



**ANALYZING LANGUAGE LEARNING NEEDS OF HEAVY DUTY
EQUIPMENT ENGINEERING STUDENTS**

THESIS

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**ENGLISH EDUCATION PROGRAM
LANGUAGE AND ARTS DEPARTMENT
TEACHER TRAINING AND EDUCATION FACULTY
JEMBER UNIVERSITY**

2019



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EQUIPMENT ENGINEERING STUDENTS**

THESIS

Composed to Fulfill One of the Requirements to Obtain S1 Degree
at the English Education Study Program, Language and Arts Department,
Faculty of Teacher Training and Education,
Jember University

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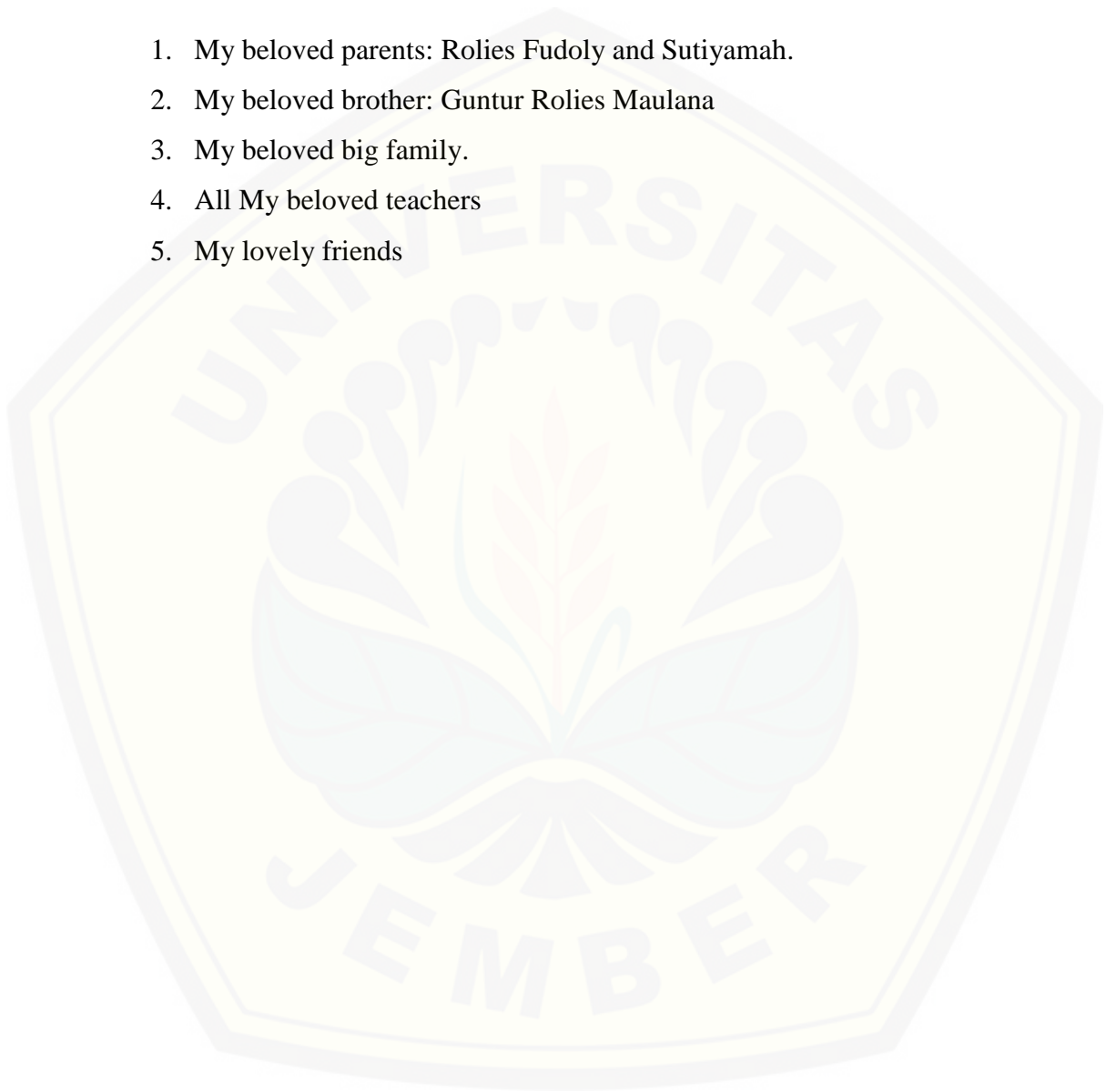
**ENGLISH EDUCATION PROGRAM
LANGUAGE AND ARTS DEPARTMENT
TEACHER TRAINING AND EDUCATION FACULTY
JEMBER UNIVERSITY**

2019

DEDICATION

This thesis is honorably dedicated to:

1. My beloved parents: Rolies Fudoly and Sutiyamah.
2. My beloved brother: Guntur Rolies Maulana
3. My beloved big family.
4. All My beloved teachers
5. My lovely friends



MOTTO

“You don’t have to be great to get started, but you have to get started to be great”

(Les Brown)



STATEMENT OF THESIS AUTHENTICITY

I certify that this thesis is an original and authentic pieces of work by the author himself. All materials incorporated from secondary sources have been fully acknowledge and referenced.

I certify that the content of the thesis is the result of work which has been carried out since the official commencement date of approved thesis title; this thesis has not been submitted previously, in whole or in part, to qualify for any other academic award; ethics procedures and guidelines of thesis writing from the university and the faculty have been followed.

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Jember, December, 3th 2019

The writer

Bayu Doly Maulana

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CONSULTANT APPROVAL

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THESIS

Composed to Fulfill One of Requirement to Obtain S1 Degree at the English
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1. The Dean of the Faculty of Teacher Training and Education, Jember University.
2. The Chairperson of the Language & Arts Education Department.
3. The Chairperson of English Language Education Study Program.
4. The first and second consultants, Drs. I Putu Sukmaantara, M.Ed., and Drs. Bambang Arya Wija Putra, DipEd, Ph.D. for the plentiful time and patience that they spent in guiding me to compose this thesis
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6. The principal of SMKN 2 Jember, The English Teacher, The Vocational Teacher, and the Students of XI-AB who are involved in this research

I believe that this thesis might have some weaknesses. Therefore, any criticism from those who really want to improve this thesis will be wisely appreciated.

