CHAPTER III
RESEARCH METHODOLOGY

This chapter reviews the research methodology. It includes research design, site and participants, research instruments, data collection process, data collection techniques and data analysis framework.

3.1 Research Design

The study employed mainly a qualitative research that investigated the needs of the aviation students of English by recruiting different participants (students, alumni, and lecturer) to get information. In addition, the existing syllabus was also analyzed by the adapted syllabus checklist to see the condition of the syllabus. The information will then be used to construct a proposed syllabus based on the analysis of needs. Therefore, the research design refers to what (Alwasliah (2012); Bogdan & Biklen, (2007); Fraenkel, et.al, (2012); Gay, Mills & Airasian (2009); Heigham & Croker, (2009); Richards (2003) propose that qualitative research investigates the problem of the research.

3.2 Research Instruments

The present research deployed questionnaires, interview, and document analysis to collect the data. The collected data from interview and questionnaires were about the analysis of needs of English at one of Civil Aviation Safety and Engineering in Indonesia. Then, needs analysis was also used to see the condition of the existing syllabus. Triangulation from interview, questionnaires and document analysis became the important part of the data collection method because the information from these three different sources was used as the sources of information in the research to construct a proposed syllabus

The questionnaires were given to both students and alumni. Both open-ended and close-ended questionnaires were used in the study. The questionnaires were used because it was important to get information about the participants' biodata (background of the participants; age, sex, number of years study in the

program), and opinion (participants' ability of English, interest, difficulty of learning English, the effectiveness of the learning English for the aviation students, and soon). Interview was given to the English lecturer. The interview was a semi-structured interview in which the researcher had pointed some questions related to the research problem before interviewing the lecturer. The questions were about the lecturer's opinion about the student needs of English in aviation. In addition, document analysis was also conducted to know what documents the institution has to reach the teaching objectives and goals of the English subject (English for Aviation).

3.3 Site and Participants

The research was conducted at one of Civil Aviation Safety and Engineering in Indonesia. The researcher chose the site because the institution provides Air Traffic Controller *(Pemandu Lalu Lintas Udara)* Study Program that relates to the research problem, namely investigate the need of English in aviation, in this case air traffic controller. In relation to the focus of the study, there were 3 (three) Groups of the participants involved in the study; students of the Air Traffic Controller, English lecturer, and the alumni. These participants were involved in the study to get a complete and comprehensive data on students' present needs (learning needs) and future needs of English (target needs). The information then used to construct a proposed syllabus based on the results of the need assessment.

3.3.1   The Students

The researcher purposively selected the students who would be involved in the study. There are 39 students of the third year students (the sixth semester) from Air Traffic Controller Study Program were involved in the study. The 39 students were chosen because they are from Air Traffic Controller Study Program who will use English more frequently in their future workplace than other students form another study program. These students would give information about what the aviation student needs of English (present needs). In addition, the third year

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students have experienced the OJT (On the Job Training) program in which they learned the real communication between ATC and pilot (co-pilot).

The questions given to the students cover the general information about the students (biodata; name, age, sex, the length of learning English for ATC), students' opinion (English level of proficiency, difficulty in learning English, the importance of English, people with whom they will use English, learning methodology preference and time allotment, and opinion about the program). The questionnaires for alumni were similar with what the students have. It was about general information about the alumni (name, the company they work, and position) and description of their job, information about the skills that mostly used in their working and in what condition they use the skill(s).

3.3.2 The English Lecturer

The English lecturer who teaches English for ESP students (English for Aviation) in the institution was recruited as the participant of the study. The lecturer was interviewed to get some information about the condition of the English subject as one the core subjects in Air Traffic Control study program and condition of the existing syllabus. The lecturer also would gave the information about his opinion on what the students need of English as aviation students.

3.3.3 The Alumni

There are 18 alumni (sixteen of them are ATCs and 2 of them are supervisors) who have worked at the airport as Air Traffic Controllers were recruited in the study to gain information about the students' future needs of English. The alumni were chosen to be the participants of the study because alumni is one of the important sources of information of need analysis in which they would give the information about the description of the real communication of an ATC. Questions formulated in a set of questionnaires relating with the topic and current needs is given to the alumni who have worked at the airport. This information would be useful for the researcher as a description to formulate the future needs of aviation (ATC) students.

3.4 Data Collection Process

The questionnaires was distributed to the students to know some professional information about the learners, personal information about the learners, English language information about the learners, the learners' lack, language learning information, information about the environment in which the course will be run, and to know the students' needs in the future workplace.

To gain more information about the ongoing syllabus used in the institution, the researcher interviewed the English lecturer by conducting semi – structured interview that suggested some check lists in developing ESP materials and do document analysis to analyze the existing / on-going English syllabus used by the institurion. Then, the data from the questionnaires, interview and document analysis would be used as the information to construct the proposed syllabus for the ATC Study Program. Therefore, the proposed syllabus would be a need-based syllabus because it was constructed based on the needs analysis.

3.5 Data Collection Technique

To obtain the data for the present research, the researcher will collect them through three different techniques as follows.

