

**A NEED ANALYSIS OF ENGLISH FOR SPESIFIC PURPOSES FOR  
MECHANICAL ENGINEERING STUDENTS IN FACULTY OF  
ENGINEERING AT STATE UNIVERSITY OF PADANG**

**THESIS**

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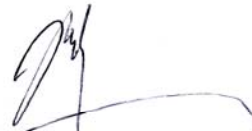
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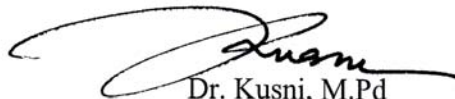


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## **ABSTRAK**

**Winanda, Sonya. 2011. A Need Analysis of English for Specific Purposes for Mechanical Engineering Students in Faculty of Engineering at State University of Padang.**

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Penelitian dengan desain deskriptif ini bertujuan untuk mengetahui apakah materi ESP yang diberikan di jurusan Teknik Mesin, Fakultas Teknik, Universitas Negeri Padang, telah sesuai dengan kebutuhan siswa. ESP yang diaplikasikan pada mata kuliah Bahasa Inggris Teknik, adalah salah satu mata kuliah yang penting dan wajib diambil oleh mahasiswa.

Responden penelitian ini adalah mahasiswa, dosen bahasa Inggris Teknik, tamatan Teknik Mesin yang telah bekerja, pimpinan perusahaan yang menerima tamatan Teknik Mesin dan pakar ESP. Peneliti melakukan wawancara terhadap seluruh responden guna menggali informasi tentang kesesuaian materi ESP dengan kebutuhan siswa. Data penelitian diambil dengan menggunakan perekam telepon genggam.

Hasil penelitian menunjukkan bahwa materi ESP yang diberikan di Teknik Mesin UNP tidak sesuai dengan kebutuhan siswa. Hal ini dibuktikan dengan banyaknya materi-materi yang diberikan oleh dosen tidak dibutuhkan di dunia kerja, seperti *tenses* Bahasa Inggris yang dipelajari ternyata tidak terpakai di dunia kerja. Selain itu mahasiswa juga diberikan materi untuk mengasah kemampuan berbicara dan mendengar. Namun, kemampuan berbicara dan mendengar pun tidak dibutuhkan oleh dunia kerja. Di sisi lain, mahasiswa butuh untuk menguasai kemampuan membaca karena ketika mereka memasuki dunia kerja, mereka harus memahami buku-buku manual yang ditulis dalam Bahasa Inggris. Kemudian, mahasiswa juga butuh untuk memahami kosakata dan istilah-istilah dalam Bahasa Inggris Teknik.

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At last, the writer hopes that this thesis will be useful for the readers, especially for the improvement of ESP material. The writer welcomes any critics, and suggestions from readers for the improvement of the thesis

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## **CHAPTER I INTRODUCTION**

### **A. Background of the Problem**

People in non-English speaking countries may have various reasons to learn English. For some, learning English is only to fulfill requirements in getting a job, some of them learn it to help them in communication when they want to go abroad, to trade, and do research. The different reasons lead different purposes in learning English

The different purposes lead to an approach in learning and teaching process which is called English For Specific Purposes (ESP). Dudley (1998) says that ESP is a course that designed to meet specific needs of the learners. ESP is an interesting topic to be discussed, since ESP focused in the special areas of learners interest. It will give meaningful contribution for the learners, not only for their English skill but also for their professionalism.

Although ESP has been discussed by many experts in 1960s, there are still many problems in application, especially in Indonesia. The problems may come from several reasons; less attention from people about it, there are only few information and reference about ESP available.

Based on the reason why people learn English, the purposes can be classified into two parts; for work and for study. People learn English for work in order to help them to do their job. For example people who work in tourism sector (hotel, restaurant, museums, and so on) need English to help them to communicate with foreigner who come to them. Robinson in Ira (2010) names

this as English for Occupational Purposes (EOP), involving work related needs and training. On the other side, people learn English for study means they learn English as the regulation in their study/education. Robinson in Ira (2010) names this group as English for Academic Purposes (EAP), involving academic study needs. For example in Indonesia, English has been taught from elementary level until university level, and it is a primary subject in schools and universities.