Jember, December 3th 2019

The Writer

SUMMARY

Analyzing Language Learning Needs of Heavy Duty Equipment Engineering Students; Bayu Doly Maulana; 150210401098; 2019; 39 pages; English Education Study Program, Language and Arts Department, Faculty of Teacher Training and Education, Jember University

English is an international language which is used in almost all over the world. The development of the knowledge mostly use English as the instructional language. Moreover, English becomes a tool for understanding the knowledge because many books are written in English. However, there is no book that can fulfill all of the readers' needs. The readers or the students in this case want to learn English in order to have English skills and abilities for their future job. English Language Teaching (ELT) has three parts, those are English as Mother Tongue (EMT), English as Second Language (ESL) and English as Foreign Language (EFL). English for Foreign Language (EFL) is divided into two categories those are General English (GE) and English for Specific Purposes (ESP). While GE learns about materials for exam purposes, on the other hand ESP has purposes to meet the students certain needs based on their major in English. Learning materials for vocational high school must be different from the learning materials for senior high school in general because vocational high school students do not only do the national examination but also the expertise test based on the major. The area of this research was *SMKN 2 Jember*. This school was chosen because the researcher found that this school did not use ESP material effectively.

This research used Hutchinson & Waters (1987) approach. There are two important things that should be known about students' needs: Target Needs and Learning Needs. Target needs are divided into three categories, those are necessities, wants, and lacks. On the other hand, learning needs covers some points, i.e: subject knowledge, skills, strategies, and language items. The research design of this research was descriptive study. To get the data, the researcher used

questionnaires to know the students target needs based on the students perception. Semi-structured interview were also used to know the students' learning materials based on English teacher and vocational high school perception. The researcher used both quantitative and qualitative methods for analyzing the data. The quantitative method was applied through questionnaire, while the qualitative method was done through semi-structured interview.

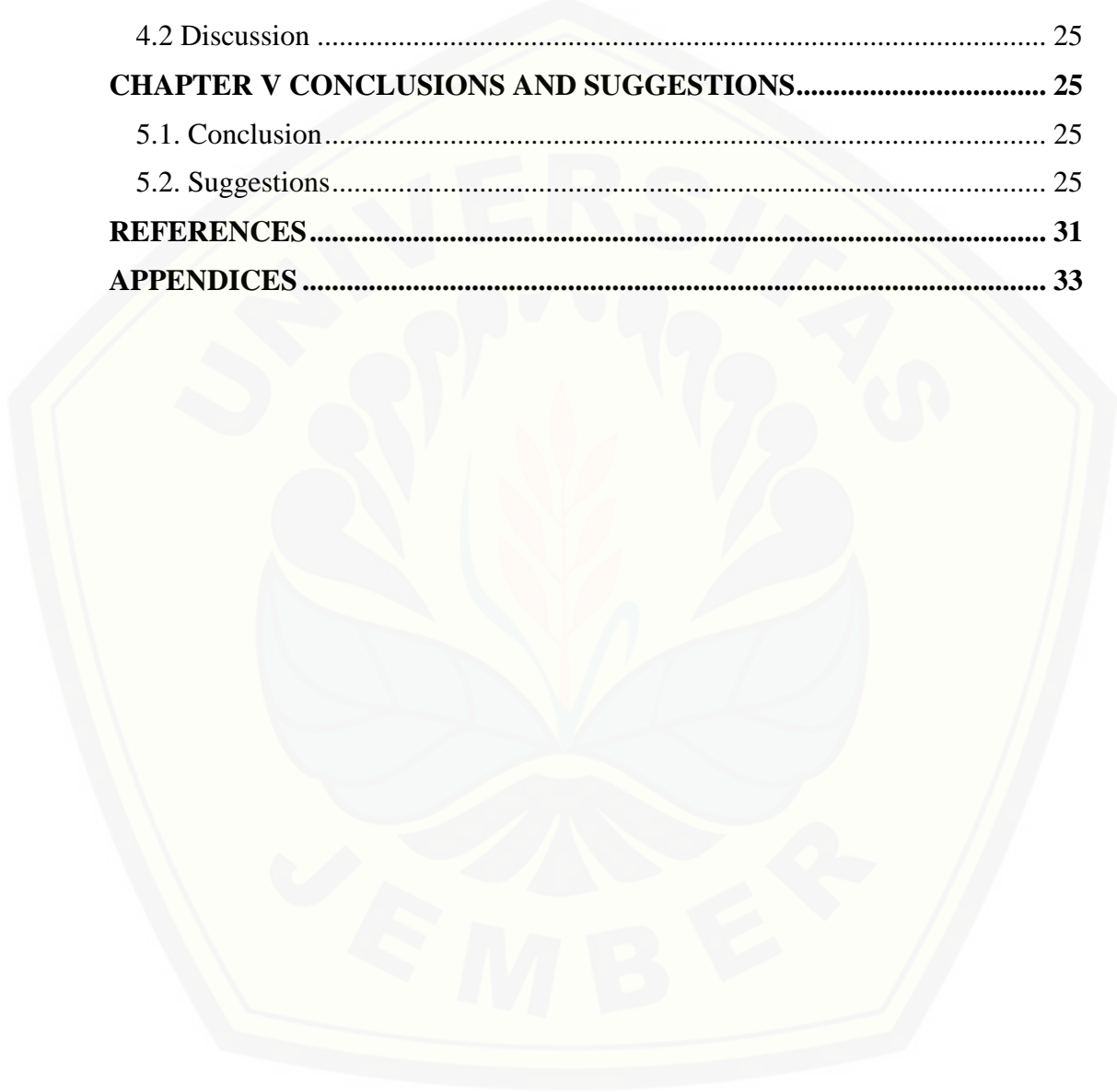
The result of this research showed the students' needs based on the target needs and learning needs. The result of the target needs showed that the Heavy Duty Equipment students required more materials about reading to help them improve their vocabularies and speaking skills to help them understand more about English related to their major. Moreover, the result of the learning needs also showed that there were a gap between the materials that must be learnt and the materials that have been learnt by the students. The heavy duty equipment students need more ESP materials to increase students' ability in reading and speaking, they needs materials such as knowing part of the machine and how to communicate with the customer. The materials provided were limited, the students also had low motivation to learn English independently.

The result of this study is expected to be an important input for the stakeholders and the government in determining the materials used for students. The government needs to develop the specific materials for vocational high school based on their major. The result of this study is also addressed for English teacher to be a guide to find the appropriate materials based on the result of the students' need analysis, especially for Heavy Duty Equipment engineering students of vocational high school. Moreover, it is also suggested for the future researchers to use this research as a reference to conduct a further research dealing with design and development materials.

