CHAPTER III

RESEARCH METHODOLOGY

As previously stated in chapter I, this research is aimed at finding out the effect of the use of dictogloss technique in teaching listening on students' listening skills. It also intends to investigate students' perceptions toward the use of dictogloss technique in teaching listening. Furthermore, this chapter presents research methodology which is used in the research. It deals with the steps and procedures of conducting this research. In details, it consists of research design, data collection, research procedures and data analysis.

3.1 Research Design

The research employed quasi- experimental design. Since the research was aimed at investigating whether or not the material or treatment makes a difference in results for participants, quasi-experimental was applied (Creswell, 2008). In this research, the treatment was the implementation of dictogloss technique in teaching listening. Quasi-experimental design was also used because it was not feasible to conduct a true experimental design due to some limitations (Hatch & Farhady, 1982; Nunan, 1992). For instance, it was not possible to assign subjects randomly to experimental and control groups as well as to carry out true experimental in which investigated human behavior and language learning.

Furthermore, this quasi-experimental involves two groups of participants, namely experimental and control groups. Experimental group was a group that

received a treatment which was dictogloss technique while control group did not. Nevertheless, it did not mean that control group did not get any treatment. Learning process in control group focused on teacher-centered whereas experimental group with dictogloss technique is focused on learner-centered learning. The quasi-experimental design can be illustrated as follows:

Table 3. 1
Research Design

Sample	Pretest	Treatment	Posttest
G1	T_1E	X	T_2E
G2	T_1C	-	T_2C

(Hatch and Farhady, 1982)

Notes:

G1: experimental group

G2: control group

T_1E: students' achievement of experimental group in pretest

T_1C: students' achievement of control group in pretest

T_2E: students' achievement of experimental group in posttest

T_2C: students' achievement of control group in posttest

X: treatment using dictogloss technique

In order to answer another research problem which was investigating students' perceptions toward the use of dictogloss technique in teaching listening, qualitative approach was also used. It was used to explain statistical results by exploring students' perceptions toward the use of dictogloss technique. In addition, students' perceptions were gained through questionnaire.

3.1.1 Variables

There were two variables in this quasi-experimental design, namely independent and dependent variable. The independent variable was the variable which was selected and manipulated by the researcher, while the dependent variable was variable observed by the researcher to determine the effect of the independent variable (Hatch and Farhady, 1982; Collidge, 2000). In this research, the independent variable was the use of dictogloss technique and dependent variable was students' listening skill.

3.1.2 Hypothesis

Hypothesis is defined as a prediction, an explanation of the research outcome which is expected by the research (Fraenkle and Wallen, 1990). Commonly, in a quantitative design of study, the researcher will state a hypothesis that is an exact opposite of what they want to demonstrate to be true. Hence, in this research, the researcher uses the null hypothesis (Ho) and tries to reject it.

Then, to support the rejection of the null hypothesis, the alternative hypothesis (Ha) is provided. The null and alternative hypotheses are as follows:

Ho : there is no significance difference in mean adjustment level of listening scores between groups who receive dictogloss technique and those who do not.

Ha : there is significance difference in mean adjustment level of listening scores between groups who receive dictogloss technique and those who do not.

3.2 Data Collection

3.2.1 Population and Sample

The research was conducted in one of senior high schools in Cirebon. The place was chosen due to its practicality in conducting the research. The school has facilities, such as multimedia room including a set of instrument, which support learning activities. On the other hand, the population in this research was the tenth grade students of SMAN. Based on curriculum for senior high school, one of the competencies that must be achieved by tenth grader was able to respond descriptive text in the form of monologue text (Depdiknas, 2006).

Since quasi- experimental design does not include randomization on subjects, the sample of this study was chosen purposively, based on the same number of students and absence of significant difference between scores of the two groups. The samples of this study were two classes of tenth grade students of

senior high school. The first class was X.6 as experimental group while another was X.9 as control group. The samples from each class are about 33 students. They were chosen based on their English teacher's recommendation that all members of selected group had similar characteristic.

3.2.2 Learning Materials

Before conducting the treatment, learning materials were prepared. Both experimental and control groups were given same learning materials. In this case, the materials used were descriptive monologue texts which were taken from several textbooks. The textbooks chosen were related to the grade of experimental and control groups. In this case, both experimental and control groups were tenth grader.