At the State University of Padang at Faculty of Engineering, especially in Mechanical Engineering major, there is a subject named *Bahasa Inggris Teknik* or English for Engineering. This subject is taught for one semester. It is one of the important requirements to pass the strata one. The researcher believes that ESP should be applied in this level because the purpose of this subject is different from General English.

Mastering English for Engineering is really important. Besides, it is one of the requirements to pass the strata 1, it is also necessary to obtain a job, get promoted and perform effectively in the world of work. Importantly, English will help students to understand many terms of engineering written in English.

In fact, based on an informal interview with some students and lecturers of Mechanical Engineering, the researcher found that there was a gap between the theory and the application. The problem is that the lecturer still teaches General English, not ESP. It seems from the syllabus design and the materials given. For example, the students listened to a song then get the meaning of the song. The song has no relation and do not talk about engineering at all. It is assumed that the material does not match with the subject specialization. The students need more

than General English. They need English specific to engineering that can help them to learn engineering.

Looking at this fact, the researcher assumed that the problem is caused by the institution did not apply ESP. The Mechanical Engineering should apply ESP. It is because, as explained above, ESP has meaningful contribution not only for language skill but also for the students' professionalism.

Moreover, need analysis is important to be done in Mechanical Engineering to determine what the students really need in their ESP course. Dudley-Evans and St John (1998) state that the main concerns of ESP have always been, and remain with needs analysis. In the Faculty of Engineering at the State University of Padang, especially in Mechanical Engineering major, ESP is well known as *Bahasa Inggris Teknik*. However, need analysis has never been done here. Since need analysis is really important in many aspects of teaching and learning, the researcher is interested to conduct a study to do Needs analysis of English for Specific Purposes for Mechanical Engineering Students at Faculty of Engineering at the State University of Padang.

## **B. Identification of the Problem**

Mechanical Engineering major in Faculty of Engineering at the State University of Padang usually has some problems in teaching learning English for Engineering. They are related to English for Specific Purposes. First, the need analysis of ESP for the students has never been done here. However, need analysis is really important in ESP to determine the course materials. It can cause a misperception and misunderstanding between the English for Engineering

lecturer, job market and the the students themselves about the needs. For example, job market needs employee who is able to speak in English. On the other hand, the lecturer assumed that the students really need writting ability in their study.

Second, the syllabus are designed by the lecturers themselves. Unfortunately, the lecturers there have no background knowledge in English. The syllabus should be designed by collaboration between expert in English and expert in Engineering. Moreover, the syllabus should base on need analysis. In fact, the need analysis has not been done there.

Third, in material design, the lecturer found it is very hard to find the interesting, motivating and challenging material. The students are not interesting enough in learning English for Engineering. They often feel boring in classroom.

Finally, in teaching learning process, this activity needs the lecturer's ability. As an ESP teacher, the lecturers should have enough background knowledge not only in Engineering but also in English. In fact they are not prepare as the English lecturer; they are prepared as Engineering lecturers only. The lecturer still face many problems in the class because of the lack of knowledge in teaching learning English.

### **C. Limitation of the Problem**

From the identification of the problem above, the problem in this research is limited to the need analysis of English for Specific Purposes for Mechanical Engineering students at the State University of Padang related to materials given.

#### **D. Formulation of the Problem**

Based on the identification and the limitation of the problem above, the formulation of the problem is formulated as follow:

“What are the needs of the students of Mechanical Engineering in Faculty of Engineering at University of Padang in ESP based on the material aspect?”

#### **E. Research Questions**

To make the formulation of the problem more specific, the question above is developed into the following research questions:

1. Are materials given suitable with the students' needs based on students' point of view?
2. Are materials given suitable with the students' needs based on lecturers' point of view?
3. Are materials given suitable with the students' needs based on the alumni's point of view?
4. Are materials given suitable with the students' needs based on the job market's point of view?
5. Are materials given suitable with the students' needs based on ESP expert's point of view?

