CHAPTER III

RESEARCH METHODOLOGY

3.1 Research designs

In this research, the researcher use quantitative design which The design of this research is quasi-experimental design. This design belongs to nonrandomized control group by giving pre-test and post-test. The students are given by pre-test before treatment. It is a study to find out a numerical score of collected data and analyze it using statistic. Experimental research is a research when has purpose to find out the effect of certain behaviors to others in a controlled condition (Sugiyono:2009). The aim of this research is to find out the effectiveness of "Dictotell" to improve the student's speaking skill.

The researcher uses quasi-experimental design for this research becausethe condition of the fact that it will be impossible to conduct a true experimental design. There two reason why the researcher uses a quasi-experimental design:

1. In the true experimental design the researcher must have to randomize the subjects. It is impossible because the headmaster of the school will not give the permission for the researcher to rearrange the class.
2. So that, the quai-experimental design is provide a as much control as possible in the existing situation.
3. Another reason to be considered is the objective of this study which want to find out the effectiveness of "Dictotell" in improving student's speaking skill.So, the researcher need to do a pre-test and a post-test because it is impossiblr to randomize the group or the students.

3.2 Population and sample

3.2.1 Population

According to (Crashwell:2008), population is a group of individuals (or a group of organizations) with some common defining characteristic that the researcher can identify and study. In this study, the population is the students in the 11th grade (XI) of MA YASMU senior high school.

3.2.2 Sample

According to (Urdan :2010), sample is a collection of cases selected from a larger population. So, the researcher select the sample of this study that is students' grade XI.A and XI.B at YASMU senior high school Manyar Gresik. The researcher chooses that class because it less in speaking skill.

3.3 Data collection

3.3.1 Instrument of the study

Based on the research design is quasi-experimental design, the instrument of the study in collecting data uses pre-test and post-test. The test will be analyzed first to make sure about the validity and the reliability of the test. Pre-test will be given in the first time before treatment to measure the first achievement of the students. Whereas, the post-test will be given after the researcher do the treatment of the method of teaching speaking in the experimental group. Finally, the scores of the test both of pre-test and post-test will be compared to see whether there is any improvement of the student's speaking skill or not.

3.3.1.1 Test

The kind of the test that will be used in this research is a subjective test. The general concept of the test will be elaborated as follows:

a. pre-test

This test is for both sample which are 11 A and 11 B at MA YAMU Manyar Gresik. This test is aimed to test the student's first proficiency level before the treatment and to see the homogenity of those sample whether those sample comes from an homogenous population or not. This test also important for the researcher to decide which one is the experimental group and which one is the control group.

The test is a kind of subjective test. It is because the skill which wants to measure is a speaking skill where we cannot guest what sentence or word that will be spoken by the speaker. As stated by (Djiwandono:2008), objective test for speaking is a kind of a coercion which is irresponsible because spoken language is full of a spontaneous word or sentence that we cannot guest before. Therefore, the test will only need a scoring guide not a key answer.

The test will be matched with the level of the students. So, the difficulties level of the test will be appropriate. For example, the topic is family life. The student will ask to tell about their family life, in specific about what kind of activity that their family do in the weekend. They will be given maximally 5 minutes to elaborate the topic. They ask to tell as good and as many as they can under a limited time. Moreover, the researcher will check the validity of the test by using the syllabus and the students modul. The questions of the pre-test will be appropriate with the standard competence in the syllabus.

b. post-test

This test is for both experimental and control group. This test also aimed to know the student's proficiency level after the treatment. Whether there is an influence on the ue of dictotell or not. The result of this test also will give the proof for the research in testing the hypothesis.

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c. Validity

According to Ary (1990:256), Research is always depending on the measurement. Validity refers to how far the instrument measures what it is intended to measure. There are three types of validity that are Content, Predictive, Construct. In this research the researcher will measures the validity based on content validity.

According to Ary (1990:258), Content Validity is not always in numeric form but it can be determine whether the test's items reflect the course and objective in curriculum guides, syllabus, and course books. So, the procedure of the validity are :

1. The first, researcher will analyse the course book and the syllabus of the senior high school to formulate the test.
2. The second, If the level of difficulty and the content is equal, so the researcher will conduct pre-test.

3.3.1.2 Rubric

In measuring the students' speaking skill (Pronunciation, Grammar, Vocabulary, Fluency, and Comprehension in speech), the researcher will use rating scale to help her give a score to the students. This rating scale will be used by the researcher, the English teacher of the sample students, and one more expert from outside the school. It because As noted by (Djiwandono:2008), if necessary the researcher should assign more than one examiner by the aim to keep the validity of the test and to achieve as good as possible the level of reliability.