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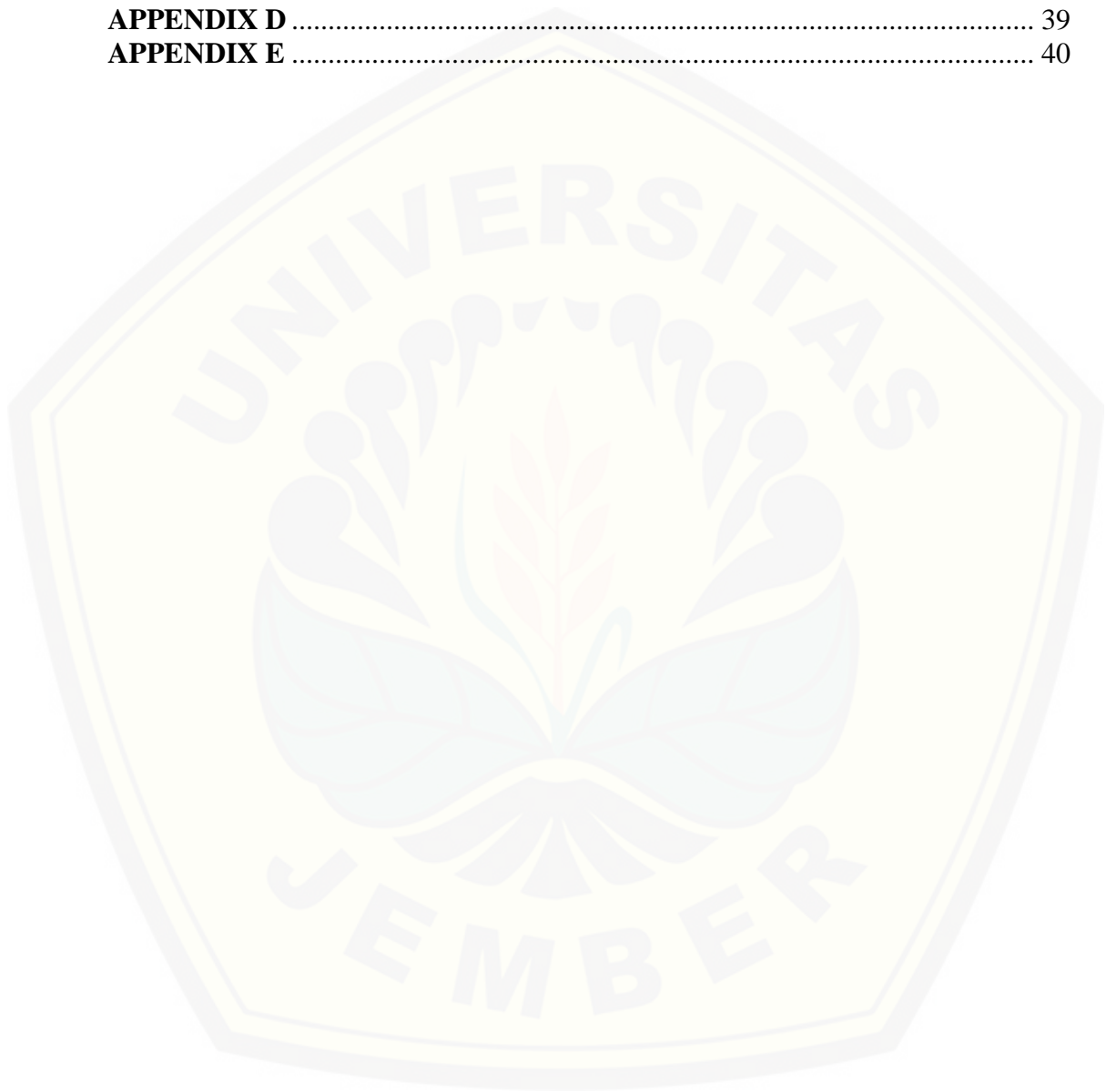


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CHAPTER 1. INTRODUCTION

This chapter presents some aspects related to the research topic. They are Research Background, Research Problems, Research Objectives, and Research Significance.

1.1 Research Background

One common reason why people learn English is English as an international language plays a role as a tool for communication among people all over the world. In addition, it is also a tool for understanding knowledge because many books are written in English, such as technology, health and aviation. In line with Hutchinson & Waters (1987: 6), “people want to learn English, not only for the pleasure or prestige of knowing the language, but also for the key to the international currencies of technology and commerce”. Moreover, Richard (2001:28), “student is usually studying English in order to carry out a particular role, such as foreign student in an English-medium university, flight attendant, mechanic, or doctor”. Concerning the specific purposes of English, the current study focused on the importance of analyzing the needs of the learner to meet what exactly they need and want dealing with learning English.

By the Act of The Republic of Indonesia No. 20 of 2003 on National Education System Chapter V Section 12 Subsection 1 Point B about the learners’ right, every learner in each educational unit has a right to obtain educational services in accordance with their talents, interests, and abilities. In other words, learners have to obtain appropriate materials relevant to their future goals because different learners will face different needs of materials in learning. According to Hutchinson and Waters (1987), different learners have different interests and needs that have an important effect on their motivation to learn and therefore on the effectiveness of their learning. It emphasizes on the content of the language related to build up the students' linguistic competence and skill for guide them to perform well or at least help them to get a good start in the future target situation

Based on “The tree of ELT” drawn by Hutchinson and Waters (1987), describes that English Language Teaching (ELT) has three parts, those are English as Mother Tongue (EMT), English as a Second Language (ESL) and English as Foreign Language (EFL). EFL itself is divided into two categories, those are General English (GE) and English for Specific Purposes (ESP). GE is usually studied for exam purposes, while ESP, which is known as an approach to language learning is based on the learners’ needs. GE courses are aimed to enhance students’ general language competence for a more accurate and fluent production and reception of English in dealing with everyday situations. Thus, GE courses are appropriate to be learnt by Senior High Schools’ students.

According to Hutchinson & Waters (1987:19), “ESP is an approach to language teaching in which all decisions as to content and method are based on the learner’s reason for learning”. The materials used for English Specific Purpose should be based on the students’ major, which means vocational high school should use English specific purposes books rather than general English book. However, according to Cunningsworth (1995), there is no course book designed for the general market which will absolutely match with specific learners. This means that most of the books in the market cannot meet the needs of the specific learners or vocational students because vocational students really need a book that provides with what they need based on their major. Then, the use of ESP materials for vocational students is something important to help the learners to achieve their goals based on their major. Based on the preliminary study done by the researcher at *SMKN 2 Jember*, in Engineering Program, it was found that this program used GE as the materials in teaching and learning process, where actually English materials used in vocational high school must be relevant with their major. Engineering Program needs materials that are appropriate with their major as a bridge in the classroom and real life because they are prepared as workers such as: consultant, adviser, seller, etc, after they graduate. Engineering Program needs materials like how they understand to read the manual of electronic things, knowing the parts of a machine, and how to operate the machine, rather than learning materials about *Talking About Self, Complimenting and Showing Care, Expressing Intention, etc*, that are found in

Buku Bahasa Inggris Kelas 10 Kurikulum 2013. Carrying out needs analysis and determining language obstacles faced by engineering students is crucial. It is a critical part of the curriculum planning process in language teaching and learning (Richards, 2001). The course materials will be relevant if analyzing needs and the obstacles of language are determined correctly.

There are some previous researches dealing with the need analysis. Those are: Alsamadani (2017), Karimi and Sanavi (2013), Gözüyeşil (2013). Those studies were related in analyzing of students' needs, unfortunately there were no studies that focused on Heavy Duty Equipment engineering students and also there were no studies that used Hutchinson and Waters' principles. This research analyzed the Heavy Duty Equipment students' needs based on Hutchinson & Waters '(1987) principles that focused on the target needs and learning needs. Derived from the research background, the researcher decided to conduct research entitled **“Analyzing Language Learning needs of Heavy Duty Equipment Engineering Students”**. The finding of this research was expected to be a guidance for another researcher and teacher who want to develop materials for engineering students, especially Heavy Duty Equipment major.

