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FACULTAD DE LENGUAS

**A NEED ANALYSIS FOR AN ESP COURSE APPLIED TO
INDUSTRIAL ENGINEERS**

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DEGREE OF LICENCIATURA EN LENGUAS MODERNAS**

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CHAPTER I.

INTRODUCTION.

1.1. INTRODUCTION TO THE PROBLEM.

Nowadays it is very important to any university student to learn a foreign language. Transnational corporations are increasing in our country and their needs carry out the hiring of professional employees that use a universal language. Robinson (1998) points out, each year, more students choose to study English language, many of them because they need to use English in their work. Many of those students have very specific reasons for wanting to improve their language skills: for these students, courses that fall under the heading English for Specific Purpose (ESP) hold a particular appeal.

In Mexico just the 13% of population speak English according to Mitofsky survey applied in 2013 it's a controversial fact and specialized and technical English language is less common.

Due to the globalization, English has been used as an international language, and has affected many domains of life and society, one amazing impact is in science and technology, the achievements and developments have involved English language as a powerful tool to share information and breakthroughs and Internet has a star role in this. In deed English has become “the established language of science and technology” (Fortanet-Gomez and Raisanen, 2008 cited by Vaičiūnienė and Užpalienė, 2010). In some careers the use of technology are essential in the development and performance such as industrial engineering, high-tech machinery, software, specialized tools, and modern industrialized process are most common in factories and innovations in this field have an accelerated rate.

Countries Such as Mexico, updating and assimilation of the new technology in industrial engineering standards have represented a problem by the language barrier, this has generated a backward for researchers and national organizations. (Merilee Serrill 1996). The Benemérita Universidad Autónoma de Puebla (BUAP) has a general department Dirección General de Innovación Educativa (DGIE) involved in the use of ICT for different kinds of courses including English courses. These courses are focused in English for Academic Purpose (EAP) and General English (GE), but many faculties have requested to

this department specific technical courses to its master and researchers students including industrial engineering, biology and chemistry school. It is necessary to develop a course with specific language useful and adequate to a specific group of learners. Crocker (1981) recognizes that ESP courses are similar to language instruction in general which puts more emphasis on language use. The obvious difference is in the focus of interest. While English for general purposes emphasizes language proficiency, ESP courses emphasize "something outside of the language through the medium of language"(p.8). This statement views language mastery as a necessary prerequisite skill that learners must have in order to function well in their future workplace. The importance of a need analysis as the beginning stage of a course and material design has been discussed. Afterward, considering the significance of ICT in language teaching and learning, the process and result of some related research have been examined to find applicable ways for implementing the useful teaching and learning with the help of ICT for an ESP in technical education. The goal of this research is to find out the graduated students' needs and skills that they have to develop. Therefore it is necessary to carry out a need analysis and develop the researcher questions based on the result

1.2 PURPOSE OF THE STUDY

The purpose of this study is to perform a need analysis in order to design and develop a specific English course that will be taught to industrial engineers at BUAP. This English course will respond to their needs in terms of their particular field of interest as professionals. Such analysis includes their present level of proficiency, the skills that they need to develop, the use of technology and the tasks that they need to master, focusing on the ICT skills use. Swales (1980) describes his experience in ESP programming in the third world. He states that flexibility in the program design and implementation are important because there are constraints at institutional and socio-cultural levels. Among others, he points to the fact that ESP program is a non-degree program, and hence, it receives low status. This results in inadequate representation within the institution and administrative constraints. Individual status of the ESP teachers is also low because they do not produce graduates with degree levels. Programs and activities are often inappropriate to the context

of local cultures and students' study and learning habits because program assumptions and practices are imported from the Western world. Swales (1980p:68) proposes that to minimize the constraints, collaborative efforts should be made between ESP teachers, subject teachers and administrators to make necessary modifications towards the desired goals. In this respect, Swales also points out to the need for including the learners' factors especially those related to their study habits and learning strategies. As he puts it, "...it is very important for a course designer to know not only what his students can do and need to do but also to know what they would be willing to do or could be persuaded to do within the confines of their particular educational environment" (p.68). According to Swales it must have considered cover the need to assimilate and apply new technology techniques, standards procedures and researches from industrial engineering based on our own cultural environment.

1.3 RESEARCH QUESTIONS

The following are questions to be answered through this research:

1. Why do industrial engineering students need to learn English?
2. What kind of skill do they need to develop?

1.4 GENERAL OBJECTIVES

The general objective of this work is to find out what industrial engineering students' needs are and provide a basis that has to be taken into account by DGIE's English courses designers when planning an ESP course focused on a specialized language and encouraging reading skills and methodologies using ICT

1.5 SPECIFIC OBJECTIVES

The specific objectives of this research are:

- To discover what kind of English for Specific Purposes (ESP) course is the most suitable for industrial engineering students at BUAP.
- To find out what kind of approach and syllabus can be used to carry out the ESP courses.

- To find out the impact of a previous English for General Purposes (EGP) course.

1.6. SIGNIFICANCE OF THE STUDY

The results of this paper will provide the bases for designing a course directed to industrial engineering at BUAP. Such course would be geared to provide such learners with the reading and communicative skills necessary for their work. At the same time, the paper will also provide important information enriching the field of ESP.

1.7 RESEARCH CONTENT AND ORGANIZATION

The thesis will be organized in five chapters, as follows. In the first chapter, an introduction to the problem and an explanation of the research context will be presented. In addition, the purpose of the study and the research questions that it intends to answer will be listed. In Chapter II, an overview of the main concepts and theoretical constructs around ESP, in order to establish or set certain criteria to carry out a needs analysis among those students from industrial engineering school will be given. The third chapter deals with the particular methodology used for the study of ESP. Questionnaires will be the instruments to do so, research questions will be developed in order to find out the most suitable answers to the questions asked, the instruments will be designed and applied on the students, and teachers from the career. The results of the research, along with the descriptive statistics obtained will be presented in the fourth chapter. Finally, Chapter V presents a discussion of the findings, the implications for teaching practices, the limitations of the study, and some suggestions for further research.

1.8 KEY TERM

The following terms are essential for the theoretical framework of this research.

Approach: it concerned the different theories about the nature of language and how languages are learned (Richards, 1993 p 61)

BUAP: Benemerita Universidad Autonoma de Puebla

Course design: The development of languages programme or set of teaching materials. Including Syllabus design (Richards, 1993)

Curriculum design: An educational programme which states the educational purposes of a courses, the content and some means for assessing the results that have been achieved (Richards, 1993)

Direccion General de Innovacion Educativa (DGIE): BUAPS department focused in ICT courses

English as a Foreign Language (EFL): The role of English in countries where is taught as a subject in schools but not used as medium of instruction in education or as a language of communication within the country (Richards, 1993 p.123).

English as a Second Language (ESL): The role of English for minority groups in English speaking countries (Richards, 1993 p.124).

English for Academic Purpose (EAP): the use of English in study settings, where the main goal of the language learning is the ability to cope with the students' chosen academic specialism (K Johnson and H Johnson, 1998 p.105)

ENGLISH FOR OCCUPATIONAL PURPOSE (EOP)

English for Specific Purposes (ESP): The English needed to cover specific necessities among a group of learners (Hutchinson and Waters, 1994 p.17)

Field: It is concerned with what is happening to the nature of the social action that is taking place (Halliday, 1991 p12).

Goals: They are general, society, community or institutional concerns. (Dubin, 1990 p.3).

Information Communication Technology (ICT) (Warschauer 1996 p.4)

Interlanguage(s): The intern state of a second language learner's language (Widdowson, 1996 p76)

Mode: It refers to what part of the language is playing (Halliday, 1991 p.12)

Needs: Refers to the ability to comprehend and or produce the linguistic feature on the target situation. (Hutchinson and Waters, 1994 p.17)

Need analysis: The process of determining the needs for which a learner group of learners require a language and arrange the needs according to their priorities (Richards, 1993 p.243).

Second Language Acquisition (SLA): The study of interlanguage and the factors which influence its emerge (Widdowson, 1996 p76)

Skills: They are recognizable as reading comprehension, listening comprehension and so on. (J. McDonough, 1984 p.2).

Syllabus: This concern the content of a course of instruction and other in which it is to be taught. (Richards 1993 p368).

Target needs: Refers to the target situation that is due to the necessities, lacks and wants (Hutchinson and Waters, 1994 p.17)

Tenor: This refers to who is taking part of the nature of the participants, their statuses and roles in the context. (Halliday, 1991 p12).

TOEFL: Test of English as a Foreign Language.

Utterance: What people actually say or write in connected discourse (Yalden, 1995 p40)

CHAPTER II. LITERATURE REVIEW

This chapter provides the theoretical framework and the literature review. First of all, an introduction a definition of ESP is presented, ESP types and comparisons among them complete the concept. Then definitions of need analysis or needs assessments are presented in order to develop a syllabus based on the data brought up by the need analysis. Then, syllabus design is defined. Finally, a review of the ESP syllabus, materials, methodology and the ESP teachers' roll are presented and prepared the framework to chapter 3 that will be discussed with the data information achieved.

2.1 ENGLISH FOR SPECIFIC PURPOSE

Airline pilots, business executives, diplomats medical personnel – these are only a few of the people who use English as the essential means of international communication. Each year, more students choose to study the English language, because they need to use English in their work. Many of those students have very specific reasons for wanting to improve their language skills: for those students, courses that fall under the heading. The term of ESP is generally represented as 'English for Specific Purposes', which emphasizes on the students' purposes and refers to the whole range of language resources (Robinson, 1980). A definition of ESP given by Strevens (1988, p. 1 - 2) is that ESP needs to distinguish between four absolute and two variable characteristics namely:

a. Absolute characteristics:

ESP consists of English language teaching which is:

designed to meet specified needs of the learners related in content (i.e. in its themes and topics) to particular disciplines, occupations and activities centered on the language appropriate to those activities, in syntax, lexis, discourse, semantics, etc. in contrast with 'General English'.

b. Variables characteristics:

ESP may be, but is not necessarily: restricted as to the language skills to be learned (e.g. reading only, etc.) taught according to any pre-ordained methodology (i.e. ESP is not

restricted to any particular methodology – although communication methodology is very often felt to be most appropriate).

Munby (1978, 1996) defined ESP in relation to ESP courses based on the analysis of the students' language needs. His definition of ESP is still current as follows: "ESP courses are those where the syllabus and materials are determined in all essentials by the prior analysis of the communication needs of the learner" (p. 2). The interpretation of the expression 'learner need' deals with two different aspects of needs (Widdowson, 1984, p.178), referring to (1) what the learner needs to do with the language once he or she has learned it. This is a goal-oriented definition of needs and relates to 'terminal behavior', the ends of learning. (2) What the learner needs to do to actually acquire the language. This is a process-oriented definition of needs, and relates to 'transitional behavior', the means of learning. In ESP, the ends of learning are as important as the means in spite of being normally goal-oriented (Hutchinson & Waters, 1987; McDonough, 1984;Robinson, 1991), that is, ESP is meant "the teaching of English, not as an end in itself, but as an essential means to a clearly identifiable goal." (Mackay, 1978, p. 92)

The term of 'ESP' has thus been used by different people to mean different things(Blackie, 1979). Nonetheless, the claims for ESP normally have in common in a sense that ESP is not a new approach, but an emphasis on English teaching that should be matched to the students' specific needs and purposes for their study of English (De Jesus,1999; Hutchinson & Waters, 1984, 1987; La Perla, 1984; Mackay, 1978; McDonough,1984; Munby, 1978, 1996; Robinson, 1980, 1991; Strevens, 1977; Swales, 1985).Chambers and McDonough (1981) argue that the 'specific' in English for specific purposes should refer to both the purpose the language is being used for and the language itself. Three kinds of purposes suggested by Mackay and Mountford (1978) are:

1. "occupational requirements", e.g. for international telephone operators, civil airline pilots, etc.;
2. "vocational training program", e.g. for hotel and catering staff, technical trades, etc.; and
3. "academic or professional study", e.g. engineering, medicine, law, etc.

Accordingly, an ESP course is pertinently purposeful and is aimed at the successful performance of either occupational/vocational or educational roles (Robinson, 1980) or

both. Moreover, Robinson (1991) argues that the language produced as a feature of ESP should be good enough for the job and not be necessarily native-speaker like, but be the communicative strategies and effectiveness of the non-native professional users of English. “English for Specific Purpose” (ESP)(Hutchinson and Waters, 1994 p.17) hold particular appeal. ESP programs use materials that are specially designed to meet the needs of a specific group of learners, usually adults. Some of this programs help students prepare for various academic programs, such as English for science and technology, and English for graduate and teaching assistants. These courses are usually called: Academic Purposes (EAP) and stress such cognitive skills as note taking, deducing and summarizing. Other courses prepare students for careers in fields such as law, medicine, tourism and teaching, different from traditional ESL (Robinson, 1998).

2.2 ESP ORIGINS

After the Second World War there was an enormous expansion in certain areas like science, technology and economics that affected almost all people around the world. (Hutchinson and Waters, 1987p: 6). Because that progress started to increase, it generated a demand for an international language. As result of the great power that the United States got in the post war world; there construction of Japan and part of Europe and Germany by Americans, English language became as a key to be in contact with technology and commerce. As a result of this phenomenon, English programs started to develop. (Hutchinson and Waters, 1987p: 6).

