud test, there are 25 words in reading text

about vocabulary that contains the vowel sounds in English. Each word pronounced correctly will receive 1 point and if pronounced incorrectly will receive 0 point. So, if students can read correctly all words, they will get 100. With the total score is  $25/25 \times 100 = 100$ .

Reading aloud test is performed once to two different groups between junior and senior high school students. Each student given 2 – 3 minutes to read aloud the text because the text is simple. By the time the students read aloud the descriptive text, researcher recorded and took video of students. After the test is done, researcher will be check scores of students obtained from each student and from these test can also be seen the level of students' skill in pronunciation. From the result of test will be compared to the ability of pronunciation in English students between SMPN 1 Gresik and SMAN 1 Gresik to find out which one has the errors of pronunciation most to the pronunciation of the vowel sounds in English and can also be used to determine whether early adolescence learners achieve better pronunciation result in the learning process than the mid adolescence learners.

### **3.4 Validity and Reliability**

- a. Validity is a compatibility test with the main targets that need to be measured. Validity divided into 3, namely :
  - Content validity : Test items compared to the curriculum or syllabus.
  - Criterion validity : Analyzed test scores correlate with similar test scores that has a good characteristic.
  - Construct validity : Construct or concepts related to the field of science to test the validity of the measuring instrument. Construct validity

refers to the concordance between the results of the measuring instrument with the ability to measure.

To test the validity of the test carried out using *Analyze – Correlate – Bivariate* in SPSS 16 program. That is, correlating each item score with the total score. The total score is the sum of the whole item. The steps in testing the validity is as follow :

1. Create a point / score and total score of each variable.
2. Click the Analyze – Correlate - Bivariate.
3. Put all the items variable X (junior high school students) to Variabels.
4. Check the list Pearson - Two Tailed - Flag.
5. Click Ok.
6. Do the same thing in the variable Y (senior high school students).

Basic decision making in test validity as follows :

- If value of  $r_{hitung}$  higher than value of  $r_{tabel}$ , so the test instrumet is valid.
- If value of  $r_{hitung}$  lower than value of  $r_{tabel}$ , so the test instrument is invalid.

- b. Reliability is the overall consistency of a measure. A measure is said to have a high reliability if it produces similar results under constant conditions.

To test the reliability of the test can use *Alpha Cronbach's* formula, is as follows :

$$r_{11} = \left( \frac{n}{n-1} \right) \left( 1 - \frac{\sum \sigma_t^2}{\sigma_t^2} \right)$$

Description is as follow :

R11 : Reliability is sought

N : The number of question items tested

$\sum \sigma^2$  : The number of variance scores eachs items

$\sigma^2$  : Total of variance

Or can also use *Alpha Cronbach's* in SPSS 16 program using *Analyze – Scale – Reliability Analysis*, is as follow :

1. Turn on the SPSS program and select the Variable View, furthermore in the Name write Item number. In the Decimals change all be the number 0.
2. Click the Data View fill in the answers of students according to the number of items.
3. From the SPSS menu select *Analyze*, click *Scale*, then click the *Reliability Analysis*.
4. Then a new dialog box will appear with the name of Reliability Analysis, then enter up to number of item to Items to box, then in the Model select Alpha.
5. The last is click OK. It will appear SPSS output.

Reliability test instrument can be done by using *Alpha Cronbach's*. The instrument has a high degree of reliability if the value of *Alpha Cronbach's* obtaned as follow :

- a. If Alpha Cronbach's  $> 0.90$  means very high reliability.
- b. If Alpha Cronbach's  $0.70$  to  $0.90$  means high reliability.
- c. If Alpha Cronbach's  $0.50$  to  $0.70$  means reliability is quite high.
- d. If Alpha Cronbach's  $< 0.50$  means low reliability.

Basic decision making in test reliability as follow :

- If the value of *Alpha Cronbach's*  $> 0.600$  the test items dictated reliability.
- If the value of *Alpha Cronbach's*  $< 0.600$  the test items dictated unreliability.

### 3.5 Data Analysis

In the data analysis in this study use statistical test using *Compare mean - Independent sample t – test*, using two samples. Using *Compare mean - Independent sample t - test*, because between the two samples that will be tested there is no relationship. In this case the word "independent" or "free" means there is no connection between the two samples to be tested (Santoso, 2014). Statistical test in this study to determine differences result of pronunciation error between the two samples is first grade of SMPN 1 Gresik with first grade of SMAN 1 Gresik.

For steps test *Compare mean - Independent sample t - test* in SPSS for Windows version 16 is as follow :

1. Open a new worksheet in the application of SPSS.
2. On the Data View enter the data (number of pronunciation score test junior and senior high school students).
3. Then go in the variable view. Type in the number of pronunciation score test in the first row and the school on the second line and change the decimal to 0.
4. On the label type the pronunciation score of students to the number of score and the school name for school.
5. For variable Schools, click Values and set one for SMP and two for SMA.

6. Click the Data View.
7. Then click Menu *Analyze - Compare means - Independent Samples t – Test*.
8. Enter a score in Test Variable and Schools Grouping variable.
9. Then click Define Groups and enter 1 in Group 1 and 2 in Group 2 and then continue.
10. In our use Option level of 95% or 5% significance, click Continue.
11. Then click OK, it will exit the application testing SPSS output.

For t test analysis, can be summed up as follow :

- $H_0$  : Result of pronunciation error between junior and senior high school students there is no difference or same.
- $H_a$  : Result of pronunciation error between junior and senior high school students there is a difference or not the same.

Basic for decision making can be done by looking at the comparison value or the probability of significant value, as follows :

- If the probability value of more than  $> 0.05$ , then  $H_0$  is accepted.
- If the probability value of less than  $< 0.05$ , then  $H_0$  is rejected.