Moreover, descriptive monologue texts were taken into account to be used in learning process since a descriptive text was a kind of text that was learnt by the tenth grade of students in senior high school. Besides, monologue text was applied because the competency of understanding monologue text itself was stated in competent standard and basic competence (KTSP, 2006).

3.2.3 Instruments

There were two kinds of data in this research: students' answer sheets in listening tests and document of students' perceptions. The data are collected through the following instruments:

3.2.3.1 Listening Test

Listening test was carried out to find out the effect of the use of dictogloss technique in teaching listening on students' listening skills. The effect can be seen through the result of listening scores whether or not there were score differences between both groups after giving treatment. The listening test was given to 66 students of experimental and control groups. They were asked to listen to some descriptive monologue texts and answer 20 questions related to the text. Both groups were given the same test materials. The materials of listening test used were taken from items of senior high school national examination. Items of senior high school national examination were taken into account since the students were demanded to achieve national standard competency that was tested through national examination. Moreover, in order to complete the materials of listening test, the materials were also taken from some English textbooks.

The test was conducted two times: in pretest and posttest. Pretest was conducted in the first meeting before the treatment given in order to portray students' prior listening abilities. Meanwhile, posttest was given in the last meeting after giving treatment. Posttest was carried out to know whether or not there were score differences between both groups after the treatment.

Pretest and posttest utilized were in the form of multiple choices. Multiple choices were used because of its possibility in assessing listening skill (Hughes, 2003). It was potential to portray students' listening skills without integrating others skills. On the other hand, before conducting pretest and posttest, materials

of the test were tested to another class on the same grade which was not the observed class of the research in order to find out its validity and reliability.

3.2.3.2 Questionnaire

In order to strengthen the findings of the research and answer the second research question, the questionnaire was utilized to find out students' perceptions toward the implementation of dictogloss technique. The questionnaire was administered only to the students in experimental group who received dictogloss technique as the treatment. There were fifteen questions that covered students' opinions about their experiences of the use of dictogloss technique in listening learning. Moreover, the questions were also related to the influences of dictogloss technique in students' listening skills.

Questionnaire was chosen because it can be given to respondents at the same time (Creswell, 2008). The type of questionnaire administered was closed-ended which did not require the respondents to produce any free writing, but asked respondents to choose one of the given alternatives. Particularly, likert scale was used to manage the items in questionnaire. Likert scale was used since it is a common technique in educational research to elicit beliefs, feelings and attitudes of subjects. Like characteristics of likert scale, the items on questionnaire are statements and respondents are asked to indicate the extent to which they 'strongly agree' (SS: *Sangat Setuju*), 'agree' (S: *Setuju*), 'disagree' (TS: *Tidak Setuju*) or 'strongly disagree' (STS: *Sangat Tidak Setuju*) with the items by marking the option (√) on the number of each statement. Each choice indicated a

point value and individual's score. The scores then were determined by summing the point values for each statement.

The questions are asked to subjects were then classified into four elements of perception proposed by Sperling (1987 cited in Yunandami, 2003): (1) personal feelings in items number 1-2, attitudes drives in items number 6-9, and goals in items number 3-5, (2) the sensory nature of stimulus in items number 10-11, (3) learning experience in items number 12-14 and (4) the background or setting of stimulus in items number 15. The closed questions of the questionnaire used Bahasa Indonesia to be more easily understood by the students (seen appendix C).

3.3 Research Procedure

3.3.1 Organizing Teaching Procedure

In the researcher, both classes were taught by the researcher. The teaching procedure was organized through two steps. Firstly, the research prepared materials used for the teaching and learning processes during the treatment. The materials were about descriptive texts. Secondly, the researcher organized teaching procedures for both experimental and control groups. The experimental group used dictogloss technique in teaching listening. Meanwhile, the control group applied teacher-centered learning. The teaching procedures in experimental and control groups are presented below.