#### **F. Purposes of the Study**

After looking at the research questions above, the purposes of the research can be generalized as follows:

1. To get information about whether the materials given are suitable with the needs of the students of Mechanical Engineering at State University of Padang based on the students' point of view.
2. To get information about whether the materials given are suitable with the needs of the students of Mechanical Engineering at State University of Padang based on lecturers' point of view.
3. To get information about whether the materials given are suitable with the needs of the students of Mechanical Engineering at State University of Padang based on the alumni's point of view.
4. To get information about whether the materials given are suitable with the needs of the students of Mechanical Engineering at State University of Padang based on the job market's point of view.
5. To get information about whether the materials given are suitable with the needs of the students of Mechanical Engineering at State University of Padang based on the ESP expert's point of view.

#### **G. Significance of the Study**

The result of the study is expected to give a meaningful contribution to the teaching learning process in Mechanical Engineering major at State University of Padang, especially for the lecturers there. Furthermore, the researcher hopes that the contribution can be used as guideline for the lecturer in designing intended and appropriate syllabus and materials.

## **H. Definition of Key Terms**

1. English for Specific Purposes (ESP): a course designed to meet the specific needs of learner.
2. Needs Analysis: The process of determining the needs for which a learner or group of learners requires a language and arranging the needs according to priorities.
3. Mechanical Engineering Students: The students of Mechanical Engineering in Faculty of Engineers at State University of Padang who learn English for Engineering.
4. *Bahasa Inggris Teknik*: A subject taught for one semester and it is one of the requirements to pass the strata 1 in Faculty of Engineering in State University of Padang.

## **CHAPTER II**

### **REVIEW OF RELATED LITERATURE**

#### **A. English for Specific Purposes (ESP)**

Since more people want and require learning English, the importance of language as an International language for communication, trade and research has increased. According to Kennedy and Bolitho (1984), these needs have caused the expansion of specific aspect of English Language Teaching (ELT) that is English for Specific Purposes (ESP).

Many experts have tried to define the term of ESP. One of them is Hutchinson and Waters (1987), they conclude that: “ESP is an approach to a language teaching which content and method are based on the learners’ reason for learning.” It means that in teaching specific English, the English should be equivalent or balanced with the learners’ wishes, needs and demands and it is used as part of their work or profession. For example in engineering, people work in a company work with a lot of equipment. Most of the equipment and the instructions are written in English. In other words, the learners will gain proficiency in English in order to cope with their work.

Another expert who define the term of ESP is Laurence Anthony in Dudley- Evans and St John (1998), he concludes that ESP is defined to meet specific needs of the learners. Moreover, ESP makes use of underlying methodology and activities of the discipline it serves and ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, and discourse.

Moreover, according to Fiorito (2005), ESP concentrates more on language in context than on teaching grammar and language structures. The ESP focal point is that English is not taught as a subject separated from the students' real world (or wishes); instead, it is integrated into a subject matter area important to the learners. The term "specific" in ESP refers to the specific purpose for learning English. Students approach the study of English through a field that is already known and relevant to them. This means that they are able to use what they learn in the ESP classroom right away in their work and studies. The ESP approach enhances the relevance of what the students are learning and enable them to use the English they know to learn even more English, since their interest in their field will motivate them to interact with speakers and texts.

In conclusion, ESP is a course which is designed to meet the specific needs of learners. If the learners have different work or profession, they will have different needs, so the material and course design will be different too. Moreover, ESP concentrates more on language in context than on teaching grammar and language structures.

ESP can be classified into three large categories. Hutchinson and Waters (1987) indicate that they are English for Academic Purposes (EAP), English for Occupational Purposes (EOP), and English for Vocational Purposes (EVP). At the next level down, it is possible to distinguish ESP based on the learners' specialist. For example, EST (English for Science and Technology), EBE (English for Business and Economics), ESS (English for the Social Sciences), ET (English for Tourism) and EE (English for Engineering).

Furthermore, Hutchinson and Waters (1987) classify ESP into some criteria and characteristics. First, the criteria consist of goal directed and needs analysis. They cover the learners' interest that relevant to their work or specialist study and needs analysis which aims at specifying what exactly ESP is that the students have to do through the medium of English. Second, the characteristics are time, learners and similarity. They deal with the specific time period for the course; the learners are adults rather than children and the learners are in the same kind of work or specialist studies.

