

CHAPTER III

RESEARCH METHODOLOGY

A. Approach And Research Design

Research design is a plan for collecting and analyzing evidence that will make it possible for the researcher to answer the question (s) he or she has posed¹. This study used qualitative-descriptive approach because it concerned with social phenomena dealing with student needs in learning ESP at mathematics education department of state Islamic university of Sunan Ampel Surabaya. This suites to Beverley Han cock that qualitative research is concerned with developing explanations of social phenomena².

Moreover, descriptive approach is the information describes the phenomena happens at the present³. The study describes the student`s need in learning English for mathematics at mathematics education department, state Islamic university of Sunan Ampel Surabyaa in the academic year 2014-2015.

B. Researcher Presence

In this study, the researcher was as nonparticipant researcher. It means that the researcher did not take part of the research which could be influenced

¹ UweFlick, An introduction to qualitative research fourth edition (Singapore: SAGE Publications, 2009), 143, accessed: <http://moodle.up.pt/pluginfile.php>, on: 02-05-2014.

² Beverley Han cock, Elizabeth Ockleford, Kate Windridge, An Introduction To Qualitative Research, national institute for health research, 7, accessed: <http://www.rds-yh.nihr.ac.uk> , on: 02-05-2014.

³ Kothari, C,R, 2004, Research Methodology Methods And Techniques, new age international publisher, New Delhi, pg. 2-3

the finding. The researcher came to the participant for distributing the questionnaire, and interview them. The researcher did not influence them to answer a certain option.

In this research, the researcher presence was very transparent. The participants knew that they were being observed. The participant could see easily that the researcher came to the participants to distributes a questionnaire and interview them. Therefore, the participants knew that the researcher was collecting data from them.

C. Research Location

The study was conducted in the second semester of Mathematics Education Department of Tarbiyah and Teacher Training Faculty, State Islamic University of Sunan Ampel Surabaya. The location was decided because of some considerations bellow:

1. Second semester was chosen because English for mathematic only taught in second semester.
2. Mathematic Education department provides an ESP course in the academic year (2014-2015). However, the stake holders did not apply student need analysis as a pre step to design the course. Therefore, it needed an analysis in order to develop the quality of the course.
3. Sunan Ampel State Islamic University Surabaya is the primer Islamic university in east java.

D. Data And Source Of Data

The data of this study were about student needs and syllabus. Those data were found from those source of data, they were:

1. Second semester students.

Second semester students were the key source to find student needs data. They were considering as the source of data to find student needs in learning ESP at mathematics education department because only in second semester English for mathematics was being learnt.

The researcher took 89 students as the research subject among 114 second semester students. Those number of students had been represented among all the students. This was based on the lecture that the second students did not have significantly difference characteristic and ability. This was supported by the result of the middle test that showed their ability. Therefore, the samples were considered enough to find the relevance result.

The sampling method was taken as random sampling. This sampling method was considered to anticipate different needs for each students although they were in the same category for example based on their achievement. However, to minimalize the error degree, the researcher considered 0.5 as the freedom degree. Moreover, to confirm the questionnaire result, some students were interviewed especially for them who did not state clearly their argument in the questionnaire. The interview was related to their needs in learning English for mathematics.

2. The lecture of English for mathematics (Fikri yanda).

The lecture was considering as the key source of data about English for mathematic syllabus. The researcher found data about designing syllabus to the lecture through interview.

3. Syllabus was the urgent document which was analyzed in this study. This was urgent because by considering the syllabus, the whole learning can be reflected.

E. Research Instrument

Research instrument is tool or device to guide the researcher for gathering data during the research process. To collect the data, this study used three instruments, they were:

1. Questionnaire

Questionnaire is useful in gathering data for the big number of participants⁴. Because the study involved big number of participants, questionnaire was useful to use. Moreover, because student needs was an abstract thing, it could not be seen by observation. Therefore, student needs questionnaire was important to analyze the participant feeling and mind.

The questionnaire was adapted by combining two questionnaires. The first questionnaire was used in University of Auckland, New Zealand. The first questionnaire was to measure student`s need in learning English as a

⁴ Mother and child health. "Qualitative field research" www.oxfordjournal.org accessed: 22-06-2014

second or foreign language.⁵ The second questionnaire was about some certain key terms in mathematics.⁶ This was considered to measure the student` familiarity about certain key mathematics key term. Those questionnaires were suited to the condition in English for mathematics at Sunan Ampel State Islamic University. In addition, it was matched to the theory of student needs in learning ESP and needs analysis stated in second chapter.

The questionnaire which was used in this research was combination of open-ended and close-ended questionnaire. There were some parts of the questionnaire which provided the limited answers and some parts to gathering participant`s opinion. The questionnaire can be seen in the appendix 1.

2. Interview guideline

Interview is urgent because interview is a good way to find out the participant`s mind and feeling⁷. In the interview section, the instrument that was used by the researcher was interview guideline. The interview was designed by the researcher itself by considering some theories about student needs analysis and syllabus.