1.2. Research Problem

Based on the research background stated above, the research problem is “What are the Heavy Duty Equipment students' needs based on target needs and learning needs in engineering vocational high school?”

1.3 Research Objective

Based on the research problem above, the objective of this research is to analyze Heavy Duty Equipment students' needs based on target needs and learning needs in engineering vocational high school.

1.4 Research Significance

The finding of this research is expected to give two kinds of contributions: empirical contribution and practical contribution

1.4.1 Empirical contributions

- For other researchers, the research finding will be a resource to conduct further research in similar areas.

1.4.2 Practical Contribution

The practical contribution is addressed to English teacher, material developer and policy maker. The finding of the research can be used for English teacher as motivation and input in order to select the appropriate material based on the need analysis of the students, especially for engineering students of vocational high school. For the material developer, the research finding will be used as a consideration in developing material especially for the engineering program of a vocational high school. For policy maker, the research finding will be used as consideration in making policy dealing with the materials used in vocational high school.

CHAPTER II. REVIEW OF RELATED LITERATURE

This chapter discusses some theories related to the research topic. The discussion includes Theoretical Framework, Conceptual Review, and Previous Research Review.

2.1 The Overview of English Specific Purposes (ESP)

Technology and Commerce have become dominated group in International scale after the end of the Second World War. The economic power was dominated by the United States and that made people wanted to learn English. People at that time believed if they wanted to have a power in technology and commerce sectors, they must master English well. After oil crisis happened in 1970, English became international market language. Moreover, there were some reasons why people such as an engineer, businessmen, and lawyer wanted to learn English. One of those reasons was English could help them to expand their career. When English became a big business, the English for specific purposes were needed. It is also stated by Jupp & Hodlin (1975:10), “ESP is a key to teach EFL learners dealing with trade or foreign business”. Moreover, Basturkmen (2008:6), “the function of ESP is to help language learners cope with the features of language or to develop the competencies needed to function in a discipline; profession; or workplace”.

The new studies shifted attention away from defining the formal features of language usage to discovering the ways in which language is actually used in real communication (Widdowson, 1978). The use of language will be different in every context. Paltridge and Starfield (2013:2) “ESP refers to the teaching and learning of English as a second or foreign language where the goal of the learners is to use English in a particular domain”. Then it is possible to make a different feature based on the specific context where English will be used. Simply, identifying English for specific purpose can be used to know the need of English for certain groups.

Based on the explanation above, ESP becomes something needed to be learnt by EFL students, especially Vocational High Schools. ESP has a function to

help the students in learning English based on their major and their need. Based on Evans & John (1998:4-5), ESP has two characteristics. The first is Absolute Characteristic, ESP is designed to meet the specific needs of the learner. It means that it contains the methodology and the activities of the discipline it serves. It also has specific language features such as grammar, lexis, register, skills, discourse, and appropriate genre. The second is Variables Characteristic, ESP designed for specific disciplines where it used a specific teaching situation different from general English. In spite of ESP is likely to be designed for adult learner, intermediate or advance learner, ESP also can be used for secondary school level or beginners.

2.2 Need Analysis

Any vocationally-oriented course must be based on the fundamental issue of what learners need to do with English (Evans, 1997:5). Ideally, the syllabus used in vocational high school should know what students' needs for developing their critical thinking on his major. Thus, they can connect their prior knowledge about English with what they will learn in order to solve any problems that might face them in the real situation based on their major. Needs analysis is the first important stage that should be done to determine appropriate materials for the students, so that the material used is appropriate with their major. In addition, needs analysis affects the students' education at the time when they learn English, and for their future job or career such as: seller machine product, consultant, adviser, etc. According to Brown (1995:36), "needs analysis is the systematic collection and analysis of all subjective and objective information necessary to define and validate defensible curriculum purposes that satisfy the language learning requirements of students within the context of particular institutions that influence the learning and teaching situation".

Besides knowing the students' information about the material they learnt, need analysis is also useful for the teacher and the material developer who want to develop the material for the students. From the teacher's point of view, needs analysis can be used as a reflection for the teacher to select the material used for the students, and can be used to develop the material and strategies for teaching and

learning process by the teacher. From the material developer's point of view, needs analysis can be references to create and develop materials for specific major. Basturkmen (2010) states that ESP course design includes a stage in which the course developers identify what specific language and skill the group of language learners will need.

2.3 Analyzing Needs Using Hutchinson and Water's Approach

Selecting an appropriate technique is important to gain the appropriate data. The researcher should consider with the kinds of approach that can be used for collecting the data. In this research, the researcher used Hutchinson and Water's (1987) approach to gain the students' need data. The first thing should be known in students' need was knowing the target needs. Target needs is what the learner needs to do in the target situation. Target situation itself divided into three categories, they are:

1) Necessities

What the learner has to know is related to the target situation. For example, Engineer may need to understand the manual, how to communicate effectively with their customers, how to get the necessary information about the new products. It means that he also needs to know the language features of the language, such as the discourse, functional, structural, and lexical- which are commonly used in the situation identified

2) Lacks

Lacks can be defined as students' difficulties in understanding something relating to the material. Lacks are defined as the gap between the difficulties and the necessities (Hutchinson & Waters: 1987). It is important to know what the students have known to decide what the gap or aspect that needs to be improved. For example, Engineering students already get used to with vocabulary used in engineering books, but still, do not understand with the instruction in it.

3) Wants

Wants is the students' wants to be learned. Students are given opportunities to determine the material they want to learn because they know what exactly they

want to get a link with their future career job. For example, Engineering students want to learn how to make conversation with the customers. Thus, the researcher should combine necessities, lack, and wants to find out the students target situation appropriately.

Besides combining necessities, lacks, and wants, the researcher analyzed the needs of students by investigating the learning needs where subject knowledge, skills, strategies, and language items.

2.4 English for Engineering

The use of materials in the teaching and learning process is an important role in the field of ESP. The materials should stimulate students to think critically where it still has to follow the syllabus. Further, the design of the course should be based on the needs of students related to their major. In line with Hutchinson & Waters (1987:8), “English needed by a particular group of learners could be identified by analysing the linguistic characteristics of their specialist area of work or study”. Since ESP materials are used to raise learners’ awareness of how their communicative intentions are accomplished, it is important to make ESP materials relevant with the learners’ target context.

In this research, the researcher focused on the Engineering Class. The Materials used in engineering program is important for the students to develop their mind. Skills of engineering such as following the manual correctly is needed when they work in real life. English for engineering students will be significantly different from English for general purposes. It will be focused on how to operate the tools, how to understand the manual, etc. They will need fewer materials about having a conversation with a foreigner or making procedures text. The materials used for vocational high school especially for engineering program should be specific such as technology used, materials technology, components and assemblies.