However, Dudley-Evans and St John (1998) divide ESP into absolute and variable characteristics. They say that ESP in absolute characteristics is designed to meet specific needs of the learner. It makes use of the underlying methodology and activities of the disciplines it serves. ESP is centered on the language (grammar, lexis, register), skills, discourse and genres appropriate to this activities. Furthermore, in variable characteristics, ESP may be related to or designed for specific disciplines. It may use in specific teaching situations, a different methodology from that of general English. ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could however, be used for learners at secondary school level. Moreover, ESP is generally designed for intermediate or advance students. Most ESP course assume basic knowledge of the language system, but it can be used with beginners.

Similarly, Steven in Dudley-Evans and St John (1998) makes a distinction between four absolute characteristics and two variable characteristics.

The absolute characteristics are that ESP consist of English Language Teaching which is designed to meet specified needs of the learner and the characteristic of ESP is related in content (that is in themes and topics) to particular diciplines, occupations and activities. It also centered on language appropriate to those activities in syntax, lexis, discourse, semantics, and so on, and analysis of the discourse. Furthermore, ESP is in contrast with “General English”. Moreover, the variable characteristics are that ESP restricted as to the learning skills to be learned and may not be taught according to any pre-ordained methodology.

Related to General English and ESP, there are some experts agree to the differences between them. According to Alexander, Argent and Spencer (2008), they indicate that speaking and listening are usually given more importance than reading and writting in General English. However, the main emphasis in ESP is on reading and writting. Some ESP students have a specific need, such as academic reading or writting for publication. Furthermore, texts and tasks in General English are often chosen for self expression and are usually short and quickly covered; personal response and creativity are valued. In contrast, texts and task in ESP are drawn from degree study. They are for comunicating information and are inherently long and dense. Clarity and objectivity are valued in students writing.

After that, Robinson in Dudley-Evans and St John (1998) states that ESP is divided into two keys criteria. First, ESP is ‘normally goal-directea’ and that ESP courses develop from a needs analysis, which aims to specify as closely as possible what exactly it is that students have to do through the medium of English.

Her characteristics are that ESP courses are generally constrained by a limited time period, in which their objectives have to be achieved, and are taught to adults in homogeneous classes in terms of the work or specialist studies that the students are involved.

Each definition has validity and also weaknesses, either in the definition or in the features described. Strevens' definition is the most comprehensive among other, but can lead to a certain confusion. By referring to content in the second absolute characteristics it may confirm the false impression held by many teachers that ESP is always and necessarily related directly to subject content. However, ESP teaching does not necessarily have to be related to content but it should always reflect the underlying concepts and activities of the broad discipline.

Since ESP is quite different from ELT, there are number of features that are often thought as criteria of ESP courses. Robinson in Sheppard and Stoller (1995) classifies the characteristics of ESP into authentic language use, a focus on language at discourse rather than the sentence level, authentic task, and learner centeredness.

According to Schleppegrell (1991), the common factor in all ESP is that they are designed for adults who have a common professional interest or job-related reason for learning English, a common context in using English, content knowledge of their study area, and well-developed learning strategies. It means that the ESP students have a reason for learning and a context for using English knowledge of the vocational or professional field and well-developed adult learning strategies.

ESP, like any other form of language teaching, is primarily concerned with language learning. Hutchinson and Waters (1987) point out that the beginning of the cognitive process is preceded by emotional reaction to the learning experience. It means that before the learners learn something, they must want to think about it and find the reasons to study English in order to be successful. So, the learners will determine success or failure. From this willingness, it is hoped that they do not only use what they have learnt but also get the actual experience of learning, which is relevant to their work needs.

Furthermore, teaching materials are the key component in most language program. Related to ESP materials, Dudley-Evans and ST John (1998) suggest that for teachers of ESP course, materials serve some functions. First, as a source of language. Then, as a learning support. After that, as a motivation, stimulation and reference. Moreover, according to Dudley-Evans and ST John (1998), to enhance learning, materials must involve learners in thinking about and using the language. It also needs a sense of progression. As the client who requests the ESP course, the learners should know what they need in English (Dudley-Evans and ST John, 1998).

From the explanation above, it can be concluded that material is the key component in ESP. It serves some important functions in language program. Therefore, not only the teacher, but also the learners should involve in thinking and using the material.