3.5.1 Questionnaires

Open-ended and close-ended questionnaires were used in the study in order to investigate and explore information on students' needs based on the Present Situation, Target Situation, and Future Situation (Hutchinson and Waters, 1987). The students' needs analysis will deploy the two kinds of the questionnaires mentioned before. The questionnaires are about the students' strengths and weaknesses in English, the significances of learning English for them as an aviation students (present needs) and as a person who will works in an aviation industry (future needs), and the students' learning habit. Besides the

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students, the stakeholder (alumni) also would get the questionnaires (see Appendix for complete questionnaires lists).

Table 3.1 The category of the questions for Students

No	Categories	Item Numbers	Total
1	Students' English Level of Proficiency	A1	7
2	Students' Difficulty	A2	28
3	Target Situation Analysis	B, D2	5
4	Learning Style Preferences	C	10
5	Students' Needs of English	D	10
	TOTAL		60

Table 3.2 The category of the questions for Alumni

No	Categories	Item Numbers	Total
1	General information	1	1
2	Job Description	2	1
3	The Needs of English	3, 4, 5	3
	TOTAL		5

Questionnaires were also used in validating the proposed syllabus. The items were developed based on the components of the proposed syllabus to make sure that the proposed syllabus is based on the institution needs and wants (See Appendix).

3.5.2 Interview

Interview was conducted to gain information about the condition of the existing syllabus and to get information about the lecturer's opinion about the aviation student needs of English. In addition, the interview was used to validate the information given by students. It was also used to triangulate the data from

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other data resources. The respondent' answers will be firstly recorded and then transcribed. Then the transcription will be analyzed in relation to the theories presented in chapter II and the to the research problem. The interview itself would be given in a semi-structured way because some information might appear during the interview. Therefore, the researcher would not only focus on the prepared questions but also develop the questions as the interview would be going on **(see Appendix).**

3.5.3 Document Analysis

There were three documentary analyses included in this study:

1. The ongoing English syllabus in the institution
2. The English Language Proficiency Requirements (English document) proposed by the International Civil Aviation Association (ICAO)
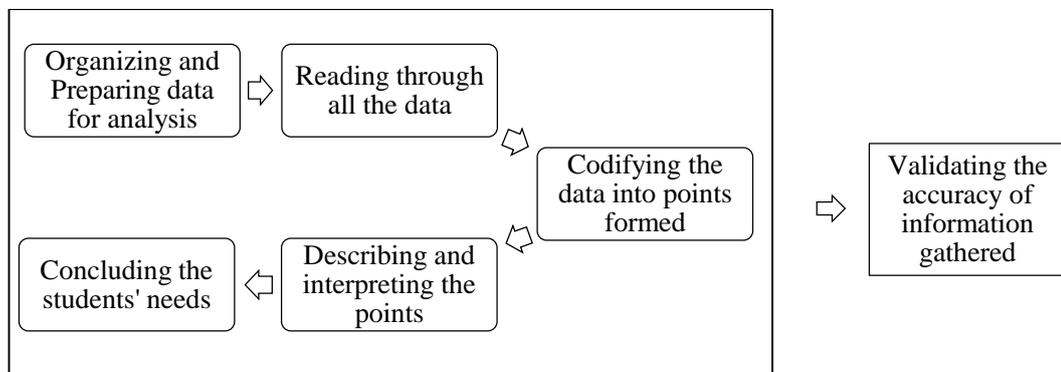3. Official government document on Civil Aviation Safety and Engineering Medan

The ongoing syllabus was analyzed by using syllabus checklist adapted from Hammons and Shock (1994). The English Language Proficiency Requirements (English document) proposed by the International Civil Aviation Association (ICAO) was analyzed to see what English requirements an ATC should fulfill before they graduate from ATC Study Program by formulating the standard level of English proficiency they should reach based on the document . The result of this analysis would be triangulated with the English Language Proficiency Requirements (English document) proposed by the International Civil Aviation Association (ICAO) to formulate the learning outcomes and learning outcome indicators of the proposed ESP syllabus.

3.6 Data Analysis Framework

The data from questionnaires were analyzed based on the research problem proposed in the previous chapter, namely by formulating what the students' present needs of English (students' questionnaires) and what the students' future needs of English (alumni's questionnaires). Then, the data from

Ronauli Sihombing, 2017
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interview were recorded, transcribed and analyzed based on the research problem that consists of data reduction that refers to the process of selecting, focusing, simplifying the data in written up transcription. While the data form document analysis were triangulated with the data from questionnaires and the data from interview. Then all the data are displayed in the form of extracted text and finally, the data are concluded and verified. The procedure of the data analysis is presented below.

Figure 3.1 The procedure of the data analysis (Adapted from Croswell in Malik & Hamied, 2014)

The data were analyzed in three big parts; data reduction, data display, and finally drawing the conclusion (Miles & Huberman in Malik & Hamied, 2014; Alwasilah, 2009). The first step, the data were segmented, summarized and finally the researcher will see the points of students' needs from the three different data resources, questionnaire, interview and document analysis. Then, the data were organized and compared between one into other sources. And at last conclusion can be drawn based on the collected data. Finally, the proposed need-based ESP syllabus can be constructed from the results of the needs analysis.