2.5 Previous Studies

There are some research studies which have been conducted by several researchers that are relevant to the importance of conducting need analysis research, the method used or the findings were discovered.

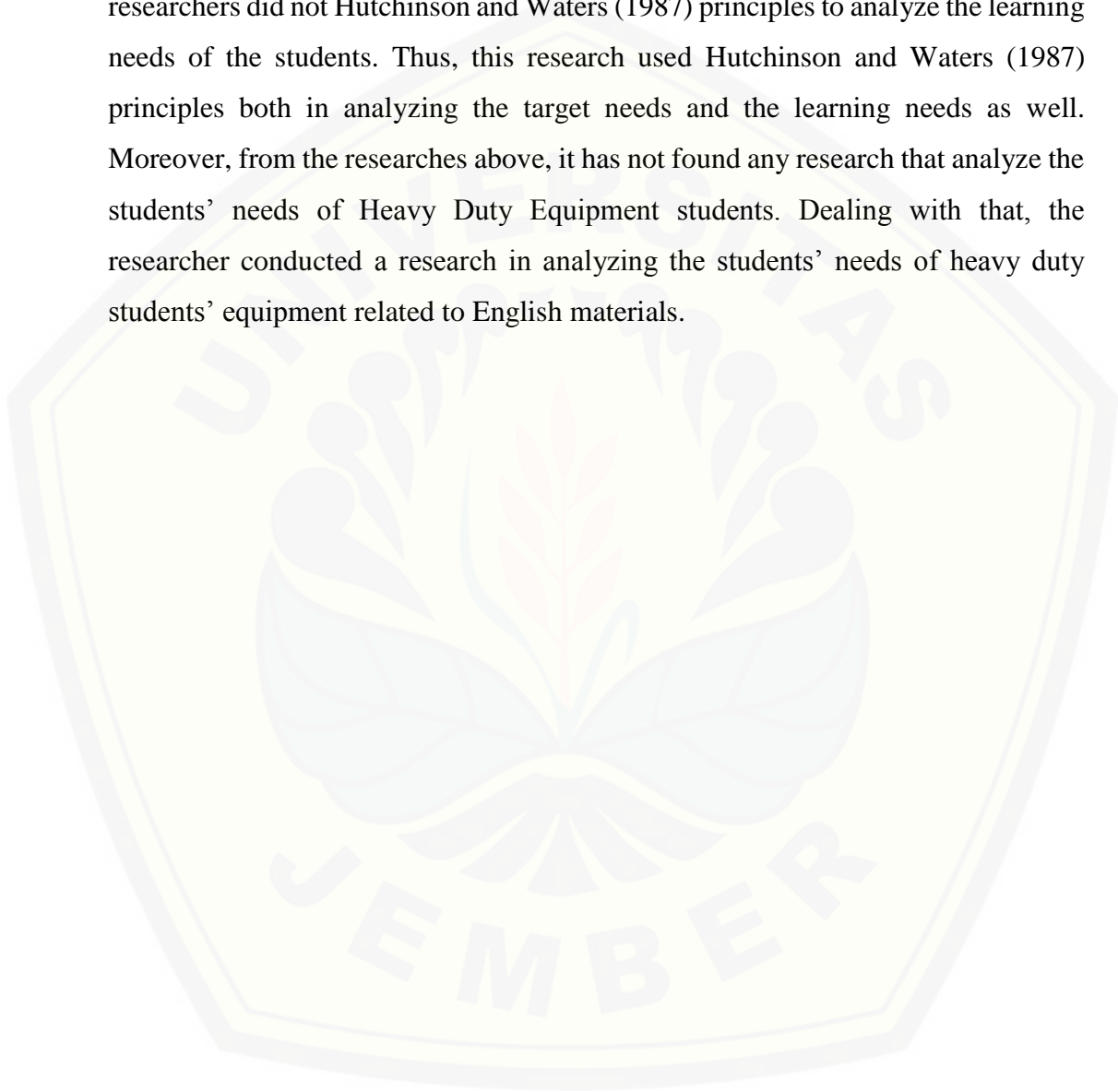
First, a study conducted by Gözüyeşil (2013) investigated the academic English requirements of engineering departments from the engineering students' and academicians' point of view. Questionnaires and interviews were used for collecting the data. The result of this study found that engineering students primarily need to improve their English reading skills in order to do research. Moreover, Engineering students regards Speaking skill is very important than reading skill. A multi-method approach was adopted in this research. Gözüyeşil (2013) also reported that the language teachers should considered the activities in the language classes relating to requirement of departments and by reorganizing the curriculum according to the specific needs of departments.

Second, a study conducted by Tinh (2015) investigated the use of English in real-world as required by mechanical engineers to be used effectively in their job at various workplace contexts in Vietnam. In this study the researcher used questionnaire to collecting the data. The questionnaire was adopted from Munby's (1978) model to study English communication needs of mechanical engineers from a sociolinguistic perspective. The result of this study showed that the most important skill needed by mechanical Engineering students was reading skill because most of them worked with machinery system which required them to know in details the products' specifications. The result of this study also claimed that mechanical engineering students had problems with their communication skills in English, it means that listening and speaking are the most frequently skills that are needed and still need improvement

Third, a study conducted by Alsamadani (2017) investigated the needs of Saudi Engineering students majoring civil engineering and industrial engineering in ESP context. This study used three different types of instruments to collect the data: a classroom observation protocol, a structured questionnaire and a semi-structured interview protocol. This study found that writing and reading along with speaking skills were needed more than others. This study used some principles based on Hutchinson and Waters (1987), and Munby's (1987), in which the defined needs in terms of "target needs (i.e. what the learner needs to do in the target situation) and "language needs" (it focused on target linguistic or in other word

materials used). The main concern of this investigation was to find out the most important language tasks in the context of engineering studies.

In conclusion, the relevant researches above show that analyzing the target needs and learning needs are something important to be conducted. However, the researchers did not Hutchinson and Waters (1987) principles to analyze the learning needs of the students. Thus, this research used Hutchinson and Waters (1987) principles both in analyzing the target needs and the learning needs as well. Moreover, from the researches above, it has not found any research that analyze the students' needs of Heavy Duty Equipment students. Dealing with that, the researcher conducted a research in analyzing the students' needs of heavy duty students' equipment related to English materials.



CHAPTER III. RESEARCH METHODOLOGY

This chapter presents the research design, research context, research participants, data collection method, and data analysis method.

3.1 Research Design

The aim of this study was to analyze Heavy Duty Equipment students' needs for English related to students' career possibilities. The research design of this study was descriptive research. According to Helen Dulock (2013), Descriptive research is used to describe characteristics of a population of phenomenon being studied. Moreover, According to Manuel and Medel (1998), descriptive research involves the description, recording, analysis, and interpretation of the present nature, composition or processes of phenomena. From the statement above, the purpose of this descriptive research was to analyze the Heavy Duty Equipment needs for English.