In this period, people started to learn English not only for pleasure but also for prestige of knowing the language. This movement created a generation of learners who wanted to learn certain aspects of this language that were useful in their jobs.. (Hutchinson and Waters, 1987p: 6) For example: businessman who wanted to sell their products , doctors who needed to read information about the field, students whose textbooks were only available in English, and so on. Because people had different needs and interests, some researchers began to analyze and classify the language according on the learners purposes in order to help them to learn just what they needed. (Hutchinson and Waters, 1987p: 6). These programs were called English for Specific Purpose.

The second reason was revolution in linguistics. The development of ESP started mainly in the 1960's when new ideas began to emerge in the study of language. At the beginning, the aims of teaching a language had been to describe the rules of English use (grammar). Then the news studies were focus on defining the formal features of language usage in order to find new ways in which language is actually used in real communication.

In the target situations analysis researchers identified possible target situations in which learners had to interact adequately using the learner's needs to identify features that can be useful to design an ESP course.

The final reason as having influenced the emerge of ESP has less to do with linguistics and everything to do with psychology (Hutchinson and Waters 1994). Rather than simply focus on the method of language delivery, more attention was given to the ways in which learners acquire a language and the differences in the ways in which language is acquired. Finally the Learning-Centered approach is based on the understanding of the processes of language learning. This means the importance and implications of the distinction that people make between how learners use the language and how they learn it. (Hutchinson and Waters 1994)

2.3 TYPES OF ESP

Learners have different needs and interests that influence their motivation to learn a language. It can be found three types of ESP (David Carter 1983):

1. English as a restricted language
2. English for Academic and Occupational Purpose
3. English with specific topics

Two versions of the ESP family tree with their respective branches are shown in figure 1 (Robinson 1998)

It's important to make a distinction between those students who are newcomers to the field of study and those students who are on the way to becoming experts. Strevens (1988, p. 139-40) notes this distinction, " it is between English which is instructional and

English which is operational”. Newcomers may need some instruction about their field of study concepts and practices. Experienced, “require operational ESP materials, where the knowledge, the concepts, the instruction and the training are taken for granted, and where it is the ability to function in English which is being imparted”. The content in an ESP course will be determined by the implications of each situation, and the ESP teacher may need to deploy them. The degree of generality or specificity will be marked by the same implications (Robinson 1998).

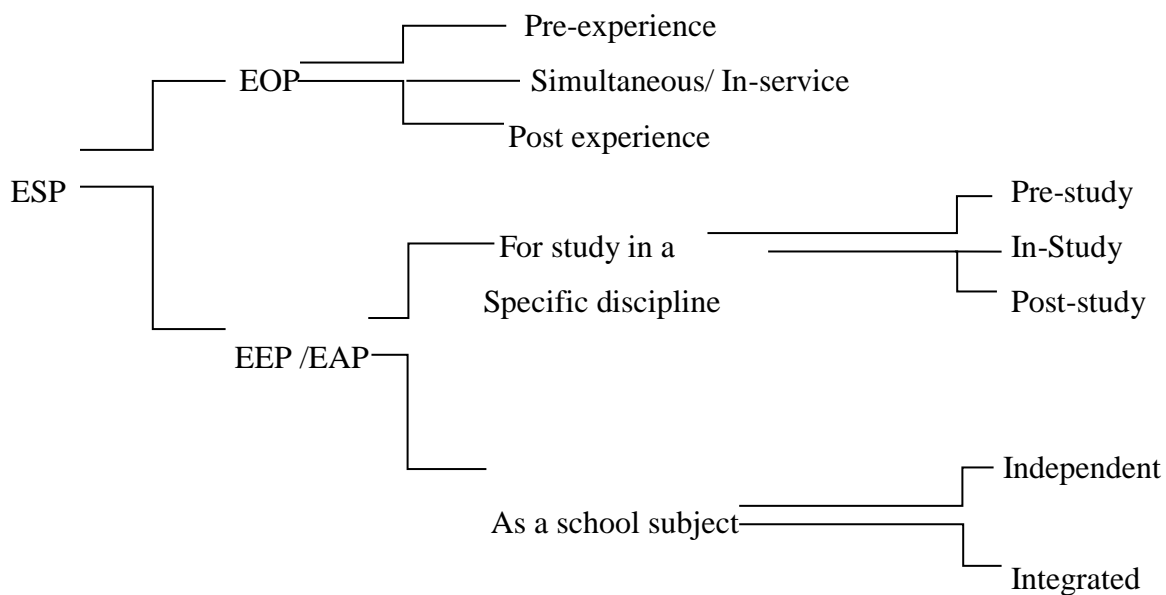


Figure 2.1. The ESP family tree (from Robinson 1998)

English for Academic Purpose (EAP). A general description of EAP is provided by Jordan (1997), and it says that EAP aim is to deal those communicative skills in English that are required for studying specific subjects in formal education systems and it is divided in two parts: English for General Academic Purposes (EGAP) and English for Specific Academic Purposes (ESAP) (Blue, 1988). Or as Coffey (1984) points out that they may be either called “common core” or “subject-specific”. Subject-specific is that language

required for a specific academic subject (economics, together with its disciplinary culture), including language structure, vocabulary, the particular skills needed for the subject and the appropriate academic norms. A significant part of the common core is formed by study skills that are the key component in EAP (reading, writing, listening and speaking together) (Jordan, 1997).

English for Occupational purpose (EOP) involves those needs related to work and training (Robinson 1998). And it can be divided into three stages (as in figure 1): Pre-experience, Simultaneous/in service, and Post-experience. It can be argued that EOP is a matter of dealing with those experience needs required in a job. They could be “General” or “Specific” as in EAP.

English for Science and Technology (EST). This category emerged due to the great demand for English courses related to science and technology. EST is an important branch of ESP. EST is concerned about a special set of vocabulary and topics related to science and technology, including the grammatical form and functions used in the study of science and technology. And according to Mackay and Mountford (1978), EST is simply a part of ESP dealing with specific content.

2.4 How is ESP different from general English courses?

First of all, it is important to make a distinction between “course” and “program”. A “course” is designed by those general goals taken to achieve a specific subject. And a “program” is made of specific goals or objectives that have to be covered in the period of time, including materials, managers, schedule etc.

There are two kinds of English: General and Specific English. It has existed a big difference between these two kinds of English. Hutchinson and Waters (1987,p,53) answer this quite simply, “in the theory nothing, in practice a great deal”. First of all, the distinction is that General English has a purpose, but it is not specifiable and there is not awareness, and it will be according to the content in the language course. So, the first thing that the learner has to establish is his needs (Robinson, 1998)

The words and sentences learned, the subject matter discussed, all relate to a particular field or discipline, for example: a lawyer writing a brief or a diplomat preparing a

policy paper. The courses make use of vocabulary and tasks related to the field such as negotiation skills and effective techniques and presentations.

The entire program is designed to meet specific professional or academic needs of the learner. More ESP programs are being started each year, and educators are developing specialized written and audio-visual materials to assist them. These courses have a common purpose: to increase students' skill and confidence in using English. The concern of ESP is to find the best way to teach for specific needs and not just finding the right content course (Hortas, 1996).

Learners have different needs for learning a language. Either students learning a general English, or they learning an ESP courses find out more precisely the specific needs through the Needs Analysis, whereas a General English course do not determine the learners needs. Any course should be based on an analysis of the learner needs (Hutchinson and Waters ,1987)

2.5. Needs

According to Hutchinson and Waters (1987, p54) Needs is defined as “the ability to comprehend and/or produce the linguistic features on the target situation. They also divided needs in to categories: target needs and learning needs.

Target needs refer to the target situation that is due to the necessities, lacks and wants(Hutchinson and Waters, 1987). Learning needs refers to the abilities that the learner is going to need in order to perform a certain target situation (Robinson 1998)

2.6 Definition of Needs Analysis or Need Assessment

According to Richards (1994) Needs Analysis of the process in which learners needs are established according to their priorities. Also organizes a series of procedures for identifying and validating needs

Brown (1993) refers to Needs Analysis or Needs Assessment to the procedures to collect data in order to develop a curriculum for a specific group of learners. Richards (1994) mention that the purposes that a need analysis are: a) to provide with a mechanism to obtain a great amount of input into the content design and implementation of a language

program throughout including the learners, teachers administrators and employers in the process of planning; b) to identify the specific and general needs of the language that can lead in developing goals, objectives, and content for the program; and c) to provide with useful data to build up the basis for reviewing and evaluating an existing program (Richards 1994). In order to design a Need Analysis several questions have to be answered. Some of the questions are: Why is the analysis being undertaken? Whose needs are to be analyzed? Who decides what the languages needs are? (Hutchinson and Waters, 1987). To Answer those questions, several steps need to be followed. The steps in Need Analysis are: 1) Purpose Analysis, 2) Delimit students population, 3) decide upon approaches, 4) Acknowledges constrains/limitations, 5) select methods of collecting data, 6) collecting data, 7) Analyze and interpret results 8) determine objectives, 9) Implement decisions 10) evaluate procedures and results.

The outcomes of a needs analysis project are those needs established a particular group of students, they may be influenced by the ideological preconceptions of the analysts. A different set of needs would be produced if there is another group of analysts, but with a different view on teaching and learning. (Robinson 1998). Student's study or job requirements can be referred to as needs; it might be what they have to be able to do at the end of the language course. This is a goal oriented definition of needs according to Widdowson (1981). Opposite to this Berwick /1989) thinks that in this sense needs are perhaps more befitting described as objectives. Secondly, "what the user institution or society at large regards as necessary to be learnt from a program of language institution" can be meant as needs (Mountford 1981) third we can consider that needs are "what the learners needs to do actually to acquire the language" (Widdowson 1981). Connected to a changing behavior, that is the means of learning. Fourth, the student may also have some other interests in gaining something from the language course apart from his field of study or job requirement. Finally needs are possible to be interpreted as lacks what students are not capable to do in English

Following the steps mentioned before, the teacher will take into account the real learners' needs. In this way the ESP course will reach its purpose: to train learners in a specific field or area.

2.7 Instruments

The instruments used in need analysis are: documentary evidence, surveys and questionnaires, interviews, diaries and observation studies. Documentary evidence refers to analysis of films, videos, slides, and other non written sources. Surveys and questionnaires include predetermined questions presented in written form. Interview is an interaction between interviewer and respondent with the purpose to obtain specific information. Diaries and observation studies refer to the students notes taken from observing the subject in the environment in which he develops. (Bell, J.1993)

2.8 Surveys and instruments.

The most common instruments used to obtain specific information are surveys and interviews. In this research both surveys and interviews are going to be used to obtain the students' needs in order to design an ESP program.

The survey will gather data through category questions. The objective of the survey is to know if the level and the goal language skills of the engineering students are suitable to the proposed ESP course.

Making questions are the common features of the surveys. According to Young man in Bell, J (1993) there are seven kind of questions: 1) the verbal or opened questions, where the information could be a word a phrase or a extended comment in which you can get a detailed information. 2) the list questions offer a list of items the respondent has to choose one of them. 3) the category questions, give a set of categories and only one is chosen. 4) the ranking questions the interviewee has to give a rank order in his answers. 5)the scale question have several stages of scaling devices. 6) the quality questions the response is a number. 7) the grid questions, a table is provided to record answers to two or more questions at the same time. This information will be considered to develop the survey

On the other hand an interview involves the collection of data through direct verbal interaction between the interviewer and the interviewee. There are four kinds of interviews: The structured interview in which the questions are determined by a schedule and the interviewer has a little freedom to make modifications. The unstructured interview that take

place in an open situation with more flexibility and freedom, the Non directive, where the minimal direction or control is used by the interviewer (there is more freedom to respond to the questions), and the focused interview is the analysis by the researcher of the situation in which people have been involved. (Cohen and Manion, 1994)

In this research the non directive interview will be used due to its characteristics to get the necessities. The objective of the interview is to identify the level and students' skills in order to develop the ESP program.

2.9 Designing a Questionnaire

Richard Platt and Weber (1985 p. 189) that a need assessment seeks information on

1. The situation in which language will be used including who will be used with
- 2 The objectives and purposes for which the language is needed
3. The types of communication that will be used written spoken formal informal specialized
- 4 The level of proficiency that will be required.

“Do not use a questionnaire unless you have a good reason for doing so” (McNiff et. al. 1998). Collingwood (1939) reflects his work that there are not “true” answers. They are only “appropriate” responds that will allow continuing a research. There do not exist “correct 2 questions, but “appropriate” questions, whose answers enable the researcher to go forward (Collingood, 1939).

Questionnaires could be built upon closed or open questions, or a mixture of both (Nunan, 1998). Responses to closed questions are easier to collate and analyze. But responses to open questions are more accurate on what respondent wants to say (Nunan, 1998).