Table 3. 2
Dictogloss Procedures in Experimental Group

Step	Students	Teachers
1. Preparation	Prepare for the text (vocabulary studies). Discuss the topic. Move into groups.	Prepare for the text (vocabulary studies). Discuss the topic.
2. Dictation	Listen to the whole text. Take notes listing key words.	Reads the text at normal speed. Reads again at normal speed.
3. Reconstruction	Work in groups to reconstruct an approximation of the text from notes.	Helps groups. Offers guidance.
4. Analysis and Correction	Compare group versions of the text. Pay attention to points of usage that emerge from the discussion.	Facilitate class comparison of versions from different groups (on OHP or board). Facilitates discussion and correction of errors.

Table 3. 3
Teacher-Centered Learning Procedures in Control Groups

Step	Students	Teachers
1. Pre-Activity	Brainstorming activity. Discuss the topic.	Brainstorming activity. Discuss the topic.
2. Whilst-Activity	Vocabulary studies. Listen to the whole text and be allowed to take notes. Discuss the content of the	Present and explain some vocabularies. Reads the text at normal speed twice. Discuss the content of

	text. Discuss students' problems while listening.	the text. Discuss students' problems while listening.
3. Post-Activity	Summarize learning activity.	Summarize learning activity.

3.3.2 Organizing the Research Instruments

Organizing the research instruments included the activities of creating the test items for both pretest and posttest and formulating some questions for questionnaire. The materials of pretest and posttest used were taken from items of senior high school national examination. It was taken into account since the students were demanded to achieve national standard competency that was tested through national examination.

3.3.3 Administering Pilot-test and Questionnaire Try Out

Before administering pretest and posttest, pilot test were examined to find out its validity and reliability. Validity refers to the quality of the research which measures what researcher investigates (Hatch & Farhady, 1982). Meanwhile, reliability is the consistency of the result in similar situation administration (Hatch & Farhady, 1982).

In order to test validity and reliability of the pretest and postest, pilottest was conducted in the same grade and school. In this research, pilottest was carried out to 40 students of X.8 on March 5, 2012. In line with pilottest, before distributing questionnaire, try out of questionnaire was also important to find out

validity and reliability. It was also conducted to 40 students of X.8 on the same date of pilot test.

3.3.4 Administering Pretest to Experimental and Control Groups

Administering pretest to experimental and control groups was conducted before giving the treatment in order to portray the students' prior listening abilities. It was carried out to X.6 as an experimental group on March 7, 2012 and to X.9 as a control group on March 10, 2012.

3.3.5 Conducting the Treatment

As stated previously, the treatment in the form of dictogloss technique was only given to the experimental group, while teacher centered learning was provided for control group. Although the technique was different, the learning materials were approximately similar which were based on competence standard and basic competence in the syllabus.

Generally, the treatment given to both groups was conducted in six meetings. The schedule of the treatment was set based on school schedule (see appendix A). The material and topic were also organized in lesson plans. The lesson plans were differentiated between experimental and control groups (see appendix B).

3.3.6 Administering Posttest to Experimental and Control Groups

After the treatment were given, posttest was administered to both experimental and control groups at the end of the program. It was purposed to investigate whether or not there was significance difference between the posttest score of experimental group who was given dictogloss technique and the control group who was not.

3.3.7 Distributing Questionnaire

In order to investigate the students' perceptions toward the use of dictogloss technique in teaching listening, questionnaires were distributed to all students from experimental group. They consisted of 15 close-ended questions which alternative choices provided were strongly agree (SS), agree (S), disagree (TS) and strongly disagree (STS).

3.4 Data Analysis

3.4.1 Scoring Technique of Pretest and Posttest

Since pretest and posttest scores were the main data in this research, appropriate scoring technique was needed. As pretest and posttest was in the form of multiple choices, the scores were given based on the correct number of questions were answered by the students (Arikunto, 2010). It is described in formula below.

$$S = R$$

Notes:

S: score

R: right answer

3.4.2 Data Analysis on the Pilot Test

As stated previously, pilot test was carried out to find out validity and reliability of pretest and posttest. The validity of the items in pilot test was examined through Pearson Product Moment in SPSS16.0 for windows. Then, the computation result in Pearson Product Moment was interpreted. The interpretation was based on categorization suggested by Arikunto (2010). The interpretation is presented below.