Based on (Harris:1969), the rating scale of oral English used 1-5 points. It can be seen in the following table:

No	**CRITERIA**	**RATING SCORE**	**COMMENTS**
1	Pronunciation	5	How fast traces of foreign language
		4	Always intelligible, thought one is conscious of a definite accent
		3	Pronunciation problem necessities concentrated listening and occasionally lead to misunderstanding
		2	Very hard to understand because of pronunciation problem, most frequently be asked to repeat
		1	Pronunciation problem to serve as to make speech virtually unintelligible
2	Grammar	5	Make few (if any) noticeable errors of grammar and word order occasionally makes grammatical
		4	And or word orders errors that do not, however obscure meaning
		3	Make frequent errors of grammar and word order, which occasionally obscure meaning
		2	Grammar and word order errors make comprehension difficult, must often rephrases sentence and or rest rich himself to basic pattern

		1	Errors in grammar and word order, so, serve as to make speech virtually unintelligible
3	Vocabulary	5	Use of vocabulary and idioms is virtually that of native speaker
		4	Sometimes uses the wrong word conversation somewhat limited because of inadequate vocabulary
		3	Frequently uses the wrong words conversation somewhat limited because of inadequate vocabulary
		2	Misuse of words and very limited vocabulary makes comprehension quite difficult
		1	Vocabulary limitation so extreme as to make conversation virtually impossible
4	Fluency	5	Speech as fluent and efforts less as that of native speaker
		4	Speed of speech seems to be slightly affected by language problem
		3	Speed and fluency are rather strongly affected by language problem
		2	Usually hesitant, often forced into silence by language limitation
		1	Speech is so halting and fragmentary as to make conversation virtually impossible
5	Comprehension	5	Appears to understand everything without difficulty
		4	Understand nearly everything at normal speed although occasionally repetition may be necessary
		3	Understand most of what is said at slower than normal speed without repetition
		2	Has great difficulty following what is said can comprehend only social conversation, spoken slowly and with frequent repetition
		1	Cannot be said to understand even simple conversational English

Table 1.1 Oral English rating Scale

3.3.2 Procedure of data collection

The test are given to the students but before giving the pretest, the researcher analyse the test to know whether items that will use for pre-test and post-test are valid and reliable or not. The researcher will analyse the test based on content validity. After finding out the validity and reliability, the researcher conducts his research.

For the first the researcher gives pre-test to know the first achievement of the experimental and control group in their speaking skill. After giving pretest, the researcher gives the treatment for experimental group. To decide how many treatment will be given by the researcher, the researcher will analyse the syllabus first to make suitable with the syllabus, the standard competence and the "Dictotell".

Meanwhile, posttest will be given after the researcher giving the treatment in experimental group. The post-test will be given to both experimental and control group. It is to find out whether the students make progress in speaking skill or not.

There will be two examiners. The aim is to keep the score of the students is valid and reliable. As noted by (Djiwandono:2008), if necessary the researcher should assign more than one examiner by the aim to keep the validity of the test and to achieve as good as possible the level of reliability.

3.4 Data analysis

After getting the data, then the researcher analysis those data to answer the research questions stated in chapter 1.

3.4.1 Homogenity testing

Homogenity testing is used to check the data whether the sample comes from the homogenous data or not. It is important for the researcher because it will help the researcher to decide which one is the experimental group and which one is the control group from both two class. In homogeneity test, the researcher use SPSS program.

For homogeneity test, the researcher uses one Levene's test of homogeneity test in SPSS 15.0 version. The purpose of this test is to analysis the variances of the observation in Control Group and Experimental Group are equal. The test of Levene's test (P) is defined as follows

$$\mathrm{P} = \frac{(N-k)}{(k-1)} \frac{\sum_{i=1}^{k} N_i \, (Z_{i.} - Z..)^2}{\sum_{i=1}^{k} \sum_{j=1}^{N_i} (Z_{ij} - Z_{i.})^2},$$

Where:

- P is the result of the test,
- *k*iss the number of different groups to which the samplesbelong,
- N is the total number of samples,
- $N_i$is the number of samples in the ith group,
- $Y_{ij}$is the value of the jth case from the ith group,
- $Z_{ij} = \begin{cases} \left| Y_{ij} - \bar{\mathrm{Y}}_{i.} \right|, & \bar{\mathrm{Y}}_{i.}\text{is a mean of i– th group} \\ \left| Y_{ij} - \tilde{\mathrm{Y}}_{i.} \right|, & \tilde{\mathrm{Y}}_{i.}\text{is a median of i– th group} \end{cases}$

The significance of *P* is tested against $F\ (\alpha, k-1, N-k)$where *F*is a quantile of the distribution, with$k-1$and $N-k$its degrees of freedom, and $\alpha$is the chosen level of significance (0.05 or 0.01).