According to Wallace (1998), in a questionnaire questions are arranged in a very systematic way and so commonly answered by reading the questions, and then ticking responses, or writing short answers. They can also be useful as a way for obtaining many kinds of data such as: facts / personal perceptions; experiences / anecdotes; opinions/preferences; ideas (Wallace, 1998). Wallace recommends that the purpose of a questionnaire should be clarified to the informants and that it has to be simple in its format apart from the comprising of open or closed questions (Wallace, 1998)

2.10 Who should enroll in ESP programs?

Generally, older and more advanced students should consider ESP instead of a more general English language course. Many ESP courses assume a strong English language background, many require that applicants be at a High-Intermediate or Advanced level of skill. If they apply to an ESP program, they may be asked to submit TOEFL, or other similar test scores and to write a brief description of the reason they want to enroll. Students may be expected to have completed some or all of their undergraduate studies (when students need English for occupational purposes); or they may be asked to have completed a general English course while they are studying (when students need English for academic purpose). In this more advanced category are seminars that prepare students for advanced work within particular academic discipline or subject.

2.11 Special purposes and Special Languages

Special languages can be understood as a limited set of words and expressions taken from the whole language covering the necessities of a well-defined context, job or profession (Mountford and Mackay, 1978). However, the speaker can face some problems when communicating in contexts and situations outside the professional environment. Without any question, a limited set of words can cover those needs of very few contexts. A common language is used for similar and different applications, and we can say that “special language” should be best interpreted as a “restricted repertoires.” Yet, “special should be placed on the learner’s purpose for learning the language not upon the language he is learning, this is according to an ESP criteria (Mountford and Mackay, 1978). Taking the basic principle that the grammatical and lexical features of the specific registers used in different disciplines can be identified by analysis, in other words, the English used in Civil Engineering constitutes a specific register different from that of General English (Robinson 1998). The professional knowledge gives English speakers a differential communicative ability and not their knowledge or lack of it of the linguistics (Robinson 1998). The ESP researcher must not ignore this knowledge that students include in their specialist disciplines.

Special language hints the existence of general languages and language for general purposes (LGP). Despite this fact, “ a language for special purposes (LSP) does not meet the requirements for a language in the usual sense... no LSP is composed exclusively of its own resources. Instead, every LSP overlaps heavily with at least one LGP and is free to use any parts of the latter without expressed Justification” (De Beaugrande, 1998).

Selinker (1979) showed in a research project, how ignorant ESL teachers can be on the meaning of technically in academic article in genetics. The teachers studied the article and were questioned by a specialist informant (a lecturer in genetics). The misunderstood the meaning - in context – of certain modal verbs, connectives and even punctuation. Due to their lack of specialist knowledge they did not realize what the purpose and the main content of the article were. Zuck and Zuck (1998) show how a different view of the main idea of a text can emerge Between English teachers and subjects specialists.

2.12 The relationship between ESP and Linguistic Analysis

Learning by example is a technique that University business programs often use, they call them “case studies.” They were pioneer by Harvard University, in these “case studies” students read about actual situations in the business world and discuss them in class. This method function as a laboratory in which in a short time and in a setting removed from the pressures of an actual work environment, students try to solve a large number of representative problems by applying theory to practice. At Yale university, leaders of the business seminar have designed class discussion topics, reading assignments, case analyses and student presentations to generate students’ active use of English. Yale’s program, like many others, makes frequent use of computers and offers field trips to small businesses and the New York Stock Exchange. Students are exposed to the texts selected and through appropriated activities or tasks acquire the linguistic target features. When the needs analysis stage is run

ESP course designers have two paths to follow: the language included in texts (spoken or written) is identified, the language included in a syllabus also has to be identified; and after that, the text are attempted to be integrated to the language (Robinson 1998).

2.13 Language variety.

Language can vary according to user (regional, temporal, social, and sexual dialect) and to use (in workplace, at home, in a social function, etc.) nevertheless, varieties were thought to be rather unchanging according to user, but nowadays they can be changed or modified by people in the original, regional and other dialects. Opposite to this i.e. the language used at a workplace was considered only in a work situation but now it can influence a speaker repertoire despite his social situations. Therefore, the differences between home and work in linguistic usage are not always as reduced as the analyst would want it to be (Robinson 1998).

According to Beebe (1988), we do not only look at the perfect realization of what people try to say, but also the many ways they say what they want to communicate as well as we look at the different modes of expression from one setting to another, from one instance to another, and from one person or group to another (Beebe 1988). Learning a foreign or second language includes a long and slow process of repeated efforts in different settings and interlocutors. Second language performance involves using a limited and in a state of flux repertoire.

2.14 Description of language

Language descriptions were based on the idea that the grammatical rules used in classical languages, Greek and Latin are the same. The assumption that the classical languages were case-based languages where the grammatical function of each word in the sentence was made apparent by the use of appropriate inflections led to this description (Robinson 1998). And now this is known as a classical or traditional grammar, the possible change of words according to whether it is a subject, object, indirect object and so on.

When we talk about “structural linguistics”, we think about a structural description of language in conditions of syntagmatic structures which convey the fundamentals propositions (statement, interrogative, negative, imperative, etc.) and notions (time, number, gender, etc.)

Chomsky (1998) argued in its Transformational Generative Grammar that the structural description of the language is too superficial, because it only describes the surface structure of it; and therefore, could not explain the links of meaning, which were quite clearly there. But they are not recognized in the surface structure. In conclusion, it is not the place of words that make language appropriate but the message or ideas that go under the word order surface. And competence is not just a set of rules for formulating grammatically correct sentences, but also a knowledge of when to speak, when not... what to talk about with whom, when, where in what manner (Hymes, 1998)

The “functional / notional” description of the language is another issue in ESP research. “Functions” are related to social behavior and represent the intentions of the speaker or writer (advising, warning, threatening, describing, etc.) They can be compared with the communicative acts that are executed by means of language divides reality (time, frequency, duration, gender, number, location, quality, etc.)(Robinson 1998).

The important point is that, if language is viewed as a part of communicative act is built upon the number of contextually dependent factors. Varying one or more of these factors will have shocking effects on the other ones (Beebe 1988).

2.15 ESP, LSP and language acquisition

ESP creation and development was made possible by those involved in the teaching of English as a foreign language. They noticed that students could be acquiring some knowledge in the use of English though EGP classes, although they had not truly learned to use the language in the specialized contexts of work or study.

Selinker and Douglas (1985) say that in relation to “discourse domain”, contexts that are important or necessary to learners, the learners’ strategies will vary. Those important processes, of second language acquisition (SLA) like language transfer, fossilization and backsliding as well as avoidance and various communication and learning strategies, do not occur generally across interlanguages (ILs), but rather than unusually within discourse domains’ According to Robinson (1998), methodology is the key to help students to acquire and use foreign language correctly.

The way children acquire first and second languages is very alike to the process involved in language acquisition for adults (Krashen, 1988). For this it is necessary a meaningful interaction in the target language – natural communication – where the form of utterances is not a matter speakers are concerned about, they are concerned about the messages they are conveying and understanding (Krashen, 1988).

Ellis (1995) concludes that second language acquisition (SLA) can take place in both a naturalistic or instructional setting. The aim of SLA is to describe and explain the learners' linguistic or communicative competence. Acquiring a second language feature may be considered to have taken place when is first used or when it is used to a high level or accuracy (Ellis, 1995). Ellis (1995) considers second language acquisition as a complex phenomenon and it would not be surprising that it has come to mean different (general questions) things to different people.

Halliday's theory of language includes the idea that language is formed by a set of systems, each of which offers the speaker (or writer) a set of ways of expressing meanings to choice. Linguistic choice allows the change of the order of groups of words (Halliday, 1998).

2.16 Language discourse

The study and analysis of language in use is the analysis of discourse. And it cannot be limited to the description of linguistic forms independent from the functions that those forms are planned to serve the human affairs (Brown and Yule, 1993). A very important factor for any subject is the way in whichever its content is given linguistic expression. In the learning of science, for example, is understood to be merely a matter of learning facts, but of learning the uses of language to express certain reasoning processes, how it is used to define, classify, generalize to make hypothesis, draw conclusions and so on (Mackay and Mountford, 1978).

Brown and Yule (1993) adopt two terms to describe the major functions of languages. When the function of language serves in expressing content can be described as “transactional”, and that function involving the expression of social relations and personal attitudes can be described as “interactional”(Brown and Yule, 1993). The “transactional”

function of language it is based on the assumption linguists and linguists philosophers follow a limited approach to the functions of language in society. While they admit that language perform many communicative functions, however, they assume that communication of information is the most important function. The importance of the use of language lays on the transmission of information. The purpose of language is that what the sender has in mind is the efficient transference of information, “message oriented”. And if the recipient does not properly understand the message, the consequences could be disastrous (Brown and Yule, 1993). The “interactional” view of language according to Brown and Yule (1993), refers to the assumption that language is used in everyday common conversation to establish and maintain social relations by the transmissions of “factual or propositional information”, but that is the matter that we will not take on deeply in this paper.

Reasoning procedures could be considered as an essential element in any area of scientific inquiry, and their use here pretends to show the relevance of language to the study of science and to make appeal to the particular cognitive talent of science students (Macklay and Mountford, 1978). One difficulty students often face is that they are less likely to recognize the value that some items take on in utterances occurring within the context of discourse. Another difficulty students have is in understanding discourse when recognizing different expressions with an equivalent contextual value. The learners’ attention has to be drawn to the way English is used to communicate (Macklay and Mountford, 1978).

Using language (either first or second) includes something that goes farther the acquisition of structures and the ability to make choices when expressing particular language functions. And it depends on other factors, the first one is the ability to produce utterances to make sense within a given extend of discourse, and the other one is the ability of interpreting the meaning of those utterances provided by others (Yalden, 1995)

2.17 Vocabulary in ESP

Many people believe that an important element of ESP is its specialized vocabulary (or terminology) words (Halliday, 1964)

Writes “terminology is an applicable field of study concerned with the creation, collection and ordering of the vocabulary of special languages, this work is carried out by relatively few people for the benefit of all users of special languages”(Halliday, 1964, p-38). Furthermore, he remarks the supposition that specialized communication can be made more striking if conditions are structured according to certain prevailing samples which have foresighted esteem”

Current linguistic re-appraisal of the nature and functions of Lexis has led to an increased awareness of the importance of vocabulary to language and language learning. Such sights have; however, on the whole, failed to bring about a significant improvement in the amount of type of the vocabulary taught in general ELT courses. In the case of EAP (Teaching of English for Academic Purposes), the pedagogical response to learners’ vocabulary needs seems particularly inadequate. Despite evidence of the extreme importance of lexical knowledge to L2 study, foreign students are too often expected to teach themselves the words they need (Christie, 1996)

Lexis, however, is shown to be an extremely valuable resource in such teaching. Focusing on EAP courses, suggestions are made as to how these needs can be directly and effectively addressed than at present by adapting and expanding the concept of a Lexical Approach as conceived Lewis (1993). Having identified the extreme importance of vocabulary acquisition on such courses, suggestions are made as to how a greater concern with vocabulary in the selection, preparation and exploitation of teaching materials and course design might maximally benefit overseas students (Christie 1996).

The acquisition of vocabulary from context depends on linguistic and extralinguistic knowledge. The notion of context cannot be limited to the textual environment of a word (Schmitt and McCarthy 1997). When we infer the meaning of a word from the context includes a relationship between the situation model /the reader/listener’s model of meaning of the text) and the text model, as well as the possible mappings between them. In other words, this has to do with the learner’s world knowledge about the way the pertinent part of the lexicon is organized (Schmitt and McCarthy 1997).

Such an approach would achieve the combined aims of helping them improve their general linguistic ability at the same time helping them to adapt to their new academic and

cultural environment. With its emphasis on skills and in particular their interrelatedness, EAP is shown to offer a natural opportunity for a full integration of vocabulary teaching. Suggestions are made as to how such teaching, based on a sound, principled methodological basis, might achieve its two main aims of helping learners to acquire and retain a substantial number of lexical items (Dobson, 1997)

2.18 Target Situation Analysis or Target Needs?

A Target Situation Analysis (TSA) it is that students' needs analysis at the end of a language course. It might pinpoint the period whichever "good enough" competence for the job is reached (Robinson, 1998). Opposite to this, the TSA has to be seen in condition of necessities, lacks and wants (Hutchinson & Waters, 1996).

- A) *Necessities* are those needs regulated by requirements of the target situation, in other words, what the student has to perceive directly in order to function impressively in the target situation. They can be easily found at any situation by analyzing the components of situations the learner is involved in as well as the linguistic features – discorsal, functional structural, lexical – often used in these situations (Hutchinson & Waters, 1996).
- B) Lacks are the gaps between the target proficiency and the existent proficiency having in mind what the learner knows already (Hutchinson & Waters, 1979).
- C) Wants: It has been proved that it does not exist necessarily a relationship between the concept of necessities from sponsors or ESP teacher and what the learner want or think they need. This is an important factor that influences on the learners' motivation in the learning process, due to the learner realize wants cannot be ignored (Hutchinson & Waters, 1996).

