CHAPTER III
RESEARCH METHODOLOGY

This chapter explains the method of investigation which consists of research design, subject of the study, data collection, and data analysis.

3.1 Research Design

In this study, the researcher used descriptive qualitative research design because he wanted to investigate some phenomenon in its natural setting. More specifically, this study was intended to describe the problems faced by Mechanical Engineering students in learning ESP Speaking, the causes of the problems faced by the Mechanical Engineering students in learning ESP Speaking, and the ways Mechanical Engineering students solve their problems in learning ESP Speaking at University of Muhammadiyah Malang. This research design was chosen because, based on Ary (2010:426), qualitative research is designed to gain the data in the form of words about the subject’s experiences and perspectives and without predetermined hypothesis.

3.2 Subjects of the Study

In this study, the subjects of this study were Mechanical Engineering Department students who have been studying ESP Speaking at University of Muhammadiyah Malang. In selecting Mechanical Engineering Department students as the research subjects, the researcher used sampling technique. Creswell (2012) stated, “In qualitative research, we identify our participants and sites on purposeful sampling, based on places and people that can best help us
understand our central phenomenon”. In particular research situations, there is
tendency for the researcher not to know the subject that has the best quality and is
able to provide qualified information. Therefore, to obtain information on the
subject, researchers used snowball sampling.

According to Creswell (2012:209), snowball sampling is a term of
purposeful sampling that often proceeds after a study begins and occurs when the
researcher asks participant to recommend other person to be sampled. Informal
conversation could be done by the researcher in the interview and may pose the
question.

The researcher selected Mechanical Engineering Department students
who have problems in learning ESP Speaking by using snowball sampling.
Therefore, the researcher began to gather information and investigate their
problems, the causes of the problems, and the ways the Mechanical Engineering
students solved their problems in learning ESP Speaking at University of
Muhammadiyah Malang.

3.3 Data Collection

To collect the data about the difficulties faced by Mechanical Engineering
students in learning ESP Speaking at University of Muhammadiyah Malang, the
researcher used some techniques and instruments. Those of all will be explained
bellow:
3.3.1 Data

The data of this research were the problems faced by Mechanical Engineering students in learning ESP Speaking, the causes of the problems faced by the Mechanical Engineering students in learning ESP Speaking, and the ways the Mechanical Engineering students solve their problems in learning ESP Speaking at University of Muhammadiyah Malang. The sources of the data in this study were Mechanical Engineering Department students who have been studying ESP Speaking at University of Muhammadiyah Malang.

3.3.2 Techniques and Instruments to Collect the Data

There were two kinds of techniques used by the researcher to collect the data related to the research problems.

1. Observation

The observation conducted in this study was aimed to investigate the problems faced by Mechanical Engineering students in learning ESP Speaking. According to Ary et.al (2010), “Qualitative observations rely on narrative or words to describe the setting, the behaviors, and the interactions. The goal was to understand complex interaction in natural setting”. There are two kinds of observation; they are participant and non-participant observation.

According to Fraenkel (2009), there are two kinds of observation, namely: (a) participation observation studies, which means the researchers actually participate actively in the situation or setting in the activities of the study, (b) non-participant observation studies, which means the researchers do not participate and only becomes as an observer in the activities of the study.
In this study, the researcher used non-participant observation because the best way to capture the validity result is by not giving any interruption during the interview section at the ESP Speaking class, rather just sat on the sidelines, and recorded everything that was happening. In addition, the researcher used Observation checklist as the instrument of data collection.

2. Interview

According to Ary (2010:438), interview is used to gather the data from informen about their opinions, beliefs, and feelings about situations in their own words. It is also used to get additional information that cannot be obtained through observation. Frankael (2009) stated, “There are four types of interview to gather the data from the participants; structured interview, semi structured interview, informal interview, and retrospective.

1. Structured interview takes a concern in gaining information from the subjects with a series of questions. In qualitative research, the questions are generally more limited in length but the answers cannot be given in the form of yes or no. The subjects should give a deeper explanation.

2. Semi structured interview is an interview in which the area of interest is chosen, and questions are formulated but the interviewer may modify the format of the question during the interview section.

3. Informal interview is less formal than structured or semi-structured interview. In informal interview, the researcher tends to resemble casual conversation, pursuing the interest of both researcher and respondent in turn. This interview does not plan the detail of time and any specific type of
question, because the researcher asks the question when the opportunity arise, and used the answer of subjects to decide the upcoming question.

4. Retrospective interview is an interview which is intended to get the respondent to recall and reconstruct the last memory. The purpose of this interview is to get a past period data that are needed in current condition.

The interview used in this study was semi structured interview. It was used by the researcher to interview the students in order to get information about their opinions, beliefs, and feelings related to the research problems.

The other instrument that was used in this study was interview guide. It was used to get additional information from the students about their opinions, beliefs, or feelings related to the research problems that couldn’t be obtained from the observation.

### 3.3.3 Steps in Collecting the Data

The data of this study were collected by using the following procedures:

There were several steps to collect the data:

1. Asking permission for having observation at ESP Speaking class;
2. Discussing with the advisor about the schedule of interview section;
3. Attending ESP Speaking class especially during interview section;
4. Interviewing some Mechanical Engineering students in order to re-check the data obtained during the observation;
5. Recording and taking some notes during the interview.
3.4 Data Analysis

According to Ary et.al (2010), “Data analysis is the process whereby researchers systematically search and arrange their data in order to increase their understanding of the data and to enable them to present what they learned to others”. In analyzing the data, the researcher described in three stages as follows:

1. Familiarizing and Organizing

In familiarizing and organizing, the researcher used several steps. Firstly, the researcher managed all of the data that were gained from the observation and interview. Secondly, the researcher examined the data through analyzing the observation checklist, rereading notes, and listening to the interview result repeatedly. Thirdly, the researcher made transcription of all the information that was correlated to the object of the research.

2. Coding and Reducing

Coding and reducing are the other ways to analyze the data. In this process, the researcher used some steps. Firstly, the researcher broke down the data and rearranged them into categories facilitated comparisons to develop a theoretical concept. Secondly, the researcher figured out the data by classifying the information that did not fit the objectives of the research.

3. Interpreting and Representing

In this step, the researcher interpreted the final data report by visualizing the analyzed data using narrative description and interpretation.