⁵ Gravat, Richard and Lewis 1997

⁶ Lemanian College, 1908

⁷ Abdur Rahman, Undergraduate Program: "the implementation of reading aloud to vary the pronunciation practice for students of senior high school in Mamba`us sholihin muslim boarding school gresik" (Surabaya: state Islamic university sunan ampel surabaya, 2011), 30

In this study, the researcher did the two sections of interview. The first section was the interview to the second semester students. This was a way to confirm the participants feeling and mind dealing with student needs. In this section the researcher used in depth interview because the researcher needed to collect the information about what the participant mean deeply.

The second section was the interview to the lecture. In this section the researcher used formal-semi structured interview because in the interview section both researcher and participant knew that they were there to generate data based on guiding questions. However, this was possible to have additional question during the interview section. The researcher could ask some additional points when there was unclear information. The question for interview could be seen in appendix2.

2. Document studies

Document studies is used to guide the researcher takes the document needed in the study⁸. In this study, the document needed to be analyzed was syllabus of English for mathematics course held in mathematics education department of faculty of Tarbiyah and teacher training, Sunan Ampel State Islamic University. The syllabus was analyzed based on the criteria by the

⁸ Istiqomatus sa`diah, Undergraduate Program : “an analysis of student’s writing ability in forming irregular verb at the tenth grade of MA Al-Iman Ponorogo”, Surabaya: state Islamic university sunan ampel surabaya, 2012,29.

list of student needs. The student needs` criteria were gotten from the result of questionnaire and interview.

F. Data Analysis Technique

Data analysis techniques is a process of resolving data into its constituent components, to reveal its characteristic elements and structure⁹. Based on Robert K. Yin, data in qualitative research is analyzed in five- Phased technique: Compiling, disassembling, reassembling (and Arraying), Interpreting, and Concluding¹⁰. However, in this study the data were analyzed in four phase because disassembling and reassembling phase can be combined. The phase are described follows:

1. Compiling : in the compiling section, the researcher collected data about student needs by distributing questionnaire to second semester students who took English for mathematics course and interview to the lecture of English for mathematics and the second semester students.
2. Assembling : after compiling the data about student needs, in assembling section the researcher created the list of student needs as the criteria to analyze the syllabus.

⁹ Ian Dey, 1993, *Qualitative Data Analysis A user-friendly guide for social scientists*, London: Routledge Taylor& Francis Group, 31, accessed: <http://www.classmatandread.net>, on: 05-02-2014

¹⁰ Robert K.Yin, *Qualitative research from Start to Finish*, 2011, The Guilford Press : new York, 177, accessed: <http://teddykw2.files.wordpress.com>, on: 05-02-2014.

3. Interpreting : after getting the list of student`s need in learning English for mathematics, the researcher analyzed the syllabus based on the criteria or the lists of student needs.
4. Concluding : in the last section of analysis data, after knowing the interpreting section, the researcher could decide whether the syllabus has cover the student needs or not.

G. Checking Validity

To find out the valid and reliable data, the researcher used valid and reliable instrument. Validity refers to the appropriateness, meaningfulness, and usefulness of the instrument to collect the data¹¹. In this study, the instruments had been validated by the experts.

The questionnaire as the first instrument in this study had been validated by A. Dzoul Milal, M.Pd. The second instrument, interview guideline had been validated by Ana Nurul Laila, M.TESOL. The validation for those instrument were content validation. Moreover, because the participants were not from English department, to make the participant easy to understand the questionnaire, the researcher translated the first questionnaire from English to Bahasa. The translation also had been validated by A. Khairul Hakim, M.Si. Therefore, the validation were content validity and language translation.

¹¹ Sugiyono, *Metode penelitian kuantitatif, kualitatif, R&D*, (Bandung: Alfa Beta, 2009), .267

In addition, to make the data was reliable, the researcher used camera and recorder to get the concrete fact during the research process and it also helped the researcher to analyze the data.

H. Research Stages

1. Preliminary research

In preliminary research, the researcher gathered data from some informants about course of English for specific purposes taught in UIN Sunan Ampel Surabaya. Among five faculties in UIN Sunan Ampel Surabaya, there are two departments which teach ESP to students. The departments are: Shariah economy department and mathematics education department. Mathematic education department is chosen because of some consideration stated on point K (research location).

Preliminary research was continued to deeper interview by having interview to the lecture of English for mathematic, observing the class, and having interview to some students in English for mathematic course. From those activities, the researcher found that the lecture has problem on designing syllabus because he could not find the example of syllabus to teach English for mathematic. The problems were not only happened to the lecture but also to the students. Based on the informants, the course was not suitable to their expectation because it was too easy. This indicated miscommunication between the lecture as the learning designer and the students.

From the finding on preliminary research, the researcher decided to conduct a research entitled “Syllabus and Student Needs: An Analysis of English Syllabus at Mathematic Education Department Sunan Ampel State Islamic University”.

2. Design development

In this stage, the researcher planned some points to make the study well organized. The preparation deled with finding the topic, organizing the problems, analyzing the theory and previous studies, deciding the research method, and finding the appropriate instruments used in the research. Moreover, the researcher was advised by the advisors to make the study valid and reliable.

3. Research

In conducting research, the researcher did all of the research procedure, stated on the research approach and design that are distributing questionnaire and analyzing syllabus.

4. Writing the report

Writing the reports section deled with reporting the result and finding of the study in terms of interpreting data gathered from all the research instruments. The writing report was in the form of descriptive. This described the finding of questionnaire and interview about student needs.