According to Richards (2001), there are two kinds of materials. First, authentic materials refers to the use in teaching text, photographs, video

selections, and other teaching resources that were not specifically prepared for pedagogical purposes. Second, created materials refers to textbooks and other specially developed instructional resources. There are some advantages and disadvantages of authentic and created materials. However, authentic materials have more advantages than created materials. It has positive effect on learner motivation because they are intrinsically more interesting and motivating than created materials.

Moreover, not everything needs to be studied in detail in ESP course since there is a limited time in teaching learning ESP. Dudley-Evans and ST John (1998) suggest that reading-only course could be suitable. It means that the learners do not need to master all of English skills in order to have an effective ESP course. Moreover, the ESP materials should appropriate with the learners' carrier content and real content. Dudley-Evans and ST John (1998) say that ESP materials should balance the levels and appropriateness of carrier content and real content.

English for Specific Purposes materials need to be completed, well laid out and self explanatory. The learner will want explanations (possibly in an L1 as well as in English) examples and practice activities that have answer and discussion keys (Dudley-Evans and ST John, 1998). Moreover, the material will need to take account of different learning style. Also, the material should stimulate and motivate the learners in learning. It means that the teachers have much influence in ESP materials. They should be able to find the materials that can stimulate and motivate the learners.

Therefore, it is clear that the material writers who are interested in making ESP materials should not only know the meaning, the purpose, and the aim of using them but also the learners who use it. So, the materials writers should know much about the learners.

### **B. Needs Analysis**

Before doing need analysis, it is important to decide what the needs are. The term need has been defined by many expert since 1960s. There are various definitions of needs known today. First of all, Brindley (1989) in Dudley (1998) mentioned needs as perceived and felt. After that, Brindley (1998) in Dudley (1998) explains needs as target situation/ goal oriented, learning process oriented and product oriented. Moreover, Hutchinson (1989) in Dudley (1998) says that needs as necessities, wants and lacks. Before doing needs analysis we have to consider and choose which definition of needs that we have to use. In this research, the researcher prefers to define needs as target situation/ goal oriented.

Many experts have different suggestions about the definition of needs analysis. According to Brown (1995) needs analysis refers to the activities involved in gathering information that will serve as the basis for developing curriculum that will meet the learning needs of particular groups of students. Brown's statement explains that this activity is really important in developing curriculum since it is used as the foundation to develop the curriculum.

Richards (2001) defines need analysis in simple way. He states that need analysis is the procedures used to collect information about the learners' needs. Different from Brown's statement, in the statement above, it can be seen that

Richards does not relate the activity of need analysis with the curriculum. He only emphasizes the activity of need analysis as a procedure or structural activities in collecting the information about the learners' needs. Furthermore, Nations and Macalister (2010) state need analysis as the procedure to examine what the learner has known already and what they need to know.

From all of the opinions about the definition of need analysis above, it can be concluded that need analysis is an activity which has its own procedure to collect information about the learners needs as the basis for developing curriculum. The learners' needs here can be more explained as what the students have already after teaching and learning process and what they should have after getting that process.

In order to make a more understanding about the term of needs analysis, it is better to see the purpose of conducting needs analysis. Firstly, Richards (2001) states that need analysis can be used for many different purposes. Some of them are:

- “ a. To find out what language skills a learner needs in order to perform a particular role, such as sales manager, tour guide, or university students.
- b. To help determine if a existing course adequately addresses the needs of potential students
- c. To determine which students from a group are most in need of training in particular language skills.
- d. To identify a change of direction that people in a reference group feel is important.
- e. To identify a gap between what students are able to do and what they need to be able to do.
- f. To collect information about a particular problem learners are experiencing.”

From Richards's statement above, it can be concluded that need analysis is a kind of complex activity which is really important to be conducted since this activity has many purposes which are really helpful for teachers and educational doer to know some important information related to the teaching and learning process.

Furthermore, Schleppegrell (1991) classifies the purpose of a need analysis into four. First, the teacher must know the sponsor personally, and its requirements. Second, the need analysis identifies how learners will use English in their technical fields. Third, the need analysis gives teacher the initial understandings about the learners' current level of performance in English. Fourth, the need analysis provides the opportunity to collect samples of authentic texts, spoken and written texts that are used by the learners in their jobs or professions.