Due to the fact that the purpose of an ESP course is to make students be able to perform adequately in the situation they will use the language they are learning, the course design process should come forth by identifying the needs that reflect the majority in a already formed learner population rather than individuals designing the program for groups in advance of their arrival at a particular setting. Different designers can interpret needs

differently. So the planning and design of the syllabus of the ESP course will be constituted by those identified features, and this is usually known as “need analysis” (Dubin and Olshtain, 1994)

2.19 Theories of Learning

Language learning is possible due thought and mind processes, and language is a reflection of it. The understanding of the structure and processes of the mind is the key to be a successful language learner.

1. Behaviorism deals with the theory that either verbal or non-verbal, learning takes place through habit formation, due to learners receive linguistic information (input) from speakers in their environment. As a consequence, habits are formed and a group of them make possible language development. And it is taken for granted that a person a second language begins with the habits associated with the language they have already acquired (first language) (Lado, 1964)
2. Mentalism tells that learning is a matter of acquiring rules and not forming habits. In this process, a hypothesis might be formulated by the individual, which can be tested and modified by a further experience. In other words, the mind needs the individual stimuli in order to get the underlying pattern or system. And then, this knowledge of the system can be used in a novel situation to forecast what is probably happen (Hutchinson and Waters, 1996)

2.20 Syllabus Design

“Syllabus” in a British sense, is a plan of work to be taught in a specific course. And as a plan of work is essential for the teacher, it is a guideline and context for class content. The following diagram can explain it:

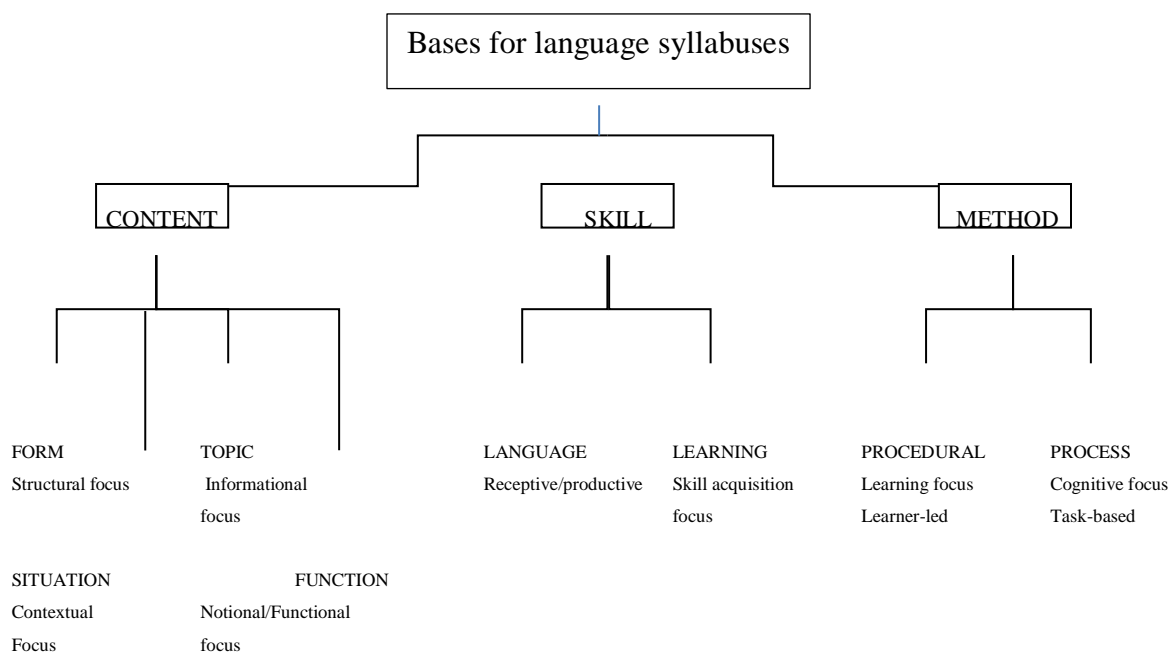


Figure 2.2.Bases for language syllabus design (White, 1988, p. 46)

There are two major categories dividing ESP and they are:

- a) where the participants require English To perform part of all of their occupational duties e.g. working in civil aviation or tourist hotel management (English for Occupational Purposes EOP).
- b) where participants need the language for educational purposes, to accomplish part or all of their studies, e.g. agricultural science or Chemical Engineering (English for Academic Purposes EAP) (Munby 1996).

According to Yalden (1995) designing a new course involves a skillful composition of what is already known about the language teaching and learning, including the new elements that a group of learners inevitably bring in to the classroom: needs, wants, attitudes knowledge of the world and so on (Yalden, 1995).Learners’ goals appear to be dependent on variables of communication needs, and the target syllabus specification apparently considers the importance of contextual appropriacy (Munby, 1996). Goal will be reflected by three potential dimensions of syllabus specifications: behavior-domain determinants, formal determinants and situational determinants.

In order to ESP specification that indicates the target communication of the participants, a planner has to investigate their particular common needs according to the sociocultural and stylistic variables which work together to establish a profile of such need (Munby, 1996)

In teaching a foreign or second language the starting point in planning a language program has always been a syllabus instead of an activity that emerges midway the process. Richards (1994) thinks that a well planned syllabus could assure successful learning, due to it represents a linguistically and psycholinguistically optimal introduction to the target language. The following are the commonly found syllabus in English language. They varied and mixed:

- a) Structural (It is organized mainly around the grammar and sentences patterns).
- b) Functional (This is organized around communicative functions, such as identifying, reporting correcting etc.).
- c) Notional (this syllabus turns around conceptual categories as duration, quantity, location)
- d) Topical (it deals with topics or themes such as health food, clothing)
- e) Situational (It is focused on speech setting and the transactions associated with them, e.g. shopping, at the bank, at the supermarket).
- f) Skills (organized around skills e.g. listening for specific information, listening for Inferences)
- g) Task or activity based (It goes around activities, such as drawing maps, following directions or instructions)

Munby (1996) mentions some parameters that have to consider for designing a syllabus These parameters are divided into the ones that process non-linguistic data and those provide the data in the first place: or in other words one set of restrains (a posteriori) that depend on the input from another set of restraints (a priori) before they can become operational Munby (1996)

The first posteriori parameter is the participants (learners), and it is related to identity and language “Identity” provides information about the participants’ age genre

nationality and place of residence (they are relevant when they are matched with the participants' interaction sets in a spatial settings) "Language" identifies the participants' target language and the extent, if any, of their domain on it, the mother tongue. And any other language that they know Munby (1994)

A second parameter "purposive domain" is concerned about the establishment of the type of ESP involved as a first step; and then the specification of the educational or occupational purpose for which the target language is needed. Meanwhile a third parameter "setting" deals with psychological settings, including place of work or study Munby (1994). "Interaction" is the parameter where those with whom the participants have communicate in the target language are identified and a prediction of the relationships among them and their interlocutors. Munby(1994) mentions a final posteriori parameter, "instrumentally", and it has to do with the constraints on the inputs in term of medium (written or spoken or both; receptive or productive or both), mode (monologue written to be read or written to be spoken), and channel (print or face-to-face; unilateral and bilateral).

The input for the first a priori parameter can be processed once the restrains of physical setting, Role set and purpose are given e.g. to specify if it is British or American English, or regional variety and the second a priori parameter, "target level", should be stated in terms that could guide the additional processing through the model. Finally, the "communicative key" shows how (with a manner view) the participants do the activities included in an event (what they do) (Munby, 1994).

2.21 Materials

Materials influence learning Good materials must encourage students to learn, thus, they will contain interesting tests, enjoyable activities which make students use their thinking capacities; opportunities to learners to use their current knowledge and skills; content which teacher and learner can deal with and they help to organize the teaching learning process, it has to supply a route throughout the complex mass of the target language. Material integrate a view of the origin of the language learning, they can widen

the basis of teaching training, and provide models of correct and appropriate language use (Hutchinson and Waters, 1996).

As McDonough and Shaw (1998) state, materials must be designed and connected to the covering of all the needs expressed by the learners. And the development and creation of these materials may be influenced by the educational setting where teaching takes place (McDonough and Shaw 1998). However ESP materials must be authentic in that they are originally produced for a purpose other than teaching of language and it will be normally used in the students' specialist workplace or study situation (Robinson,1998). Goals have to be realistic for specific circumstances in order to design the most appropriate material (McDonough and Shaw, 1998).

Hutchinson and Waters point out that there is little relationship between sentence and grammar and specialization of knowledge. It may be that the discourse structure was denser and more formalized, but not different in any sort from that of less specialized materials. Either a general text or a specialized one could be comprehended due to the linguistic knowledge needed is little different between them. The factor that makes a difference to comprehend a text is the subject knowledge and not the language knowledge (Hutchinson & Waters, 1996)

Materials should be evaluated according to context and after classroom implementations and feedback (McDonough and Shaw, 1998). There are three types of materials evaluation: preliminary, summative and formative. Preliminary evaluation will normally take place before an ESP course begin, and involves selecting the most appropriate text from the ones that are available. Anderson (1979) present the performance(summative) evaluation as the one that takes place at the end of a course by questioning if the materials were effective. Revision (formative) evaluation is conducted while the course is in progress in order to make some modifications if necessary (Alderson 1979).

Materials can be adapted to a course after being adopted. Adopting materials is to try to bring together each one of the elements under each heading, or combination of them, so they match each other as closely as possible. Teaching materials, may be largely suitable

at the same time as they show signs of an inconsistent organization (McDonough and Shaw, 1998)

2.22. Methodology

Robinson (1998p9) refers to methodology as what happens in the classroom, with its implications such as: what the students have to do, what the teacher has to do and the materials to be used. ESP teachers may learn a great amount from general ELT materials and methodology. The only out coming difference might be that ESP can base activities on students' specialist (but it is not necessary to do so) and that activities can have a real purpose linked to students' target needs (Robinson 1998).

Richards and Theodore (1991) say that methodology decisions can not be taken until the goals, objectives, and content of a language program have been determined. And they define it as "the activities, tasks and learning experiences selected by the teacher in order to achieve learning, and how these are used within the teaching learning process (Richards and Theodore, 1991)

Hutchinson and Waters (1996) think that there is nothing specific about ESP methodology. It can be said that the principles in a good ESP methodology are the same as ELT methodology in general. A general English teacher can use that experience on an ESP course and not think about a new whole methodology to learn (Hutchinson and Waters, 1996) Long and Richards (1987) believe that the teacher is the orchestra leader, whose prime goal is to keep the players in tune and time, and without whom no music could be performed. Besides, teachers and learners roles set out he interaction characteristic in classrooms where a specific method is used (Long and Richards, 1987).

2.23 Course Evaluation.

The ESP course has to prove and justify its current existence regularly. Evaluating an ESP course helps to demonstrate if it is meeting its purposes. It can also be helpful for any necessary revisions of the course and in guiding other courses design at any place.

According to Richards (1994), evaluation is the gather of data from dynamics, effectiveness, acceptability and efficiency of a program to make easier the process of making decisions. There are two ways for evaluating a program:

- a) “summative evaluation” which consists on measuring effectiveness of a program in attaining its goals at the end of it.
- b) “formative evaluation” that is carried out during the implementation and development of the program and materials to ensure their efficiency (Richards 1989).

Alderson (1983) the evaluation should evaluate everything of significance by using test result and questionnaires, discussions, interviews and maybe informal means (“casual”, chat etc.). The ESP institution, teachers and learners, and course sponsors should be evaluated as well. And the time for the evaluation should take place at the beginning of the course (first week); though out the course (every half term); at the end of it and if possible after the course (Alderson, 1983).

2.24 The role of the ESP teacher

This topic has been considered as a controversial one for so much time. Robinson (1998) says that “there is no single, ideal role description. ESP courses and the institutions around the world which offer them are so varied that there can be no single model for the ESP teacher”. An English either General or Specific teacher has usually to adopt roles that will be the basis for teachers’ decisions on what methodology can best be used to bring about learning (Richards, 1994). And taking into account these they can better understand the supposition that guide their own teaching (Richards, 1994). On the other hand, Holme (1996) points out that the ESP teacher cannot merely select what to seems to be the right mix of language and skills then teach it in the way that best fits their preconceptions about how people learn it is possible that an ESP teacher tries to introduce changes, but possibly making the best of a system as they find it (Holme, 1996).

Dubin and Olshtain (1994) suggest that some factors have to be taken account when selecting a teacher for any English course, such as: the teacher’s command of the target

language (where it is not the native language); the teacher's training and expertise, background, education, teaching experience, and the teacher's attitude toward changes in the program (Dubin and Olshtain, 1994). But Long and Richards (1987) argue that teachers' roles are connected to content and at the level of approach, to specific views of language and language learning. And some of these roles often require some training and methodological initiation on the teacher's part (Long and Richards, 1987).

An ESP teacher is usually a teacher of General English who has found himself asked to teach students with special needs, which sometimes is shocking for some teachers (Robinson, 1998). Hutchinson and Waters (1996) point out "the ESP teacher's role is one of many parts. Apart from dealing with classroom management, the ESP teacher has to be.

CHAPTER III METHODOLOGY

This chapter provides information of the setting, participants and the instrument that are part of this research. Moreover, this project bases its methodology in a need analysis. The application of the instrument took part at the Facultad de Ingenieria at the BUAP.