The homogeneity test will be checked in General Linear Model with the following procedures:

1. Open the SPSS program.
2. Click variable view in SPSS data editor.
3. In column name type "nilai" and column name in second row type "kelas".

4. In column decimals, change numeral become 0 for all variables.
5. In column label, type “nilai” in the first row and type “kelas” in the second row.
6. In column values, for the first row let empty (none), for second row click small box, in value type “1”, in value label type “kelas A”, then click add. The next step in value type “2”, in value label type”kelas B”, then click add and click ok.
7. Open data view in SPSS data editor, then there are column variable “nilai” and “kelas”.
8. Typing data of pre-test according the variable, in variable “kelas” type with numeral 1 and 2 (1 refers to “kelas A” and 2 refers to “kelas B”).
9. Clicking Analyze → general linear model →univariate
10. Putting variable “nilai” to dependent variable, and variable “kelas” ke fixed factor, then choose option.
11. From display menu, choose homogeneity test, and then click continue. Next, go into univariate again and finally click ok.
12. Analyzing the result and conclude the result by seeing on sig. on the right column with the criteria of concluding null hypothesis is on the below:

Ho: sample data is come from homogeneous population.

H_1: sample data is come from not homogeneous population.

Criteria: Ho can be rejected if sig < α (α = 0,05)

3.4.2. Hypothesis Testing

In hypothesis testing, the researcher uses independent sample t test in SPSS program. Independent sample t test is used to test the significance difference for two independent samples (independent pairs) which are experimental and control group.

There are some steps in hypothesis testing:

1. Getting the data from the sample by conducting pretest before giving the treatments and posttest after giving the treatments.
2. Test the hypothesis of the research and set the α (alpha) level at 0.05 (two tailed test). The hypothesis can be formulated as follows:

   H_0: there is no significant influenceon the use "Dictotell" between experimental group and control group.

   $H_{1:}$ there is significant influenceon the use of"Dictotell" between experimental group and control group.
3. Analyzing the data by using independent sample t test in SPSS programs.
4. Putting the data in SPSS with the name group and score of the column.
5. Clicking analyze > compare means >independent sample t test and put "score" in column "test variables" and variable of the group in "grouping variable". finally click ok.
6. Analyzing the result and conclude the result by seeing on sig (2-tale) if sig. (2-tailed) > α (0,05), the researcher should accept the $H_{0.}$ It means that there is no significance influence on the use of "Dictotell". If sig. (2-tailed) < α (0,05) so the researcher can reject $H_{0,.}$ It means that there is significance influence on the use of "Dictotell" ($H_1$is accepted).

T-test was calculated in order to find out the comparison of two means between Control Group and Experimental Group pre-test and post-test. In analyzing the data, the researcher used independent t-test formula. In calculating t-test, the formula is follows:

$$t = \frac{(x_1 - x_2) - (\mu_1 - \mu_2)}{S_{x_1 - x_2}}$$

Where:

$\boldsymbol{t}$ is t value

$x_1$is average group 1

x_2 is average group 2

S is standard error of the two groups

$\mu_1 - \mu_2$ is always defaults to 0

Where:

$$S_{x_1-x_2} = \sqrt{\frac{S^2 pooled}{n_1} + \frac{S^2 pooled}{n_2}}$$

$S_{x_1-x_2}$is standard error of two groups

S^2_{pooled} is variants of the two groups

$n_1$is Number of sample group 1

$n_2$is Number of sample group 2

Pooled variance: the average of the two sample variances, allowing the larger sample to weight more heavily.

Formula:

$$S^2_{pooled} = \frac{(df_1)s^2 1 + (df_2)s^2 2}{df_1 + df_2} \quad or \quad S^2_{pooled} = \frac{SS_1 + SS_2}{df_1 + df_2}$$

df_1 = *df*for 1st sample; $n_1 + 1$
df_2 = *df*for 2nd sample; $n_2 + 1$

Estimated standard error of the difference:

$$S_{x_1-x_2} = \sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$$

Clearly, the results of the tests were subjected for the following statistical procedures. In calculating t-test, the researcher uses SPS 15.0 version.