Table 3. 4
Validity of Pilot Test

Item Number	r value	Interpretation
1	0.80-1.00	Very high
4, 5, 6, 8, 11, 12, 13, 15, 18, 19, 21, 22	0.60-0.80	High
2, 3, 7, 9, 10, 14, 16, 17, 20	0.40-0.60	Moderate
24	0.20-0.40	Low
23, 25	0.00-0.20	Very Low

(Arikunto, 2010)

From table 3.4, it could be seen that there were 20 items of 25 items were appropriate to be used in pretest and posttest because those items were interpreted as high, moderate and low. A good item should not be too difficult or too easy

(Arikunto, 2010). Table 3.4 above showed that an item was categorized as very difficult item which was in very high level. Meanwhile, item numbers which were in very low were categorized as very easy items. The result of validity on statistical computation can be seen in Appendix D.

In order to check consistency of listening score result, reliability test was computed. The formulation that was used for reliability computation was Cronbach's Alpha in SPSS 16.00 for windows. The computation result of reliability, then, was interpreted using categorization proposed by Arikunto (2010). The interpretation is described as follows.

Table 3. 5
Coefficient Correlation of Reliability

Coefficient Interval	Relation Degree
0.80-1.00	Very high
0.60-0.80	High
0.40-0.60	Moderate
0.20-0.40	Low
0.00-0.20	Very Low

(Arikunto, 2010)

The computation result showed that coefficient Cronbach's Alpha is 0.955 which was interpreted as very high relation degree. Therefore, it can be stated that the pilot test was reliable and could be used as a research instrument. The statistical result can be seen in Appendix D.

3.4.3 Data Analysis on the Try Out of Questionnaire

In line with the validity and reliability of pilot test, the validity and reliability of questionnaire were also calculated by using SPSS16.0 for windows.

The validity of the items in pilot test was computed through Pearson Product Moment in SPSS16.0 for windows. Then, the computation result in Pearson Product Moment was interpreted using categorization suggested by Arikunto (2010). The interpretation is described below.

Table 3. 6
Validity of Try Out Questionnaire

Item Number	r value	Interpretation
1	0.80-1.00	Very high
6, 10, 13, 16, 17, 19, 22	0.60-0.80	High
3, 9	0.40-0.60	Moderate
2, 4, 5, 7, 14, 18, 20, 21	0.20-0.40	Low
8, 11, 12, 15, 18, 20	0.00-0.20	Very Low

(Arikunto, 2010)

Table 3.4 showed that 15 items of 22 items were valid because they were interpreted as high, moderate and low level. Therefore, only 15 items were used in questionnaire.

Meanwhile, the reliability of trying out of questionnaire was analyzed using Cronbach's Alpha formula. The computation result showed that the coefficient of reliability was 0.887. The result, then, was interpreted through categorization suggested by Arikunto (2010).

Table 3. 7
Coefficient Correlation of Reliability

Coefficient Interval	Relation Degree
0.80-1.00	Very high
0.60-0.80	High
0.40-0.60	Moderate
0.20-0.40	Low

0.00-0.20	Very Low

(Arikunto, 2010)

Table 3.7 showed that reliability of try-out questionnaire (0.887) was interpreted as very high relation degree. Hence, the questionnaire could be used as research instrument. The statistical computation can be seen in Appendix D.

3.4.4 Data Analysis on Pretest

Pretest was conducted to 66 tenth grade students divided into two classes (X.6 as experimental group and X.9 as control group). Pretest was carried out on March 7, 2012 in experimental group and on March 10, 2012 in control group. It was organized since it aimed to see students' initial scores. Moreover, it was expected that the scores in experimental and control groups were relatively equivalent so that it can be concluded that the treatment made any differences. Furthermore, the result of pretest was analyzed by SPSS 16.0 for windows. The steps of analyzing began with testing normality distribution, homogeneity variance, and independent t-test.

3.4.4.1 The Normality Distribution Test

Firstly, the normality distribution was tested to see whether or not the data were normally distributed. Kolmogorov-Smirnov in SPSS 16.0 for windows was used to analyze it. The first step of analyzing the normality distribution was setting the hypothesis as follows:

Ho (null hypothesis) : the scores of both experimental and control groups were normally distributed.

Ha (alternative hypothesis) : the scores of both experimental and control groups were not normally distributed.