3.1 Participants

For the following investigation, the participants were divided into 3 different groups. All of them are native Spanish speakers and they are at different aging from 23 to 51 according to each group that was divided in order to the application of any of the instruments.

The first group was composed by 10 industrial engineering professors. The industrial engineering teachers have taught different industrial engineering topics; furthermore, they have long experience in teaching at BUAP from 6 to 15 years, all of them have worked in the industrial engineering area. The second group is composed by 8 English teachers that have taught to industrial engineering students in Tronco Común at BUAP. Their working experience average from 8 to 17 year teaching they have taught in Tronco Común in phoenix master plan. The third group is compound by 20 industrial engineering students graduated and under graduated. All of them are Mexican and all of them take English classes at DGIE.

3.2 Instruments and techniques

Three questionnaires were the instruments employed to collect the data. This technique allowed to collect data in a direct and precise way, another of its purposes is to elicit factual data whether the sample is big enough to statically analyze the responses (Wallace, 1998).

Three instruments were developed: questionnaire A was designed for industrial engineering teachers; questionnaire B for English teachers and questionnaire C for industrial engineering students. The questionnaires were modified versions on that one

applied by Mackay (Mackay 1978:122) to vet students; besides, they were chosen for their characteristics. The questionnaires are included in appendix 1

3.2.1 QUESTIONNAIRE A

Questionnaire A was applied to selected professors from industrial engineering career at BUAP. It contained questions with sublevels or multiple choices. The instrument A consisted of two parts: The first part collected information about the academic field, the second part collected information about professional field.

Before designing the questionnaire, interviews with subject-area specialists were carried out. They provided us with important information to design the question 'What knowledge and abilities will the learners require in order to be able to perform to the required degree of competence in the target situation' (Hutchinson and Waters, 1987:60). The specialists gave highest priority to reading skills. Time permitting, they suggest, attention should also be paid, to speaking and listening skills as these play an important role in our students' future professional

The questionnaire concerned about the students' needs about the target language from a professional point of view and question 2 ask about the skills that have to be developed were based on the interviews with subject-area specialists we basically followed the framework for analyzing target needs in Hutchinson and Waters (1987:59).The questionnaire includes, in one way or another, some questions asked by Hutchinson and Waters in their framework for analyzing and learning needs (Hutchinson and Waters, 1987:62). Question 2 asks about the material available from other subjects in the target language question 3 and 4 analyze the relationship between the target language and the professional field.

3.2.2 QUESTIONNAIRE B

Questionnaire B had the same characteristics as the instrument A but this one was applied to English teachers at BUAP that have taught to industrial engineering students. It contained questions with sublevels or multiple choices. The first question is the same as in

the instrument A. From question 3 to question 6 analyze the effectiveness about the current program we might add that students work with authentic materials (see Robinson, 1991:54 for a discussion on the concept of authenticity) in groups or pairs depending on the nature of the activity. Special emphasis is given to developing the different reading techniques (inference, reference, linking devices, predicting, skimming, scanning...) that will allow them to assess the information conveyed in the texts and to the combination of reading and writing skills. In the second section questions from 1 to 5 the interviews with subject-area specialists provided us with important answers to the question 'What knowledge and abilities will the learners require in order to be able to perform to the required degree of competence in the target situation' (Hutchinson and Waters, 1987:60). The specialists gave highest priority to reading comprehension skills.

3.2.3 QUESTIONNAIRE C

The third instrument was applied to industrial engineering students and it has two sections, the first is about academic field and the second is about professional. Questionnaire C was designed to establish the students in engineering at BUAP needs about the foreign language, what skills and sub-skills they already have, and the ones they would like to learn. Although, the main purpose of this paper is not to deal with the students' skills but the kind of language they need, special or specialist, it tries to establish the utility of the English courses included in the BUAP's curricula and if the material used in classes deal with the students' field of study. Another important point covered here was the level of knowledge the English teachers have in the students' field of study and if it is important to students their teachers have it. And finally the questionnaire tries to obtain the necessary information to design the ideal ESP course for these students and if it is the ideal time to include in their major. The questionnaire was not piloted due to there were not any problems with the items when students answered it.

The information collected by these questionnaires allowed identifying students' needs about English language and let it know the industrial engineering students' profile.

3.3. VALIDITY

The instrument's validity is an essential part from a project because it depends on the research's prosecution due to it checked if the measured object is the real thing to be measure. "The validity in general terms refers to the degree in which an instrument really measures the variable that pretends to measure."(Hernandez, Fernandez and Baptista, 1991:243)

For this research it was taken into account those aspects that allowed getting information about the BUAP industrial engineering subjects' content that could be correlated to English and its uses that students will apply in the future labor field.

3.4 THE PROCEDURE

The instrument C was applied in the same setting where students take classes their classrooms, the purpose of this research was explained and students agreed to answer at the end of an ordinary class. This was done by the researcher; on the other hand, instrument A and B were applied in the same way or in the teachers' office, with few comments about this research

3.5 DATA ANALYSIS

After that, the questionnaires were analyzed item by item the data gathered were considered to establish the needs, wants or lacks of the language among the students and the possible solution, solutions or recommendations for them. Each item presented its own summary chart where the statics were organized.

The data is presented in percentages according to the total population of the sample in each semester and the number of students answered each specific item appeared in parentheses. First, the results were analyzed and considered in chapter IV and after that some comments are settled. At the end of this paper the appendixes present all the information gathered in tables as well as the questionnaires in Spanish.

CHAPTER IV

RESULTS

In this chapter the results from the questionnaire applications are presented and analyzed. This chapter is divided into three sections. The first presents the results of the A questionnaire that was applied to teachers, the second analyses the results of questionnaire B and the third section the questionnaire C. The results are shown as follow:

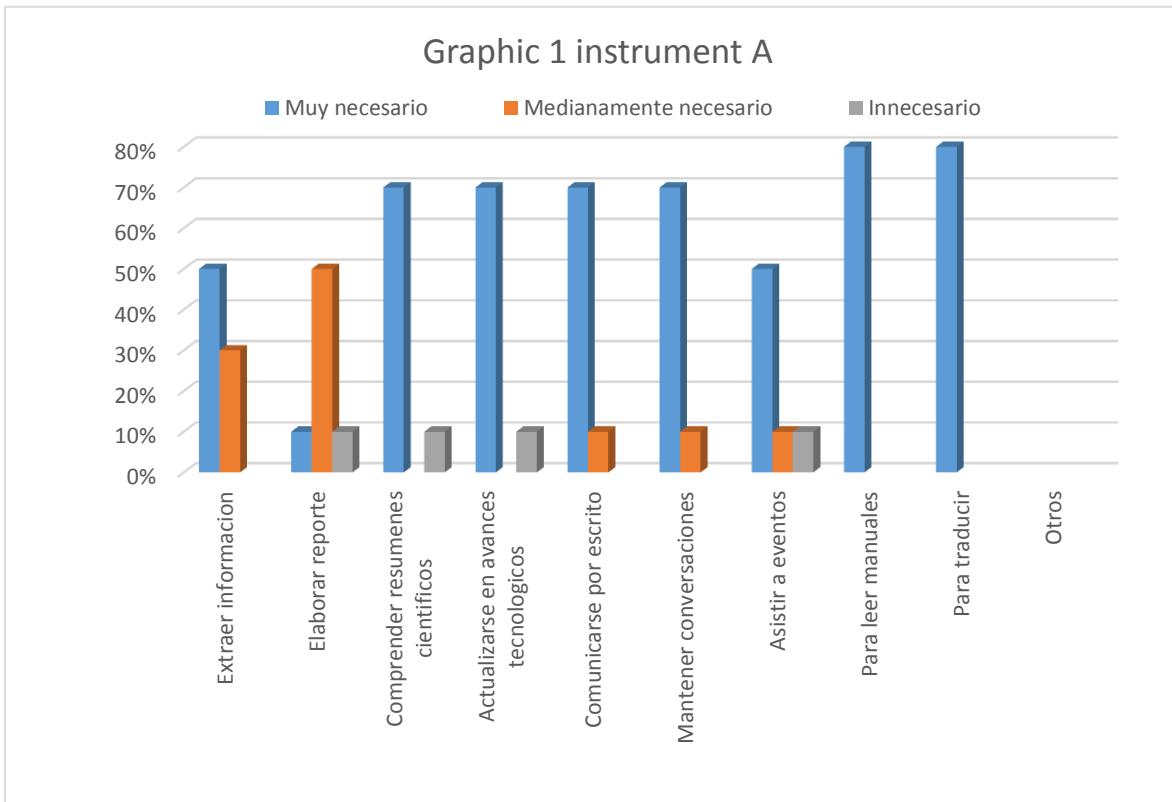
4.1 Industrial Engineering Teachers

In this sections the results obtained in the questionnaire A will be presented.

4.1.1.The importance of the English language among engineering teachers

The Figure 4.1 allows to visualize activities that engineering students need about the English language according to engineering teachers. Manuals reading and translation are the most useful and considered. In this way the research's results coincided with Smoak (2003) who emphasize in an ESP including activities that promote the technical vocabulary learning, also the manual and texts readings derived from academic fields or specific. On the other hand contradict Delmastro (1992) about one of the main purpose of an ESP is to achieve the reading comprehension instead of translate them.

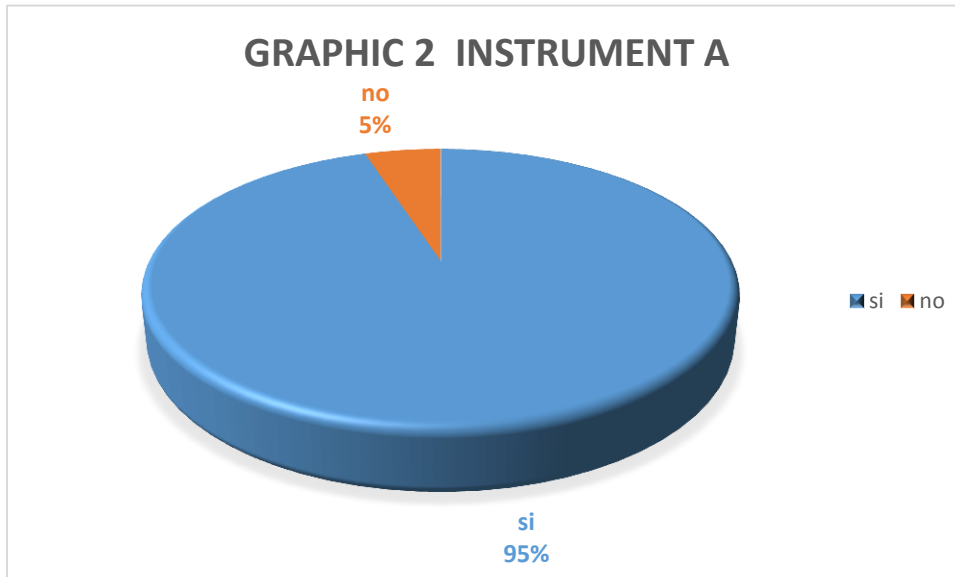
Figure 4.1. The importance of the English language among engineering teachers



4.1.2 Didactic and bibliographic material in English in the industrial engineering library

In the Figure 4.2, it can be observed the absence of bibliographic and didactic material in English in the industrial engineering library. The teaching of different subjects imparted by teachers from this survey represents the lack of proficiency, due to students needs are not cover due the missing resources. However, the absence of this didactic material is an advantage, because teachers can design their own material and this is a guaranty that it will be the most appropriated to cover the different needs by topics and groups Delmastro (1992)

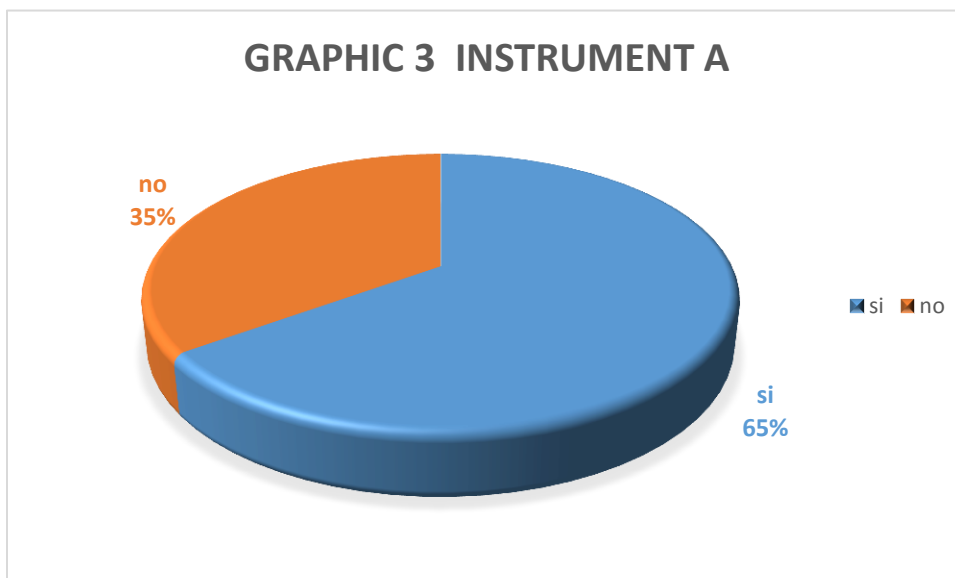
Figure 4.2. Didactic and bibliographic material in English in the industrial engineering library



4.1.3 Tasks from different subjects gathering information in English

As can be observed in the Figure 4.3, 65% of the teachers considered that many subject targets taught can be reached more easily gathering information in English language. In this way it is shown that most teachers considered relevant the integration from the engineering subject contents to English language contents, the teaching-learning process could be more effective. On the other hand is an ashamed that the resting 35% didn't consider important this point, due this show an evidence of lack of awareness about the new contemplated guidelines for a quality education in relationship to altogether teachers performance. Widdowson (1983) considered that exist two ways which students can reach goals: the first is the "goal-oriented" definition has to do with program aims the second is the "process-oriented" definition relates to pedagogic objectives.

