

CHAPTER III

RESEARCH METHODOLOGY

This chapter elaborates the method of the present research. The discussion is developed on the basis of the research problems, as outlined in Chapter I, which seek to explore (1) the needs for the English language at the aviation industry, (2) the curriculum demands with regard to the mastery of the English language at the vocational schools for aviation, (3) how the schools meet both the curriculum and industry's demands, and (4) a language program to be proposed to meet both the curriculum and industry's demands. Accordingly, this chapter discusses the design of the present study, the sites and participants, the data collection procedures, and the data analysis procedures.

3.1 Design of the Study

This study examines the implementation of English course at some vocational schools for aviation in response to curriculum and industry's demands. This study is designed as a mixed-method research (see Miles & Huberman, 1994; Thomas, 2003; Rasinger, 2008), employing both qualitative and quantitative procedures. This method is employed in order to reveal how the English program has been administered at the schools and whether the program has met both the curriculum and workplace demands.

The qualitative procedure is employed to seek the information regarding the demands for the English language specified by the aviation industry and the curriculum, as well as the present situation at school. This study firstly focuses what is required by the industry both at the recruitment processes and the work

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processes. Furthermore, the study examines the curriculum requirements by looking at the graduation qualification (SKL) and the specified competences. Finally, this study examines the present condition at school by looking at the lesson plans developed by the teachers and the teaching-learning processes managed by the teachers.

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Furthermore, a descriptive-quantitative procedure is employed to examine the responses to the questionnaires distributed to teachers and alumni working at the aviation industry. The respondents were asked to rate a number of items as a reflection of what they had experienced at school and how it was important to be applied at work. Categorization of the responses is made and descriptive quantification is conducted to identify tendencies in the responses. The results are used to support the qualitative analysis.

3.2 Sites and Participants

This study involves three vocational high schools specializing in aviation and one industry of aviation, all of which are located in the Banten Province. The target schools include one public vocational school and two private vocational schools. The schools are so selected because they are local educational institutions that are located close to several aviation industries, so that the students and graduates are familiar with the industry. Furthermore, the target industry is an outstanding state-owned company that provides technical or maintenance services for domestic and international airlines.

The participants of this study include personnels both at the schools and at the aviation industry. The participants at the schools include the school principals and seven English teachers, three of which are teaching at the public school and the rest are teaching at the private schools. All of the teachers teach at the tenth, eleventh and twelfth grades. The participants at the aviation industry include both the employees and the employers. The employees consist of 28 personnels working at the technical divisions. The employers include the human source manager and a senior engineer. These employers serve to supervise the performance of the employees.

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3.3 Data Collection

The data in this study were collected through several procedures including observation, document examination, interviews, and questionnaires. Prior to the main data collection, a preliminary observation was conducted to ensure that this study obtained relevant sites and respondents. Each of the procedures is explained as follows.

3.3.1 Preliminary Observation

A preliminary observation was conducted to ensure that this study was to be implemented in the relevant sites. Communication with the schools was firstly established for two purposes, i.e. to ensure that the schools organized the relevant teaching and learning process of ESP specializing in aviation and to gain permission for conducting the research. Furthermore, communication with the aviation industry was established also for two purposes, i.e. to ensure that the industry had been recruiting graduates of vocational schools and to gain permission for conducting the research.

This preliminary observation and communication revealed that it was feasible to conduct the research in three vocational schools specializing in aviation and in an aviation industry as described above in Section 3.2. Further arrangements were then made to commence with the data collection processes that included observations, collection of relevant documents, interviews, and distribution of questionnaires.

3.3.2 Document Collection

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The first kind of data collected in this study includes a variety of documents that are relevant for the exploration of the research problems. Some of the documents are available online, while some others are obtained from the schools and the industry. The documents downloaded from the online resources include a variety of guidelines related to vocational certification and the documents issued by the Ministry of Education and Culture on a variety of education standards including the Content Standard (*Standar Isi*), Process Standard (*Standar Proses*), and Assessment Standard (*Standar Penilaian*). The documents obtained from the schools include the syllabi and lesson plans developed by the teachers as well as their accompanying documents including learning resources, learning media, and evaluation instruments. Finally, the documents obtained from the workplace include some regulations and work manuals. These documents were to be examined by identifying the key contents relevant to the research problems. These documents are included in Appendix A4.

