

CHAPTER III

RESEARCH METHOD

In this chapter the researcher described the method that was used to conduct the research. The researcher described the research design, research subject, data and source of the data, research instrument, data collection technique, and data analysis technique.

3.1 Research Design

Research design that used in this research is a qualitative research method which described the detail of the situation and condition in the classroom. According to Karan, qualitative data can observe, but it can't be measured. It deals with qualities of what is being described. Another statement by Hancock, that qualitative research is research which attempts to increase our understanding of why things are the way they are in our social world and why people act the ways they do. Those theories strengthen the reason for this study categorized as descriptive qualitative research. The researcher describes and explains the data found by her own words, not in the form of numbers or calculations.

The goal of this research is to generate the theory related to the way teacher implements English for mathematics textbook in the seventh grade of bilingual class at Junior High school, and the problem faced by the students in understanding the language, the terms, and the instruction of English for mathematics.

3.2 Subject of the Study

In this research, the subjects are the teacher and the students at seven grade of bilingual class program in SMPN 2 Gresik. For the students, in SMPN 2 Gresik, they have two classes of bilingual class program for seven grades, those are VIIA and VIIB. The researcher only takes one class as a subject in this research. The researcher selected the class from the teacher's recommendation that is considered the superior class from the both of bilingual classes. This focuses are to knowing how the teacher implements of English for mathematics textbook 1A published by Erlangga and what the difficulties that faced by the students in learning English for mathematics.

3.3 Data Collection

In collecting the data the researcher has some steps; the first step is the researcher asks permission to the headmaster to allow observation in the school. The second step is the researcher observes the class when the teacher implemented English for mathematics textbook in three times in one class of bilingual programs. The third step is the researcher analyzes the English for a mathematics textbook about the language, the topics, the instruction and the task which being taught. The fourth step is the researcher had interviewed the students after observing based on the interview guides and the researcher conducted the interview at one time after all the observations had done.

This research basically uses three ways; those are the data collected by observing the teacher implementation in the classroom, interviewing the students and document analyzing of English for mathematics textbook.

Data collection techniques applied in this research are as follows:

3.3.1. Observation

Observation was conducted in this research is to get information, and this observation focused on the way teacher implements English for mathematics textbook in the bilingual class program, includes: pre-teaching, whilst-teaching and post-teaching. The observation appears in teaching and learning English for mathematics by recorded. The teaching and learning activities observed and recorded by video to get the detail process of teaching and learning in the classroom. The researcher observed the seventh grade students because they are beginner who has a bilingual program in SMPN 2 Gresik. The researcher only observed one teacher because the school only has one mathematics teacher in teaching seventh grade of bilingual classes. The researcher stopped to take the data in three times because the data has already saturated in observation. There are many same activities in all those three meetings.

3.3.2 Interview

The interview was conducted to get information about the problem of the students in learning English for mathematics textbook in bilingual classes. The interview consists of several questions related to the difficulties about the language, the terms and the instruction by the teacher's explanation and the textbook. The interview had done after the class observation in three times conducted. The type of interview which used is an in-depth interview. The researcher will interview the students at one time after all the class observations had done. The students who interviewed are seventh grade students. The researcher use snowball sampling to choose some of the students who

interviewed. Before conducting the interview, the researcher asked to the teacher to recommend that the students who could give information. From the first informant the researcher interview he/she then the researcher asks who the next recommended friends that interviewed. The process of interviewing the students stopped in seventh students because the data was saturated.

3.3.3 Document

The document is one of data collection techniques to collect and analyze both written and drawing documents. In this research, researcher analyze the English for mathematics textbook 1A published by Erlangga. In this case, the researcher integrates the material that is taught by the teacher to the material in the textbook. Not only that, the researcher also analyzes the difficulties faced by students in the understanding of the terms and phrases that exist in the material which being taught in accordance with the textbooks that used in a classroom. And also analyze the task which the teacher gave to the students for exercise.

3.4 Data Analysis

According to Miles and Huberman (1984) in Sugiyono stated that the activity in the data analysis should interactively and continuously until completed, so that the data obtained is saturate. Activities in data analysis, such as; data reduction, data display, and drawing conclusions. The researcher explains each data analysis more depth in below.

3.4.1 Data Reduction

Data reduction refers to the process of selecting, focusing, simplifying, abstracting and transforming the data that appeared in writing up field notes or

transcription. The first data reduction is from video recording. The researcher replays the recorder then made the transcriptions, after that the researcher selecting the all data. The data reduction that observed related to the teacher's and the students' activities. Those are about the language used by the teacher in teaching English for mathematics textbook, such as; pre-teaching is about the brainstorming of the terms English mathematical, whilst-teaching are about teacher using English to explain the material, using media (the English for mathematics textbook) to teach, asking or giving instruction in English, asking or giving question about the terms of English mathematical, and giving a task in the English for mathematics textbook, in the post-teaching are about the teacher review the terms of English mathematical and summarizing the material using English. The second data reduction is from depth interview with the students to analyze the problem which faced by the students focuses on understanding the language, the terms and the instruction. The third data reduction is from the English for mathematics textbook 1A published by Erlangga. The researcher selects which the material that is being taught by the teacher and which one the material that is hard to understand by the students.

3.4.2 Data Display

According to Miles and Huberman (1994) that data display involves organizing, assembling, and compressing the information in the way that best facilitates the drawing of conclusions. The first data display was from recording observation. The researcher displays the transcripts then rearrange all the data which already selected before. The data display are about the implements of English for mathematics textbook, such as; pre-teaching is about the

brainstorming of the terms English mathematical, whilst-teaching are about teacher using English to explain the material, using media (the English for mathematics textbook) to teach, asking or giving instruction in English, asking or giving question about the terms of English mathematical, and giving a task in the English for mathematics textbook, in the post-teaching are about the teacher review the terms of English mathematical and summarizing the material using English. The purpose of the observation was to display the activities in the classroom. The second data display is from depth interview with the students and then the researcher transcript it to make the reader understand clearly. The third data display then from document of English for a mathematics textbook published by Erlangga, then the researcher capture the material that was being taught by the teacher and which one the material that's hard to understand by the students. After the all data rearranged, then the researcher correlate those all data.

3.4.3 Drawing Conclusion

The last step in analyzing the data is drawing conclusions. The first conclusion was from recording observation. The researcher summarizes about the video or record. The researcher describes the result of this research to answer the problem statement that is about the implements of English for mathematics textbook 1A published by Erlangga and the difficulties that faced by the students in understanding the language, the terms, and the instructions. The implements of English for mathematics textbook, such as; pre-teaching is about the brainstorming of the terms English mathematical, whilst-teaching are about teacher using English to explain the material, using media (the English for mathematics textbook) to teach, asking or giving instruction in English, asking or

giving question about the terms of English mathematical, and giving a task in the English for mathematics textbook, in the post-teaching are about the teacher review the terms of English mathematical and summarizing the material using English. From those, the researcher concludes that the teacher uses two languages in the teaching learning process and she was mostly used code switching. Meanwhile, for the students, the researcher would like to show the data about the problem which faced by the students focus in understanding the language, the terms and the instruction. For the conclusion about the student, researcher conclude that the students less of mathematical terms of English for mathematics.