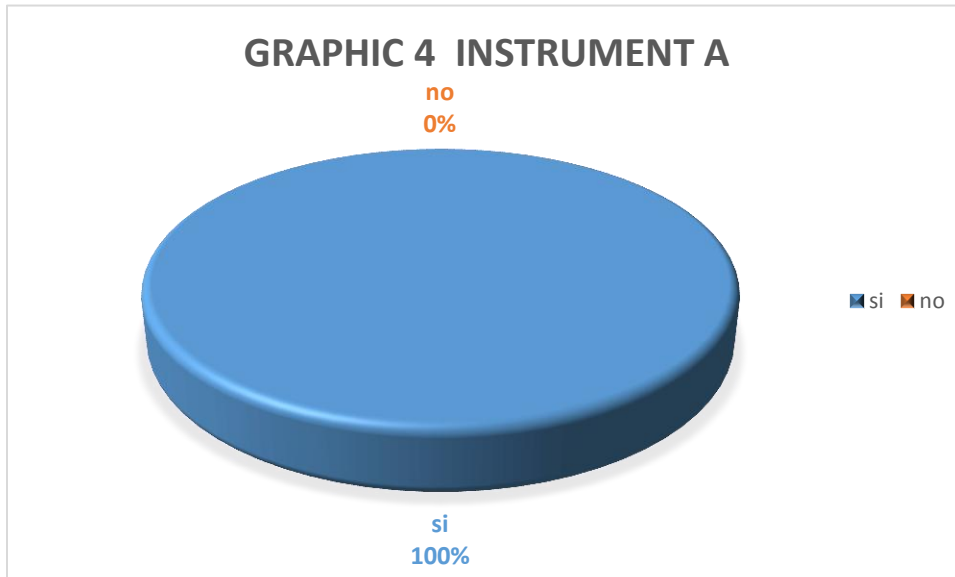
Figure 4.3. Tasks from different subjects gathering information in English



4.1.4 The importance of English in the comprehension of related technical terms about industrial engineering subjects

In the figure 4.4, it is shown that the 100% of teachers considered that the target language is very important in the comprehension of specific and technic vocabulary about the subject that they teach. This is opposite to the results obtained in graphic 3, it is shown that just 40% of teachers didn't consider that the subject's objectives could be reached easily getting English information without taking account that the comprehension of the terms are taken as the course's target. One of targets of instrumental (basic) English is familiarized students with technical and scientific vocabulary related to engineering (Delmastro 1992:87). So in the need analysis will have taken the contents and targets from some engineering subjects that will be reinforced by English language

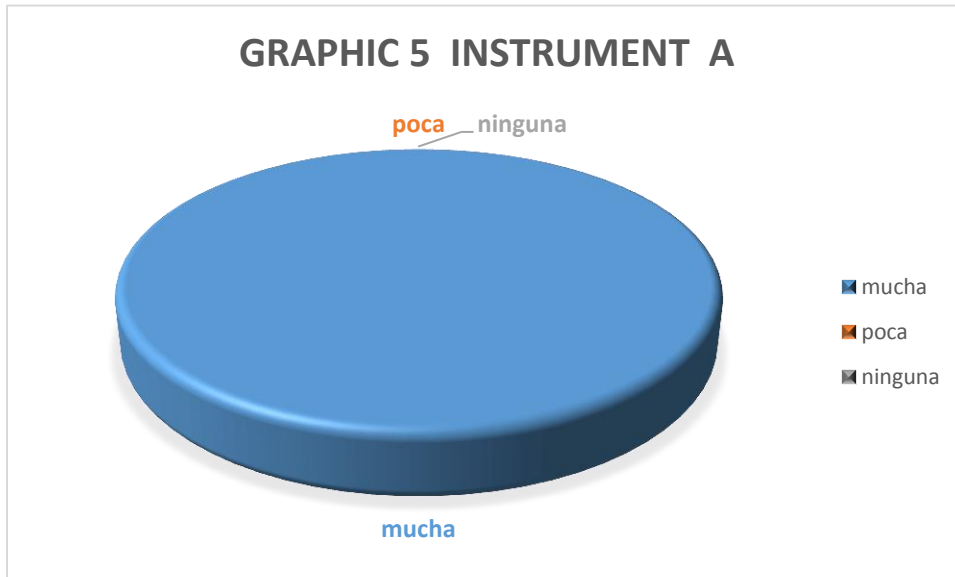
Figure 4.4The importance of English in the comprehension of related technical terms about industrial engineering subjects



4.1.5. Relationship between the English language and the graduated students profile in industrial engineering.

In Figure 4.5 is shown that the 100% of the teachers agreed the closed relationship between the target language and the graduated student's profile. This ratify the significance of the English within the career in order to achieve a high development and performance of all the students' potentials considered in the professional profile according with their needs. This diagnostic tries to identify the students' needs according Hutchinson and Waters (1987) "the tea content and the methodology of teaching must be based on students' needs"

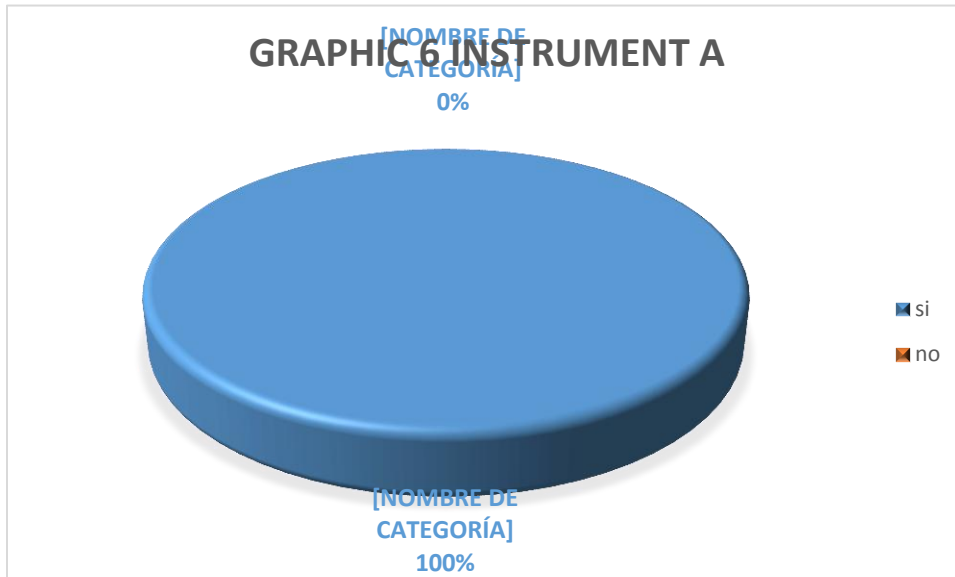
Figure 4.5. Relationship between the English language and the graduated students profile in industrial engineering.



4.1.6 The importance of reading comprehension in English texts and technical vocabulary acquisition in the labor field in graduated industrial engineering students

According to Figure 4.6, it is evident that the 100% of teachers agreed that reading comprehension in English and technical vocabulary learning in engineering would help graduated students in their professional performance. This coincided with Smoak (2003) about what tasks must be led on what it is waited for student performance in academic or professional context which could include the technical vocabulary learning and texts readings that can be useful in their working environment.

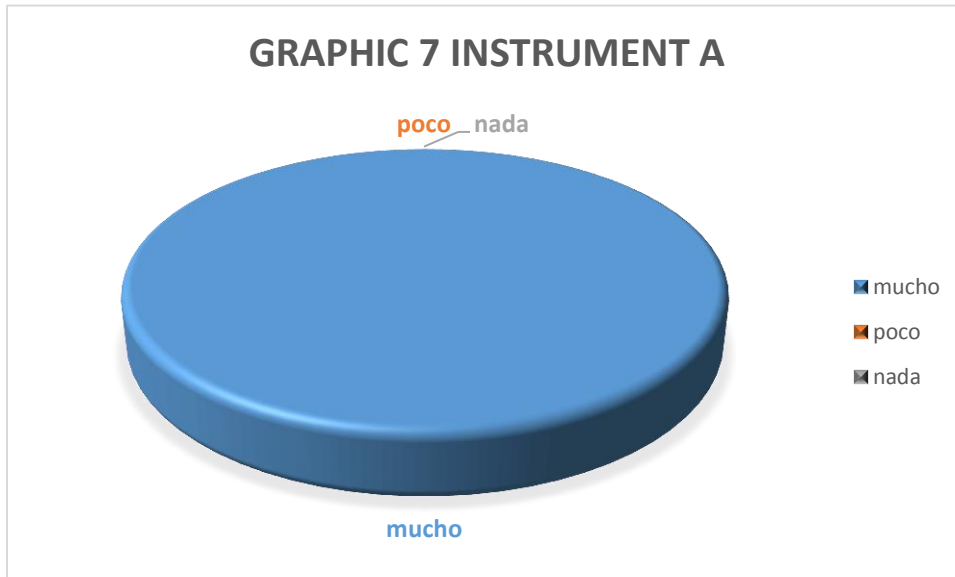
Figure 4.6. The importance of reading comprehension in English texts and technical vocabulary acquisition in the labor field in graduated industrial engineering students



4.1.7 The importance of English in the global development in industrial engineering graduated students

Figure 4.7 represents the coincidences in teachers' opinions about the relevance in the comprehensive English development of graduated engineering students. This point of view from teachers to English subject shows that students' comprehensive education becomes from acquiring knowledge in each subject, among them English subject, so far the skills, values, proficiency and mastery that contribute the graduated student professional profile. According Auccasi (2001) this determine a successful professional field development.

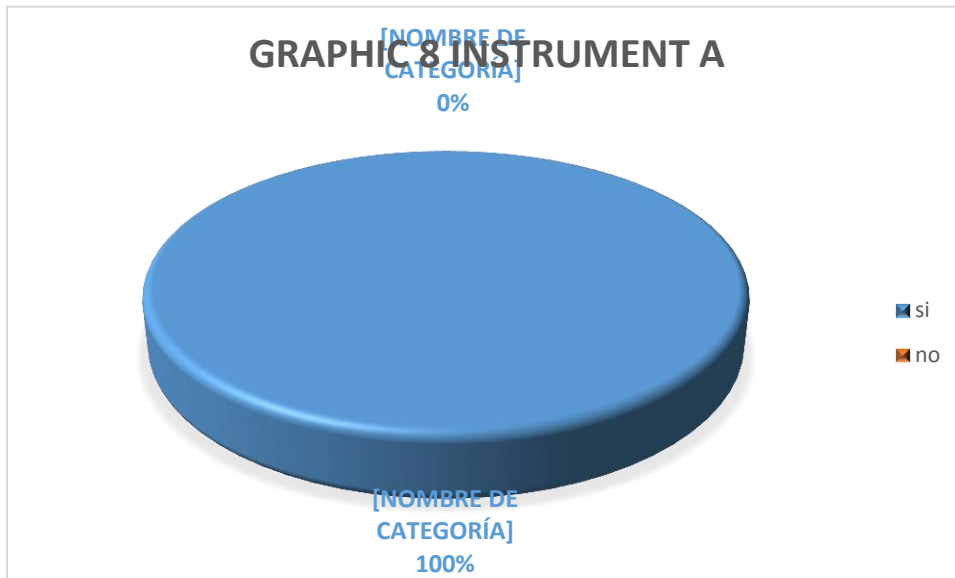
Figure 4.7. The importance of English in the global development in industrial engineering graduated students



4.1.8 The importance of written manuals in English for equipment and machinery

It could be observed in Figure 4.8 that all teachers affirm that the reading of writing manuals in English are essential in the machinery and equipment handling for graduated students in the labor field. This point out the direction that must be followed the ESP course development based on this research, the target of graduated students' output will be effective in the labor field. Smoak(2003) said it is essential consider that in the teaching of a language must be oriented in the specific needs of a determined group.