From those researchers, it can be concluded that need analysis is a complex activity that is really important in the process of teaching and learning since it gives an important description about some important information about several aspects of teaching and learning process such as the students problem, the instructional design, the media etc. Also, it will help the teacher understand the learners' current level of performance in English.

Need analysis should be the starting point to pose some fundamental questions that can help us to see the appropriate type of analysis and the data needed. The fundamental questions are syllabuses, course, material (what resources are available?) and the kind of teaching and learning that takes place (how do the learners learn?). It can be explained through the approaches toward

needs analysis. They are target-situation analysis, present-situation analysis, and learning-centered approaches.

According to Dudley-Evans and St John (1998), there are two kinds of need analysis; Target Situation Analysis (TSA) which focuses on objective, felt and process-oriented needs. According to Munby in Jordan, 1997, the end product is a profile of the students' language needs in TSA. After that, Present Situation Analysis (PSA) which focuses on what the students are like at the start of their language course, investigating their strength and weaknesses in language skills and learning experience. Jordan (1997) mentioned some principles of PSA; the PSA ascertains the students' state of language development at the beginning of the language course, the sources of information are the students themselves, the teaching establishment and the user institution, the methods of collecting data are surveys, questionnaires and interview. In this research, the researcher used the first kind of need analysis, Target Situation Analysis (TSA) which focused on objective, felt and process-oriented needs.

Some suggestions about methods of data collection for need analysis had been proposed by some experts. First of all, explained by Dudley-Evans and ST John (1998). They say that there are essentially six methods in investigating needs; the questionnaires, analysis of authentic spoken and written texts, discussions, structured interviews, observations, assessments. Secondly, Brown (1995) states that there are some data collection methods in needs analysis; existing information, test, observation, interview, meeting and questionnaire. Finally Richards (2001) suggests that need analysis could be done through the

following methods; questionnaire, self-rating, interview, meeting, observation, collecting learners' language samples, task analysis, case study, and analysis of available information. However, in this research, interview was used as the method of data collection.

Each instrument for collecting data in need analysis has advantages and disadvantages. Questionnaire is the most common instrument used. There are some advantages in using questionnaires. First, they are relatively easy to prepare. Then they can be used with large numbers of subjects and they obtain information that is relatively easy to tabulate and analyzed (Richards, 2001). Meanwhile, the disadvantages are that not many people will bother to fill it and return it (Robinson in Ira, 2010), and the information obtained may be fairly superficial or imprecise and will often need follow-up to gain a fuller understanding of what respondent intend (Richards, 2001). However, interview has advantages that it allows a more-in-depth exploration of issues that possible with questionnaires, and it can be conducted face-to face or over the telephone (Richards, 2010), after that, interview allows the interviewer to help the respondents with linguistics clarification and to record their answer and explanations (Robinson in Ira, 2010). On the contrary, it has disadvantages that it is a time consuming process and only possible for small groups (Richards, 2001)

Need analysis has to be well prepared because it has a big influence in ESP course. Beside the instrument in data collection, there are some points that we have to consider. According to Richards (2001), there are various procedures can be used in conducting need analysis and the kind of information obtained is

often dependent on the type of procedure selected. Since any source of information is likely to be incomplete or partial, a triangular approach (collecting information from two or more sources) is advisable. Furthermore, Robinson in Ira (2010) states that we have to consider very carefully how much time is available, both to do the actual collecting of the information and then to process and analyze it. It is also important to consider the likelihood of obtaining the type of data that we think we want.

Needs analysis is the activities involved in gathering information that will serve as the basis for developing curriculum that will meet the learning needs of particular group of students. Therefore, the researcher used the first kind of needs analysis, Target Situation Analysis (TSA) which is focused on the end product of students' needs. The interview was done in this research because it allows the interviewer to help the respondents with linguistic clarification and to record their answers and explanations, and it allows a more-in-depth exploration of issues that possible with questionnaires, and it can be conducted face-to-face or over the telephone.