3.3.3 Interviews

The second set of data explored in the present study includes results of interviews with various respondents. Interviews were conducted to obtain specific information related to the needs for the English language at the aviation industry and to what extent the schools have met both the curriculum and industry's demands for the English language.

Interviews were conducted to include the key personnels at the industry and the teachers at the schools. The first interview session was conducted with the General Manager of Human Resource of the aviation industry to obtain specific information related to the necessities, lacks, and wants of English language in the industry. The second interview session was conducted with senior engineers to

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obtain specific information related to the expected needs of the English language in the target situation with regard to a variety of positions and to explore their opinion on the suitability of the English language learning contents contained in the schools documents. The third interview session was conducted with the target English teachers. It is conducted to obtain their opinion about the aviation industry needs that should be accommodated in the curriculum. The questions are translated into the Indonesian language to avoid miscommunication. The interview guides are presented in Appendix A1.

3.3.4 Questionnaires

The third set of data concerns responses to the questionnaires distributed to different respondents. This procedure was employed to obtain some information related to the specific needs of the English language in the workplace, the teaching and learning processes conducted at school, and the suitability of the content structure and sequence in the syllabus.

The questionnaires were distributed to the school teachers and the employees of the aviation industry. The questions address learning situation, language priorities, learning processes, recruitment processes, and work processes. The questionnaires consist of two parts, each exploring the general and specific/detailed information (see Kim, 2013, p. 281). The general information contains the personal information of the respondents including name, study program, and position at work. Meanwhile, specific information contains language ability and language priority. The responses to the questionnaires are quantified by using scales ranging from *high* (very important), *medium* (important), to *weak* (not important) as suggested by Alhamlan (2013, p. 12). The questionnaires are included in Appendix A2.

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3.3.5 Observation

The fourth set of data includes some information obtained from a series of observations. These observations were conducted to look at what was going on both at school and at the workplace. The observation at school focused on the condition of the school, including the learning facilities and the teaching-learning processes managed by the teachers. The observation at the workplace focused on the working conditions at the workplace. The information gained from these observations is used for the purpose of triangulation.

1.4 Data Analysis

The data analysis in this study includes both the qualitative and quantitative procedures that are later integrated for the purpose of triangulation (see Creswell et al., 2008; West, 1994). The collected data from the documents, classroom observation, workplace observation, interviews, and questionnaires are analyzed in the context of needs analysis (see Brown, 1995; Hutchinson & Waters, 1987; West, 1994; Lowe, 2009; Richterich & Chancerel, 1980 in Mohammadi & Mousavi, 2013). The following sub-sections describe each step of the analysis.

3.4.1 Analysis of Documents

The analysis of relevant documents is employed to address the first, second and third research questions. The documents include a variety of guidelines related to vocational certification, documents issued by the Ministry of Education and Culture on a variety of education standards including the Content Standard

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(*Standar Isi*), Process Standard (*Standar Proses*), and Assessment Standard (*Standar Penilaian*), documents obtained from the workplace including some regulations and work manuals, and documents obtained from the schools including the syllabi and lesson plans developed by the teachers as well as their accompanying documents including learning resources, learning media, and evaluation instruments.

The documents are analyzed qualitatively through content analysis. For this purpose, core contents of the documents are identified and later classified with reference to the research problems/questions. Documents related to the certification are explored to outline the competencies required of an employee at the aviation industry. Documents issued by the Ministry of Education and Culture are explored to outline the curriculum demands including the content standards, process standards, assessment standards, core competencies, and basic competencies. Documents from the workplace are explored to identify the needs for English at the workplace. Documents from the school are explored to examine to what extent the curriculum and industry's demands are accommodated in the teaching and learning processes.

3.4.2 Analysis of Interview Results

The analysis of interview results is employed to address the first and the third research questions. The interviews involved the key personnels at the industry and the teachers at the schools. Interviews with the key personnels at the aviation industry (the General Manager of Human Resource and the senior engineers) explored the demands of the English language in the target aviation industry, which include necessities, lacks, and wants. These requirements would lead the employees to function effectively in the industry. Meanwhile, the interviews with

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the English teachers explored their views on the needs of the English language at the aviation industry that should be accommodated in the teaching-learning processes as well as their views on the suitability of the current English language learning contents with the curriculum and industry's demands.