Figure 4.8. The importance of written manuals in English for equipment and machinery



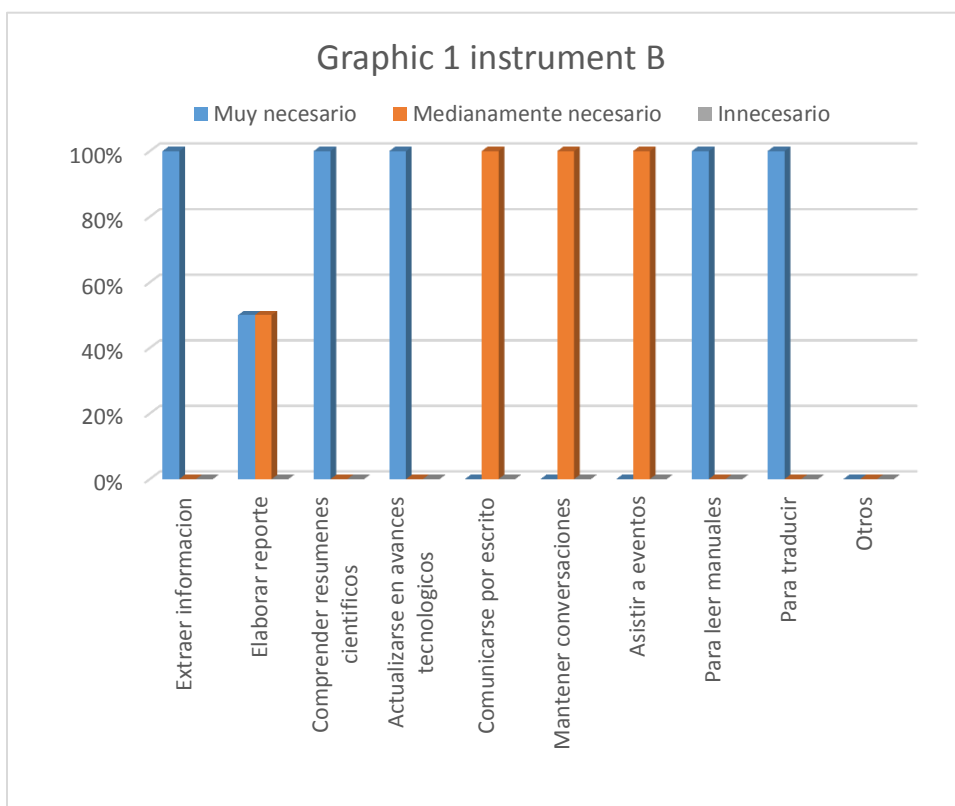
4.2 English teachers

This section presents the results of the questionnaire that was carried out with English teachers.

4.2.1 The tasks that industrial engineering students need.

In the figure 4.9 is pointed out what engineering students skills need regarding English language. Most teachers consider that the best tasks to perform are get information in English texts, comprehend scientific summaries, update in technologic breakthrough, know specific vocabulary, reading and translation of English texts. This supports Hutchinson and Waters (1987) about the direction that must be followed in the English teaching-learning process in which methods and contents must be based on learners needs

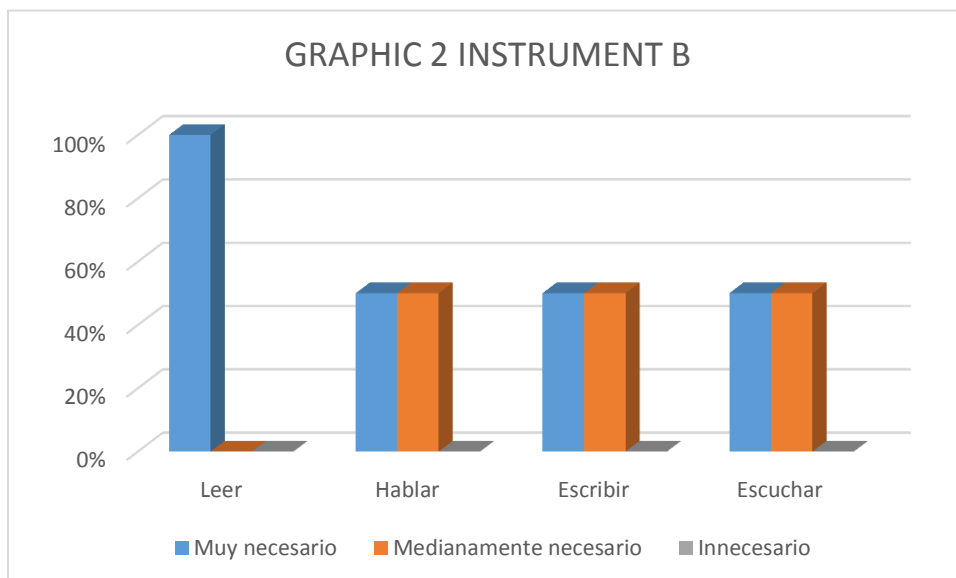
Figure 4.9. The tasks that industrial engineering students need.



4.2.2 English skills that industrial engineering students need to develop

In Figure 4.10 is observed that a 100% of English teachers considered that the most important skill to develop in engineering students is reading. Teachers are aware what emphasis must be done in engineering students' needs. This keep relation with the basis of ESP according Hutchinson & Waters (1987) "Tell me what you need English for and I will tell you the English you need" (p.8).

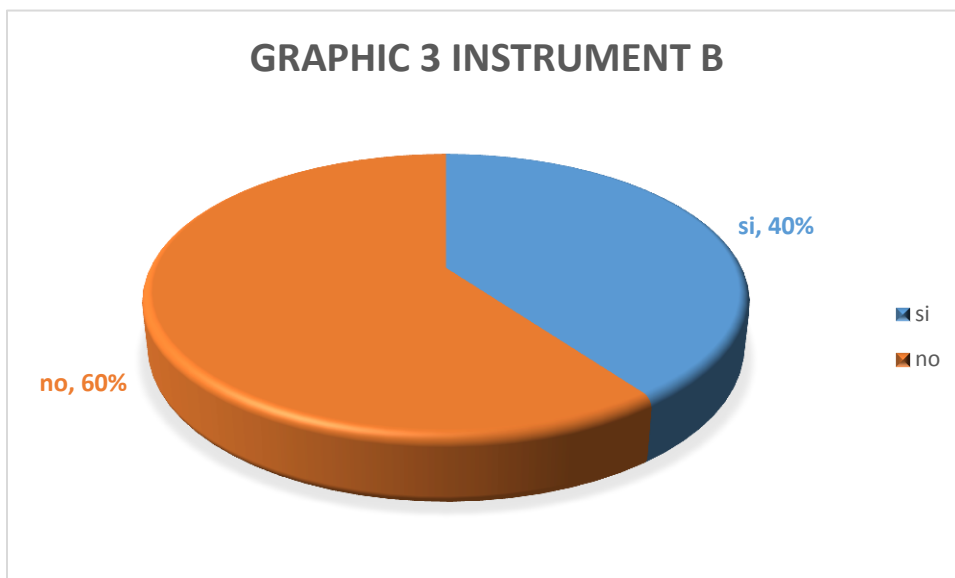
Figure 4.10. English skills that industrial engineering students need to develop



4.2.3 English program.

As can be seen in Figure 4.11, most teachers' opinions bring together (60%) considered that the target program is not reaching industrial engineering students' needs in English because it is supposed that the program has to cover their needs and teachers considered that the reason is based on a general purpose course. Crocker (1981) recognizes that ESP courses are similar to language instruction in general which puts more emphasis on language use. The obvious difference is in the interest. While English for general purposes (EGP) emphasizes language proficiency, ESP courses emphasize "something outside of the language through the medium of language" (p.8). This statement views language mastery as a necessary prerequisite skill that learners must have in order to function well in their future workplace. Unlike English courses in general, an ESP course is a means not an end in itself. Crocker (1981) is also of the opinion that ESP should be regarded as an approach to language teaching (p.8).

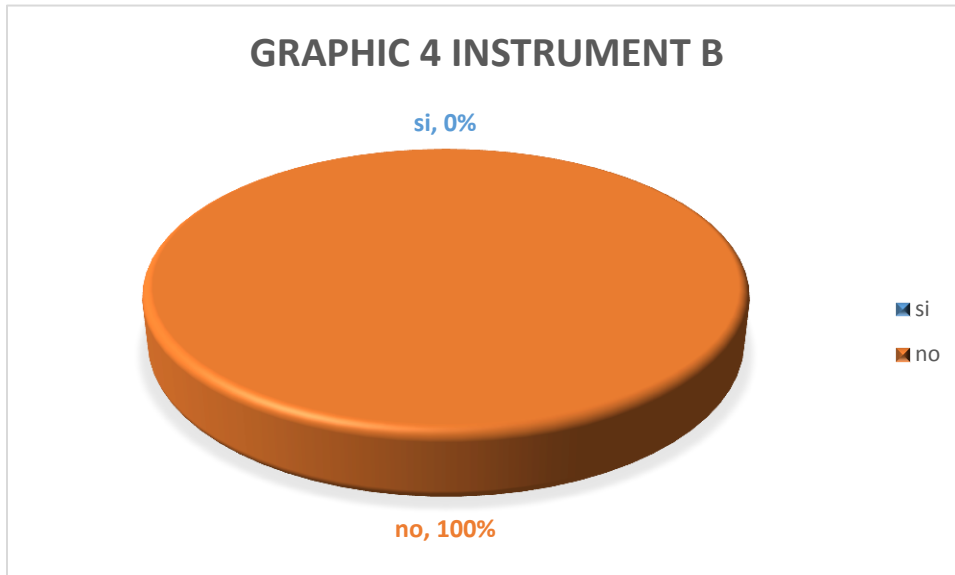
Figure 4.11. English program.



4.2.4 English contents in the program designed for industrial engineering students

In Figure 4.12, all the program contents were considered the least appropriated for the industrial engineering students by English teachers' experience and opinions and this result is opposite to Ausubel (1976. p149) in his meaningful learning theory which considered necessary that students acquire knowledge in function of their needs, in order to they become in a meaningful experience and it will be useful in daily life

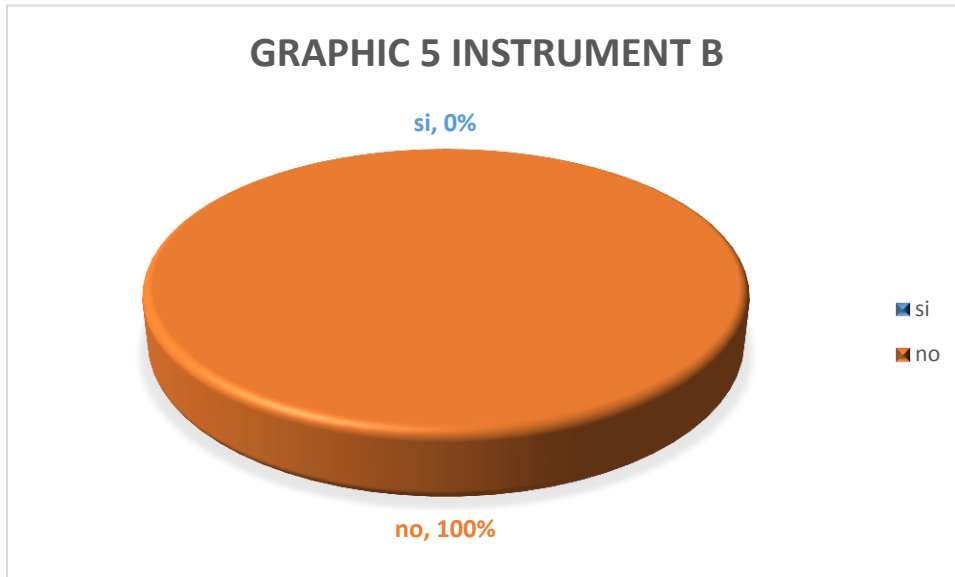
Figure 4.12. English contents in the program designed for industrial engineering students



4.2.5 Methodology strategies for English subject proposed by industrial engineering master plan

In Figure 4.13 is evident that a 100% of English teachers that methodological strategies proposed are not the most suitable to achieve the subject targets. Crocker (1981) looks at the role of ESP teacher from methodological point of view. He suggests that objectives of learning should be negotiated between the subject and language specialists. In this respect, the final decision regarding learning objectives should be taken by the subject specialist and that learning objectives regarding methodology and resources necessary to achieve the objectives should be taken by the ESP teacher (p.9). Crocker's suggestion seems to be a reasonably good answer to the problem raised by Abbot (1978) who questions whether it is the ESP teacher's responsibility to deal with plan content (p.103).