The next step was setting the alpha level at 0.05, computing the normality through Kolmogorov-Smirnov in SPSS 16.0 and comparing the result/Asymp. Sig with the level of significance for testing hypothesis. If the Asymp. Sig > 0.05, the null hypothesis (Ho) was accepted, meaning that the scores were normally distributed. On the contrary, if the Asymp. Sig < 0.05, the null hypothesis was rejected, meaning that the scores were not normally distributed.

In this research, the result showed that the probability (Asymp. Sig) of the experimental and control groups was similar, 0.200 which was higher that the level of significance (0.005). Hence, the null hypothesis was not rejected and the scores were normally distributed (see Appendix D)

3.4.4.2 The Variance Homogeneity Test

After knowing that the scores of pretest and posttest were normally distributed, the next step was analyzing its homogeneity by using Levene's test. The first step in analyzing homogeneity was setting the alpha level of 0.05. Then, hypothesis was set as below.

Ho (null hypothesis) : the variances of experimental and control groups were homogenous.

Ha (alternative hypothesis) : the variances of experimental and control groups were not homogenous.

After that, the next step was calculating homogeneity of variance by using Levene's test in SPSS 16.0 and comparing the result/ Asymp. Sig with the level of significance for testing the hypothesis. If the Asymp. Sig > 0.05, the null hypothesis (Ho) was retained, meaning that the data variances of experimental and control groups were homogenous. In contrast, if the Asymp. Sig < 0.05, the null hypothesis was rejected, meaning that the data of experimental and control groups variances were not homogenous.

The computation in this research showed that the probability (Asymp. Sig) of the two groups was 0.068; it was higher that the level of significance (0.05). Thus, the null hypothesis was retained and the variances of two groups were equal (see appendix D).

3.4.4.3 Independent t-test

Due to the normality of data distribution and homogeneity of variance, parametric statistic was used. Being parametric statistic, independent t-test was administered to investigate a significant difference between experimental and control groups' means (Kranzler&Moursund, 1998 and Coolidge, 2000). In this calculation, independent t-test was used to find out any differences between pretest means in both groups.

The first step was stating the hypothesis as follows:

Ho (null hypothesis) : there was no significant difference in pretest means score between group who received dictogloss technique and those who did not.

Ha (alternative hypothesis) : there was a significant difference in pretest means score between group who received dictogloss technique and those who did not.

Then, setting the alpha level 0.05 (two-tailed) and calculating independent t- test used SPSS 16.0. After the value was obtained, the next step was to test hypothesis. There were two ways in testing hypothesis. The first step was comparing the Asymp. Sig value with the level of significance 0.05. If the Asymp. Sig value > 0.05, then Ho was retained which meant that there was no signifance difference in pretest mean scores between groups who received dictogloss technique and those who did not and vice versa.

The second step was comparing t_{obt} value with the t_{table} value at the 0.05 level (two-tailed) and df (n-1)= 32. If $\pm t_{obt} > t_{table}$, Ho was rejected which meant that there was significant difference in pretest means score between group who received dictogloss technique and those who did not. While if $\pm t_{obt} < t_{table,}$ Ho was retained which meant that there was no significant difference in pretest mean scores between groups who received dictogloss technique and those who did not.

In computation result, Asymp. Sig value was 0.962; it was higher than 0.05. It could be stated that null hypothesis was accepted. Referred to t_{obt} in the computation result, the t_{obt} was 0.048; it was lower than t_{table} (2.037).It indicated

that the null hypothesis was retained. In other words, there was no significant difference in pretest mean scores between groups who received dictogloss technique and those who did not. In brief, initial ability of experimental and control groups was similar. The computation result can be seen in Appendix D.

3.4.5 Data Analysis on Questionnaire Result

The questionnaire consisted of 15 statements. Each statement had four alternative options that should be chosen by the respondents. Then, each option was represented a point value as described below.

Table 3. 8
Items Score in Questionnaire

Criterion	Score
Strongly Agree (SS/ *Sangat Setuju*)	4
Agree (S/ *Setuju*)	3
Disagree (TS/ *Tidak Setuju*)	2
Strongly Disagree (STS/ *Sangat Tidak Setuju*)	1

(Sugiyono, 2010)

The result of questionnaire is calculated in percentage as below.

$$P = \frac{Fo}{N} \times 100\%$$

(Riduwan, 2009)

Where:

P : Percentage

Fo : Frequency

N : Response