This research used Hutchinson and Water's principle to know the students' needs. There were two things which should be known in order to know the students' needs, those were: 1) Target Situation, in this part the researcher divided target situation into three parts, those were necessities, wants, and lacks, 2) Learning Needs, it dealt with subject knowledge, skills, strategies, and language items. The researcher used interview and questionnaire in this research to collect the data. An interview may be often useful at the preliminary stage of designing a questionnaire since it will help the designer to get a sense of what topics and issues focused on the questioner (Jack Richard, 2001). Questionnaires were relatively easy to be prepared, they could be used with a large number of subject, and they obtained information that was relatively easy to be tabulated and analyzed. The data was gathered through: (1) Interviewing the English teacher and Vocational teacher to gather the data about what subject knowledge, skills, strategies, and language items used for teaching engineering program; (2) A questionnaire was used to gain information about the necessities, wants, and lacks of materials they perceived.

The procedures of investigating the students' needs were as follows:

1. Interviewing an English teacher and a Vocational teacher. The aim of this stage was to gain information about the learning situation based on the English teacher and Vocational teacher perception. The interview guide followed Hutchinson and Water's (1987) principles.
2. After conducting the interview, the researcher designed a questionnaire to gain data about the students' perception. The questionnaire followed Hutchinson and Water's (1987) principles.
3. After getting the data needed, the next step was analyzing the data. Two kinds of data were collected, those are quantitative and qualitative.
4. The last step was writing the students' need based on the data.

3.2 Research Context

This research was conducted in *SMKN 2 Jember*. The curriculum used was 2013 Curriculum as the educational guidelines. The school had 11 departments; one of them was Heavy Duty Equipment department. This research focused on eleventh-grade students of Heavy Duty Equipment department.

3.3 Research Participant

The participants of this research consisted of an English teacher, a vocational teacher and 30 heavy-duty equipment engineering students in the eleventh grade. Based on preliminary study done by the researcher in heavy-duty equipment department, the researcher believes that they were suitable and could help the researcher supporting in gaining the data dealing with analyzing heavy-duty equipment students' needs in Vocational High School 2 Jember.

3.4 Data collection method

The methods in this research for collecting the data were questionnaires and interview. Those methods explained as follows.

3.4.1. Questionnaires

The researcher chooses questionnaire because it was an effective way to gather information in large numbers of students. The purpose of the questionnaire was to gain information about the target situation based on the perspective of students. Target situation itself included: necessities, wants and lacks. Hutchinson and Waters (1987) once proposed the use of three detailed subcategories of needs when conducting needs analysis in language classrooms: (1) Necessities: The learners' language skills and knowledge were required to work effectively in a target situation; (2) Wants: Learners' self-perception of what needs to be known. Even the individual wants may differ and may depend on the perceived needs of course designers, learners' wants influence learning efficacy, thus deserving our attention; (3) Lacks: The gap between language learners' target proficiency and their existing proficiency. The lacks are skills that learners perceive as insufficient. The need analysis questionnaire was adopted and modified from Febriatun (2011:44 - 45) based on Hutchinson and Waters (1987). The organization of need analysis questionnaire could be formulated as:

Table 3. 1 The Organization of Need Analysis Questionnaire

	No.	Aspect	Item Number	Question Goal	Reference
Target Needs	1	Necessities	3, 4, 5, 10	To find out students' perceptions of their needs are	Hutchinson and Waters (1987: 55)
	2	Wants	7, 8, 9	To find out students' perceptions about what they want to know	Hutchinson and Waters (1987: 55)
	3	Lack	1,2,6	To find out students' lacks or what they cannot do	Hutchinson and Waters (1987: 56)

3.4.2. Interview

For the interview, the researcher used a semi-structured interview to gain information from the teacher's perspective. This semi-structured interviews were in the form of questions. A semi-structured interview also enabled the researcher "to have some freedom to probe for more information from research participants" (Mackey and Gass 2005:173). The interview guide formulated as follows:

Table 3. 2 The Organization of Interview Guide for English teacher

	No.	Aspect	Item Number	Question Goal	Reference
Learning Needs	1	Subject Knowledge	1,6	To find out the subject knowledge	Hutchinson and Waters (1987: 60)
	2	Language items	2,3,7	To find what materials being used	
	3	Skills	4	To find out teacher's opinion about what skills needed by the students	
	4	Strategies	5	To find the teacher's strategies/methods being used in teaching English	

Table 3. 3The Organization of Interview Guide for Vocational teacher

	No.	Aspect	Item Number	Question Goal	Reference
Learning Needs	1	Subject Knowledge	1	To find out the subject knowledge	Hutchinson and Waters (1987: 60)
	2	Language Items	2	To find what materials being used	
	3	Strategies	3	To find out what strategies/method being used	
	4	Skills	4,5	To find out teacher's opinion about what skills needed by the students	

3.5 Data Analysis Methods

In this research, two kinds of data were collected, those were quantitative and qualitative data. The researcher used two kinds of methods in processing the data. First, need analysis questionnaire data were examined by quantitative data analysis method adopted from Sugiyono (2012:95). Second, interviews data were analyzed through the following steps. The analysis began by writing down the recording, examining the transcript next to the recording, correcting the transcript, and continuing by sorting the information in the transcript (Morse and Field, 1996).

3.5.1. Quantitative data Analysis Method

The data was processed with the formula below to know how many the percentage of students in a group that answers the questionnaire in some perceptions.

$$E = \frac{n}{N} \times 100\%$$

Note:

E= the percentage

n = given quantity

N = Total amount of the students

The percentage of answers on each questions were presented the students condition in answering the questionnaires.

(Adopted from Sugiyono, 2012:95)

3.5.2 Qualitative Data Analysis Method

Analyzing the qualitative data were done by describing the result of the interview. The analysis began by writing down the recording, examining the transcript next to the recording, correcting the transcript, and continuing by sorting the information in the transcript (Morse and Field, 1996). The data were in a form of narrative descriptive.

CHAPTER V

CONCLUSIONS AND SUGGESTIONS

5.1. Conclusion

Based on the results of the needs analysis questionnaires and semi-structure interview showed that most of the eleventh grade heavy duty equipment students really need materials that relate with their major to support their carrier in the future. It described clearly in Chapter 4, the result of students' target needs based on necessities aspect, wants aspect and lack aspect showed that the students need more materials that appropriate with their major dealing with knowing parts of machine and how to communicate with customer. For wants aspect, it showed that the students wanted to master more about reading and speaking skill. Then the lack aspect showed that the students were not good in some English skills. They got difficulties in understanding a text because they got lacks of vocabulary and they could understand what people said but they could not respond it. Here, it could be implied that the students' lacks were on reading and speaking.

The result of learning needs showed that there were a gap between the materials that should be learnt and the materials that have been learnt by the students. It also showed that the goverment only provide GE textbook for teaching and learning process. It made the students did not get any specific materials relating with their major. As what the teacher said the materials that needed by the students were do the manual in right order, knowing parts of machine, etc.