### **C. English for Engineering at Faculty of Engineering at State University of Padang**

According to Dudley-Evans and St John (1998), English For Spesific Purposes is divided into English for Academic Purposes (EAP) and English for Ocupational Purposes (EOP). Moreover, English for Engineering is the branch of EAP in the name English for Science and Technology. The other branch of EAP

are English for (Academic) Medical Purposes, English for (Academic) Legal Purposes, English for Management, Finance, and Economics.

Furthermore, Dudley-Evans and St John (1998) said that the students who learn English for Engineering are introduced to English related to such that field of study. They have to understand written and spoken communication related to their work. In an other case, at universities, every non-English study programs take English subject for the academic purposes with the emphasis on reading comprehension and writing skills.

Also, English for Engineering is designed for experienced engineers and other technical staff who need to use English to communicate with colleagues or clients. The course will enable group members to develop their communication skills in English so they can more effectively contribute to meetings, discuss technical drawings and production methods, give presentations and deal with phone calls in English (<http://www.elc-brighton.co.uk/courses/efe.php>).

Moreover, the lecturer of English for Engineerings' role is not to present engineering concepts to the learners or to instruct them in engineering field. On the contrary, it is to enable such learners to develop their language skills within an engineering context. Teachers of engineering English are first and foremost teachers of English. Where teaching Engineering English differs from teaching General English will normally be in the choice of contexts for listening and reading texts and in the choice of lexis in grammar and vocabulary exercises (<http://www.linguist.org.cn/doc/su200709/su20070910.pdf>).

At the State University of Padang especially in Mechanical Engineering Major, ESP is taught in the name *Bahasa Inggris Teknik* or English for Engineering. This is one of the compulsory subjects which is taught for one semester and it is one of the important requirements to pass the strata 1. In other words, the students have to take this subject in order to get their S1 degree. There are two lecturers who taught this subject in Mechanical Engineering Major. They are Mr. Agamuddin and Mr. Taufiq Pinat. Both of them do not have an educational background of English. However, they only have a Mechanical Engineering educational background.

According to its syllabus, after learning English for Engineering, students will be able to translate not only the general text, but also the text related to engineering, understand the meaning of English conversation in recording or listen to it directly from their lecturer, pronounce the words in English correctly, and speak in English in relevant context.

Furthermore, the text books used are Bates Martin and Evans Dudley (1978) *English for Science and Technology*, Evans Tony-Dudley, Smart Tim and Wall Jhon (1979) *English for Science and Technology*, and Hebert A.J (1970) *The Structure of Technical English*. Besides that, the materials also created by the lecturers themselves.

We can conclude that English for Engineering is one of the important branches in ESP. Moreover, the English which is learnt by the students in this subject is quite different with the General English, it is related to that field of study.

#### **D. Relevant Researches**

There are only a few studies which have been done related to needs analysis and also English for Specific Purposes. Even, there are no studies which have been conducted to analyze the students' needs for Bahasa Inggris Teknik in Mechanical Engineering, at State University of Padang. However there are some relevant researches that discussed need analysis. First of all was written by Fitriani (2001) entitled English for Specific Purposes: a Need Analysis. The purpose of the study was to analyze the English need for tourism in Padang. The problem discuss here was whether the theme, topic and communicative function, English discourse, specific form and specific vocabularies provided in textbook appropriate with the need of workfield. The result of this research was the theme of tourism offices was not found in the textbooks and not all of the materials in the textbooks needed by workfield. Besides, there was a similarity of communicative function, English discourse and vocabulary between the workfield and the textbooks materials.