The responses to the questions in the interviews are analyzed qualitatively through content analysis. For this purpose, core contents of the responses are identified and later classified with reference to the research problems/questions. This analysis is later integrated with the other analyses in the context of triangulation.

3.4.3 Analysis of Responses to Questionnaires

The analysis of questionnaire results is employed to address the first and third research questions. It aims to identify the needs of the English language in the target situation/industry as the basis to evaluate the effectiveness of the teaching and learning processes as well as the suitability of the content structure and sequence in the syllabus. The questionnaires include four categories of information, i.e. personal background, language learning process, self-evaluation, and the aspects needed in the recruitment process and at work.

The responses to the questionnaires are analysed with a descriptive-quantitative procedure involving the Likert scale. In the analysis the value of the needs is calculated involving averages, percentages, and ranks. This analysis revealed tendencies that occur in the data. Following is the scoring description of each scale.

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Table 3.1 Likert scale

Scores	Needs	Frequency	Mean Range
1	Least needed	Rarely used	1.00 – 1.50
2	Little needed	Little used	1.51 – 2.50
3	Moderately needed	Moderately used	2.51 – 3.50
4	Greatly needed	Often used	3.51 – 4.50
5	Very greatly needed	Regularly used	4.51 – 5.00

3.4.4 Analysis of Observation Results

Observations focused on what was going on at the observed situations, which include the situations at school and at the workplace. The situations at school included the condition of the school, including the learning facilities and the teaching-learning processes managed by the teachers. The observation at the workplace focused on the working conditions at the workplace.

The information gained from these observations is analysed qualitatively by noting or identifying the relevant data with reference to the relevant research problems. The information was later used for the purpose of triangulation in order to gain a comprehensive picture of the phenomeon under investigation.

3.4.5 Triangulation

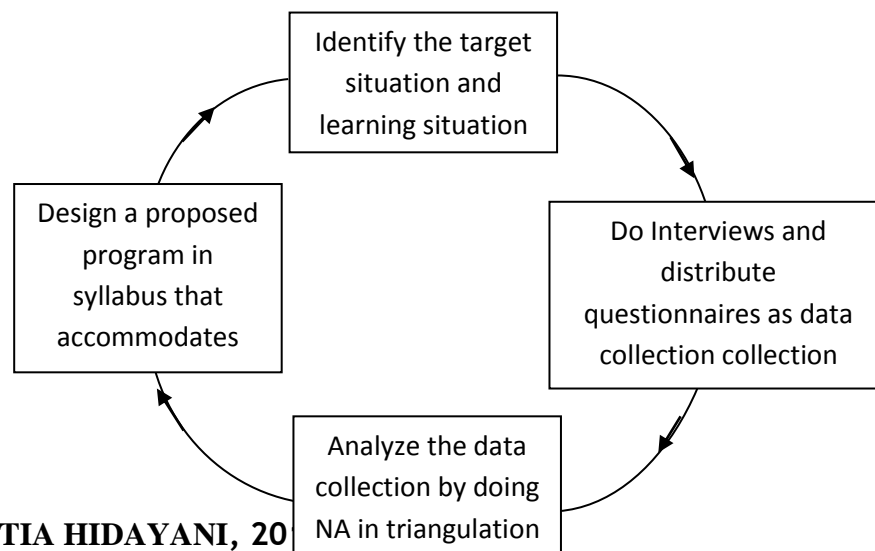
As mentioned previously, this study employs both the qualitative and quantitative procedures. The results of the analysis of each kind of data are further integrated so that they reveal a thorough picture of the phenomeon under focus.

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In this context, the results of analysis of the documents regarding the certification and workplace requirements, the results of interviews with the key personnels at the industry, the responses to the questionnaires from the employees, and the results of observation at the workplace result in an outline of the wants and needs of the aviation industry. Furthermore, the results of analysis of the documents issued by the Ministry of Education and Culture outline the curriculum demands at national level. These results are to be compared with the industrial demands to examine whether the curriculum contents have been in accordance with the industrial demands. Finally, the results of analysis of the interviews with the teachers, the analysis of the responses to the questionnaires from the teachers and the employees, and the results of observations at school would reveal what was going on at the teaching-learning processes at the schools as an effort to meet the curriculum and industry's demands. All the results above later serve as the basis for proposing a language learning program at the vocational school of aviation that can accommodate the needs of all stakeholders, as depicted in Figure 3.2 as follows.

Figure 3.2 The process of the research triangulation



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