5.2. Suggestions

Considering the results of the needs analysis questionnaire and semi-structured interview, some suggestions are proposed for the following stakeholders.

5.2.1 The Government

The government, The Ministry of Education, hold the important role in making decision about the material that will be used for schools. EGP can be used to enhance students' general language competence dealing with everyday situation. Moreover, EGP courses are appropriate to be learnt by senior high schools' students in purpose to pass the national examination. While, ESP has purpose to help the students to learn based on what the students needs or based on their major. Furthermore, the materials used in vocational high school should be based on the students major to help students to be ready after graduate from the school. The government, especially the Ministry of National Education as the important stakeholder in determine the materials used for the students need to develop the specific materials for vocational high school based on the major.

5.2.2 The English Teacher

The findings of the research showed the gap beetwen what should be learned by the students and the materials available in the teaching and learning process. Thus, it is suggested for the English teachers to be actively finding more resources for the English materials based the major for the teaching and learning process. When the students gain a lot of kinds of materials based on their major, it will help them to master English skills that will be useful for their future carreer.

5.2.3 The future researchers

This research only focused on analysing language learning needs of heavy duty equipment engineering students at SMKN 2 Jember or Vocational High School 2 Jember. For the future researchers, this research is expected to be a reference to conduct a further research in developing and designing materials based on the students target needs and learning needs. Moreover, the further researchers are expected to cunduct a similar research design by choosing different school, participants or even different target of analyzing.

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APPENDIX A

RESEARCH MATRIX

TITLE	PROBLEM	VARIABLES	INDICATORS	DATA RESOURCES	RESEARCH METHOD
Analyzing Language Learning needs of Heavy Duty Equipment Engineering Students	What are Heavy Duty Equipment Engineering students' needs of English materials at SMKN 2 Jember?	<p>Independent Variable:</p> <p>1. Needs Analysis on ESP Materials</p> <p>Dependent Variable:</p> <p>1. Students of Heavy Duty Equipment at Vocational High School</p>	<p>Based on Hutchinson and Waters' theory, two kinds of information will be collected:</p> <p>1. Target Needs</p> <p>a. Necessities</p> <p>b. Wants</p> <p>c. Lacks</p> <p>2. Learning Needs</p> <p>a. Subject Knowledge</p> <p>b. Language Items</p> <p>c. Skills</p> <p>d. Strategies</p>	<p>1. Respondents:</p> <p>a) The eleventh grade Heavy Duty Equipment Students of SMKN 2 Jember</p> <p>2. Informant :</p> <p>The English and Vocational teacher of SMKN 2 Jember</p>	<p>Research Design:</p> <p>Descriptive Research</p> <p>Data Collection Method:</p> <p>a. Interview</p> <p>b. Questionnaires</p> <p>Data Analysis Method:</p> <p>a. Descriptive Quantitative</p> <p>b. Descriptive Qualitative</p>

APPENDIX B

Aspect	No	Question	Students' Option	Number and Percentage
Lacks	1.	How well do you think your English skill is?	a. I am master English well	2 (6.7%)
			b. I am not good enough	22 (73.3%)
			c. I understand what people talks and what I read, but I can not giving the respons.	6 (20%)
			d. (Others option...) please explain!	0 (0%)
Lacks	2.	Have you learned about the specific terms related to Heavy Duty Equipment?	a. Not yet	4 (13.3%)
			b. Yes I have, but it is quiet enough	26 (86.7%)
			c. Yes I have and I master it well	0 (0%)
			d. (Others option...) please explain!	0 (0%)
Necessities	3.	In learning English, do the students need the materials about machine expecially for Heavy Duty Equipment?	a. Need	14 (47%)
			b. Really need	16 (53%)
			c. Do not need	0 (0%)
			d. (Other options...) Please explain!	0 (0%)
Necessities	4	What topic do you think you need more in learning English?	a. Knowing the parts of machine	12 (40%)
			b. How to operate machine	3 (10%)
			c. How to communicate with customer	12 (40%)

			d. (Other options...) Please explain!	3 (10%)
Necessities	5.	Where do you usually get English materials?	5 English Teacher	20 (66.7%)
			6 Internet	3 (10%)
			7 English textbooks	2 (6.7%)
			8 (Other options...) Please explain!	5 (16.7%)
Lacks	6.	What is your main difficulty in learning English?	a. Less vocabularies and my lack understanding of grammar	12 (40%)
			b. The difficulty in understanding the term and giving the meaning of certain words	12 (40%)
			c. Less motivation in learning English	4 (13%)
			d. (Others option...) please explain!	2 (6,7%)
Wants	7.	What English skills do you think are important for your job in the future?	a. Speaking	14 (46.3%)
			b. Reading	16 (53.7%)
			c. Writing	0 (0%)
			d. (Other options...) Please explain!	0 (0%)
Wants	8.	What materials do you want in learning English?	a. Conversation with customer	12 (40%)
			b. Materials about knowing machine	15 (50%)

			c. How to write down a paragraph	3 (10%)
			d. (Other options...) Please explain!	0 (0%)
Wants	9.	How length of the English text do you want to improve your ability in mastering English?	a. Less than 150 words/ Less than 2 minutes?	2 (6.7%)
			b. 150-200 words/ 2-3 minutes	12 (40%)
			c. 200-300 words/ 3-4 minutes	12 (40%)
			d. More than 300 words/ more than 4 minutes	4 (13.3%)
Necessities	10.	Who will you communicate using English with?	a. Foreigner	0 (0%)
			b. Customer	24 (80%)
			c. Teachers and friends	6 (20%)
			d. (Other option...) Please explain!	0 (0%)

APPENDIX C

**PANDUAN WAWANCARA GURU BAHASA INGGRIS
BERDASARKAN *LEARNING NEEDS***

No.	Tujuan	Pertanyaan	Jawaban
1.	Knowing the subject knowledge	How long have you been teaching here?	I was teaching at <i>SMKN 2 Jember</i> since 1990.
2	Knowing the language items	What kind of materials do you use to teach English? ESP (English for Specific Purposes) or EGP (English for General Purposes)?	I used both ESP and EGP. Mostly I used EGP materials because the syllabus and the books provided by government was for EGP. I added some ESP materials that I found in some resources.
3	Knowing the language items	Do the English materials used in <i>SMKN 2 Jember</i> especially for Heavy Duty Equipment Engineering students already appropriate with the needs of the students? If your answer is no, what the materials should be?	EGP materials that has purpose to prepare the students to understand daily conversation was already meet the needs of the students. In other hand, ESP materials for Heavy Duty Equipment students still need to be developed.
4	Knowing the skills should be mastered	In learning English, what kind of skills that should be mastered by Heavy Duty Equipments students?	All skills are important. But the most skills that students must master well are vocabullaries (Reading), because it help them to understand the terms relating to their major. Moreover, Speaking also important to help them be brave to speak especially when they have worked.
5	Knowing the strategies/ method used	What kind of strategies/method that you used to teach English in Heavy Duty Equipment Engineering students?	I used discovery learning as what suggested by government in 2013 curriculum. I gave the students stimulus for their critical thinking to solve the problem they face rather than give them direct answer

6	Knowing subject knowledge	Do the English teacher need to know the machine terms to teach Heavy Duty Equipment Engineering students? Why ?	Of course yes. Because before the teacher teach the students, he has to understand the materials well
7	Knowig the language items	What kinds of topic should be given to Heavy Duty Equipment Engineering students?	The materials that appropriate to the students major. Both of EGP and ESP should be balance, because both of them are important to encourage their ability in English related to their learning purpose.