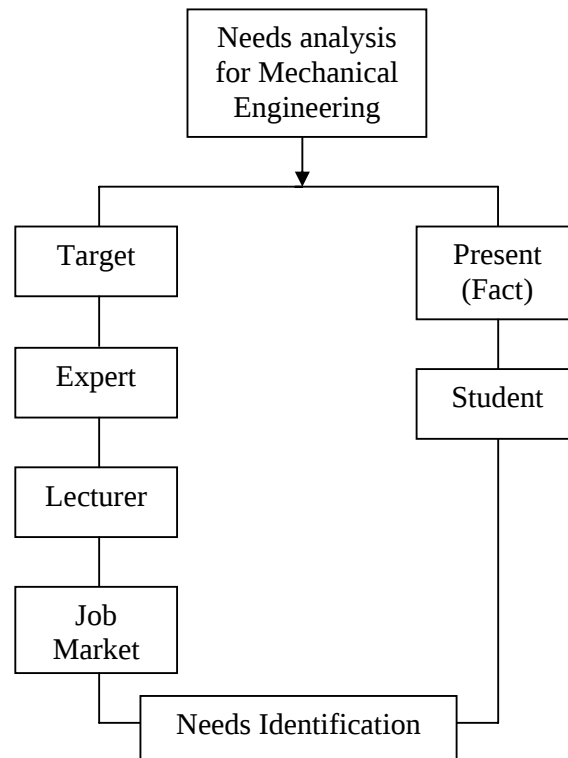
The next related research was written by Susanti (2002) entitled English For Specific Purposes for tourism based on Need Assessment. This research analyzed the appropriateness between the need of English for tourism in Padang and the textbooks which is provided in library and bookstores. The sample of this research was people who work at shopping centre, museum, post office, dispensary and restaurants. The result was that there was a little communicative interaction in shopping center.

After that, a research was conducted by Maimunah (2004), entitled the analysis of English need of Accounting Departement Students in Padang for Academic Purposes. This research analyzed the English Need of accounting students to support their academic purposes. The population of this research is accounting departement student strata one program of some universities and English lectures. The result is that the students need English skill to support their study. The skills are writting, reading, speaking, and listening.

Based on the explanation above, we can conclude that there are some researches have been done about development of ESP through need analysis. However, there are no studies which have been conducted to analyze the students needs for English for Engineering in Mechanical Engineering, at State University of Padang. Since needs analysis is important to be held in designing the ESP material and method, this research is necessary to be conducted.

### **E. Conceptual Framework**

In this research, the researcher tries to find whether materials given in English for Engineering suitable with students' needs of ESP in Mechanical Engineering at the State University of Padang. Need is mentioned as the target situation/ goal oriented. Need is determined from opinion of students, English for Engineering lecturer, job market and ESP expert. The researcher got the data interviewing all the respondents by giving some selected questions related to the needs of students in Mechanical Engineering major at State University of Padang. In short, the conceptual framework of this research can be described as follow:



## **CHAPTER V**

### **CONCLUSION AND SUGGESTION**

#### **A. Conclusion**

This research was done in order to know whether the materials given suitable with the students' needs. Based on the data analysis and the previous explanation, the researcher concludes; that the students said the materials are suitable with their needs, the English for engineering lecturer said the materials are suitable with the students' needs, the alumni of Mechanical Engineering in the work field said that the materials are not suitable with the students' needs, the head of the companies said that the materials are suitable with the students' needs, the ESP expert said that the materials are not suitable with the students' need. Even though only two respondents said that the materials are not suitable with the students' need, it can be taken as the conclusion, because the respondents have strong arguments to say that the materials are not appropriate with the students' needs.

Moreover, the arguments are based on the theory. However, the other respondents; the students, English for Engineering lecturers, the alumni of Mechanical Engineering in the workplace, and the heads of the company said that the materials are suitable with the students' needs, they do not have strong arguments to say that. Based on the facts explained above, the researcher concludes that the materials given are not suitable with the students' needs.

## **B. Suggestion**

The researcher hopes that this study can give meaningful contribution to the English for Engineering teaching learning process in the institution. Because of that, the researcher proposed some suggestion:

1. The lecturer should follow the standard of ESP course by doing some requirements; do the placement test to the students before they follow the class. So the lecturer may know the ability of the students. If the students are in intermediate level, it means they could follow ESP class, if not, the students should follow general English course first until they get intermediate level.
2. The lecturer should rearranged the specific curriculum for ESP course. The curriculum must be based on the students' needs. Furthermore, the lecturer should arrange the curriculum, syllabus and materials by collaboration with the English expert, the graduation in the workfield and the ESP expert.
3. The English for Engineering lecturers should recheck the result of this research. Then, the lecturers should conduct further research toward the result of this reseach in order to get better ESP course.
4. The next researcher continue this study by doing next ESP steps, syllabus design, material design, teaching learning process and material evaluation.

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