APPENDIX D

**PANDUAN WAWANCARA GURU MESIN BERDASARKAN
*LEARNING NEEDS***

No	Purpose	Question	Answer
1	Knowing subject knowledge	How long have you been teaching Heay Duty Equipment Engineering?	I have been teaching for about 10 years
2	Knowing language items	What kinds of materials that you used to teach Heay Duty Equipment Engineering?	I used the materials that provided in syllabus, for example: Knowing parts of the machine, how to operate the machine, etc.
3	Knowing the strategies/methods used	What kind of strategies/methods that you used to teach Heay Duty Equipment Engineering?	I gave them the basic material to help them in understanding the theory. Then, students directly practiced by them self. Moreover, they found the way to solve the problem they face.
4	Knowing the skills that the students have to master	What kinds of skills that Heay Duty Equipment Engineering students should master relating to their future carrier?	The ability to use the machine, know parts of the machine, explain the function of the machine.
5	Knowing about the important or not the English skills relating to students major.	Is that important to Heay Duty Equipment Engineering students to master English relating to their major?	Of course it is so important, because it can be useful for them when they work with international companies that require them to speak using English. Moreover, they can understand the knowledge that written in English.

APPENDIX E**QUESTIONNAIRE****Analisis Kebutuhan Belajar Bahasa Inggris untuk Siswa Kelas X Jurusan
Alat Berat di SMKN 2 Jember****A. Pengantar**

Angket ini diberikan kepada siswa kelas X, jurusan Alat Berat di SMKN 2 Jember sebagai bahan pertimbangan untuk pengembangan materi ESP. Dari hasil pengisian angket ini diharapkan bisa diketahui kebutuhan siswa kelas X terhadap materi Bahasa Inggris seperti apa yang seharusnya dihadirkan. Oleh karena itu, jawaban jujur dan apa adanya yang sesuai dengan kondisi kenyataan sangat dibutuhkan. Semua jawaban yang diberikan tidak akan berpengaruh terhadap nilai Bahasa Inggris.

B. Data Responden

- 1) Nama :
- 2) NIS :
- 3) Kelas :
- 4) Umur :
- 5) Jenis kelamin : L/P

C. Petunjuk pengisian

Berikut ini adalah beberapa pertanyaan yang menunjukkan keadaan diri teman-teman. Berikanlah tanda silang (X) pada setiap jawaban yang sesuai dan mewakili keadaan teman-teman selama mengikuti proses pembelajaran Bahasa Inggris pada abjad yang tersedia. Jikalau teman-teman berpikir bahwa teman-teman memiliki pendapat lain atau hendak menggabungkan antara beberapa jawaban yang tersedia, maka hendaklah teman-teman memberikan tanda silang (X) pada jawaban “lain-lain”, serta diharapkan untuk menuliskan jawabannya dengan singkat dan jelas sesuai dengan pendapat teman-teman.

1. Menurut saudara, bagaimana kemampuan saudara dalam menggunakan Bahasa Inggris saat ini?
 - a. Saya mahir menggunakan bahasa inggris.
 - b. Saya kurang mampu menggunakan Bahasa Inggris.
 - c. Saya mampu memahami apa yang orang bicarakan atau yang saya baca dalam Bahasa Inggris, namun saya tidak bisa memberikan tanggapan atau meresponnya.
 - d. (Lain-lain) Jelaskan!.....
2. Sudahkah saudara mempelajari tentang istilah istilah spesifik berkaitan dengan jurusan saudara?
 - a. Belum.
 - b. Sudah, namun belum cukup banyak
 - c. Sudah dan cukup menguasai
 - d. (Lain-lain) Jelaskan!.....
3. Dalam kegiatan pembelajaran bahasa inggris, perlukah ada materi-materi pembelajaran yang berhubungan erat dengan mesin khususnya alat berat?
 - a. Perlu
 - b. Sangat perlu
 - c. Tidak perlu
 - d. (Lain-lain.) Jelaskan!.....
4. Menurut saudara, topik pembelajaran yang seperti apakah yang paling anda butuhkan untuk materi pembelajaran Bahasa Inggris?
 - a. Menenal bagian-bagian mesin
 - b. Bagaimana cara menjalankan mesin
 - c. Menghadapi pelanggan dalam tatanan bisnis global
 - d. (Lain-lain.) Jelaskan!
5. Darimana anda biasanya mendapat materi pembelajaran Bahasa Inggris?
 - a. Dari Guru Bahasa Inggris

- b. Dari sumber sumber yang terdapat di internet
 - c. Dari membaca buku pelajaran
 - d. (Lain-lain.) Jelaskan!.....
6. Apakah kesulitan yang saudara alami dalam mempelajari Bahasa Inggris?
 - a. Kurangnya kosa kata yang saya miliki serta minimnya pengetahuan tatanan bahasa dalam Bahasa Inggris.
 - b. Sulitnya memahami makna/mengartikan.
 - c. Kurangnya antusias saya dalam mempelajari Bahasa Inggris.
 - d. (Lain-lain.) Jelaskan!.....
7. Skill apa yang saudara kira penting dalam kaitannya dengan meunjang karier saudara?
 - a. Berbicara/Speaking
 - b. Membaca/Reading
 - c. Menulis/Writing
 - d. (Lain-lain) Jelaskan
8. Materi yang seperti apakah yang saudara harapkan dalam pembelajaran bahasa Inggris?
 - a. Percakapan dengan turis
 - b. Bacaan tetang mengenal bagian mesin
 - c. Menulis sebuah paragraf
 - d. (Lain-lain.) Jelaskan!.....
9. Berapakah panjang input materi yang saudara inginkan untuk melatih kemampuan dalam menggunakan bahasa Inggris?
 - a. Kurang dari 150 kata / kurang dari 2 menit
 - b. 150 – 200 kata / 2-3 menit
 - c. 200 – 300 kata / 3-4 menit
 - d. Lebih dari 300 kata/lebih dari 4 menit

(Lain-lain.) Jelaskan!.....
10. Menurut saudara, dengan siapakah anda akan menggunakan Bahasa Inggris dalam berkomunikasi?

- a. Dengan orang asing/ turis asing
- b. Dengan rekanan bisnis atau pelanggan
- c. Dengan guru dan teman sekolah
- d. (Lain-lain.) Jelaskan!.....