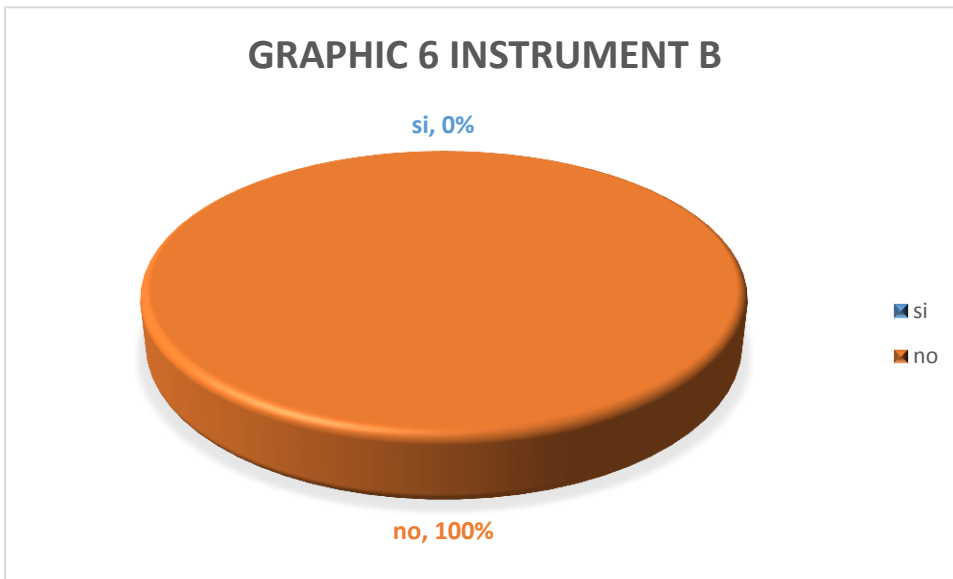
Figure 4.13. Methodology strategies for English subject proposed by industrial engineering master plan.



4.2.6 Evaluation strategies proposed by industrial engineering

In Figure 4.14 is observed that teachers' opinions about evaluation strategies that are proposed by industrial engineering master plan are not the most suitable for this purpose. The disagreement is explained by Hutchinson and Waters (1987) further state that in the past, the teaching of ESP was primarily concerned with the linguistic aspects of the language. Now, it has shifted towards developing communication skills and learning is very much directed by specific learner's needs instead mastering the language (pp. 18-19). According to Dudley-Evans and St. John (1998.p 83), evaluation in ESP situations is concerned with the effectiveness and efficiency of learning; with achieving the objectives. It encompasses both assessment and evaluation of students' achievements, as well as reaching the goals and objectives of the course.

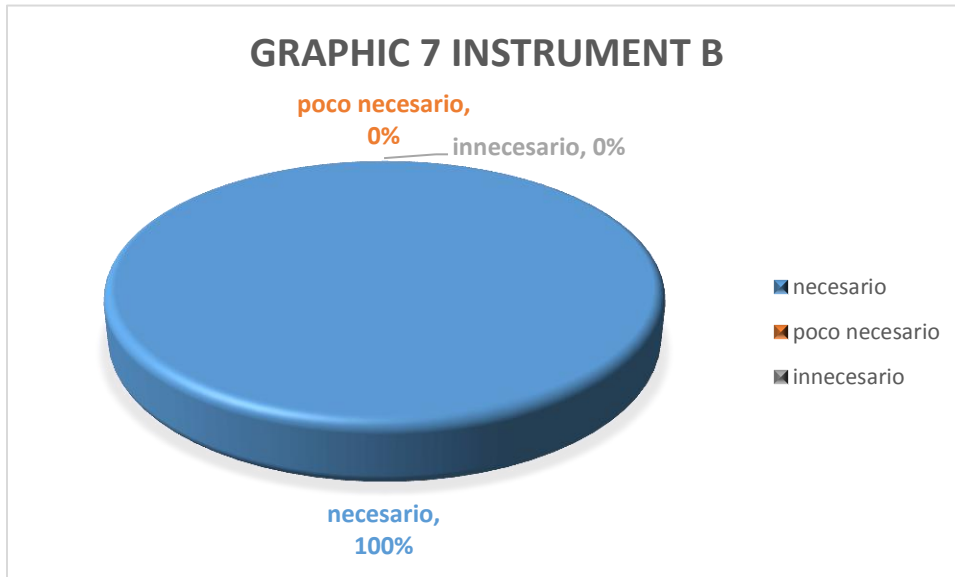
Figure 4.14. Evaluation strategies proposed by industrial engineering



4.2.7 The importance of English in the integral development of industrial engineering graduated students

As can be seen in Figure 4.15, according to the opinion of all teachers, it is shown the importance of English language in function of students' career in their integral development.

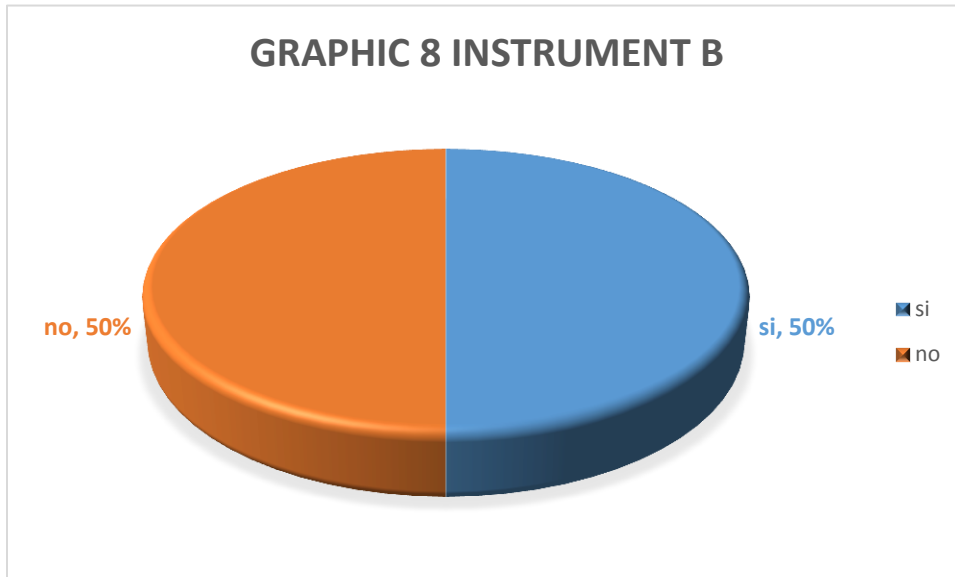
Figure 4.15. The importance of English in the integral development of industrial engineering graduated students



4.2.8 Relationship between English language and industrial engineering students' needs

In Figure 4.16 is shown that the 50% of English teachers think that the subject taught is the most suitable to industrial engineering students' needs; on the other hand, the other 50% the aren't awared about students needs nor the use of English learned in the labor field. The ideal option would be that teachers take account students needs eventhough they don't know the English used in idustrial engeenering field, as Delmastro (1992 p45) affirmed it will guarantee the success in course designing.

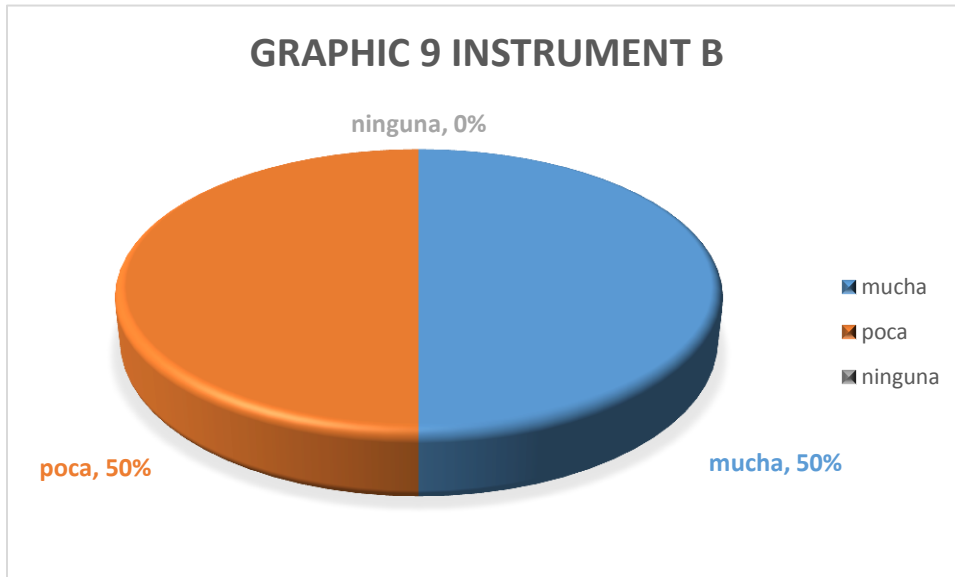
Figure 4.16. Relationship between English language and industrial engineering students' needs



4.2.9 Relationship between English language and industrial engineering graduated students' profile

In Figure 4.17 is observed that the 50% of teachers interviewed, affirmed that exists a relationship between English language and the graduated student's profile and the other 50% considered that is less the relationship between them. In this case it is convenient consider that some aspects about the English language are important to the student's profile development according some teachers. It could be deduced that teachers don't share the same criteria about the target language within industrial engineering field.

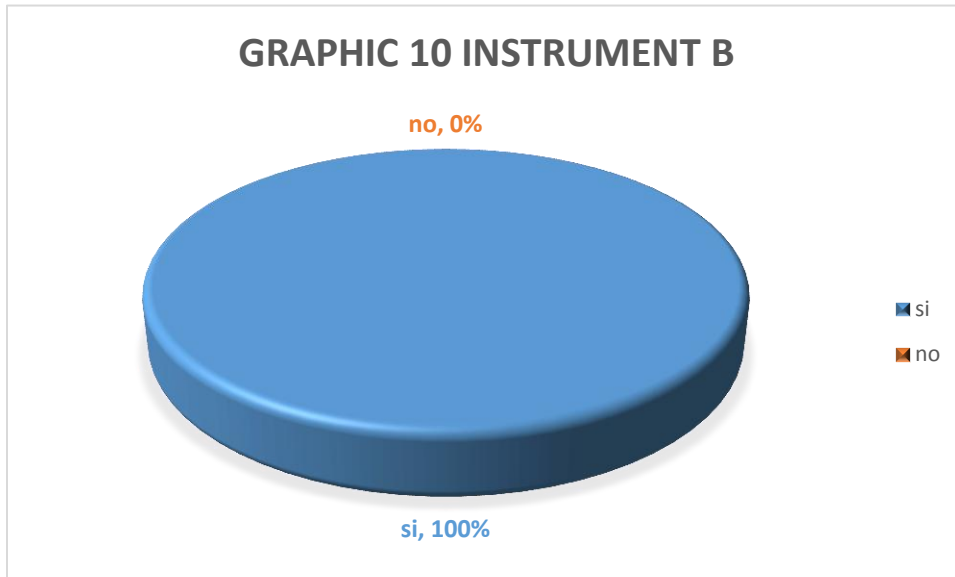
Figure 4.17. Relationship between English language and industrial engineering graduated students' profile.



4.2.10 The importance of reading comprehension and technical vocabulary acquisition in industrial engineering

In Figure 4.18 is shown that the 100% of teachers considered that the text comprehension in English and the technical vocabulary acquisition would help to future industrial engineering graduated students to improve their labor performance due to this let them read and understand manuals in English in order to achieve the use and fixment of diferent equipment. The theoy about constructivism learning Coll(1990) affirm that the student has the possibility to understand the content and put into preactice the knowledge learned in authentic situations in the labor field.

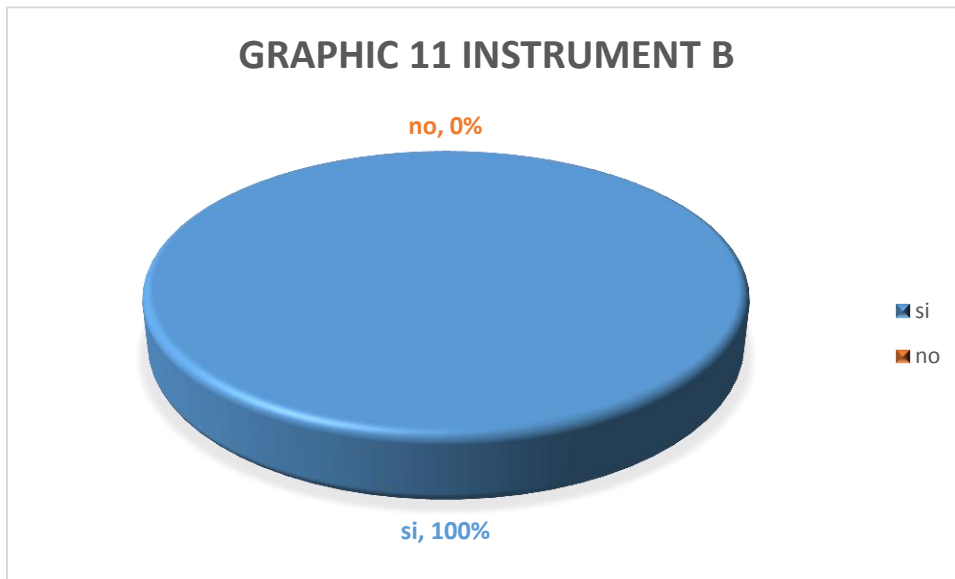
Figure 4.18. The importance of reading comprehension and technical vocabulary acquisition in industrial engineering



4.2.11 English written manuals.

In Figure 4.19 is shown that all teachers' opinions confirmed that English written manuals reading comprehension is one of the most important skill to develop and used outside the classroom. Coll (1990 p442) emphasize the fact that students have the possibility to use the knowledge acquired in enviroments outside the classroom in order to solve issues outside itself.

Figure 4.19. English written manuals.



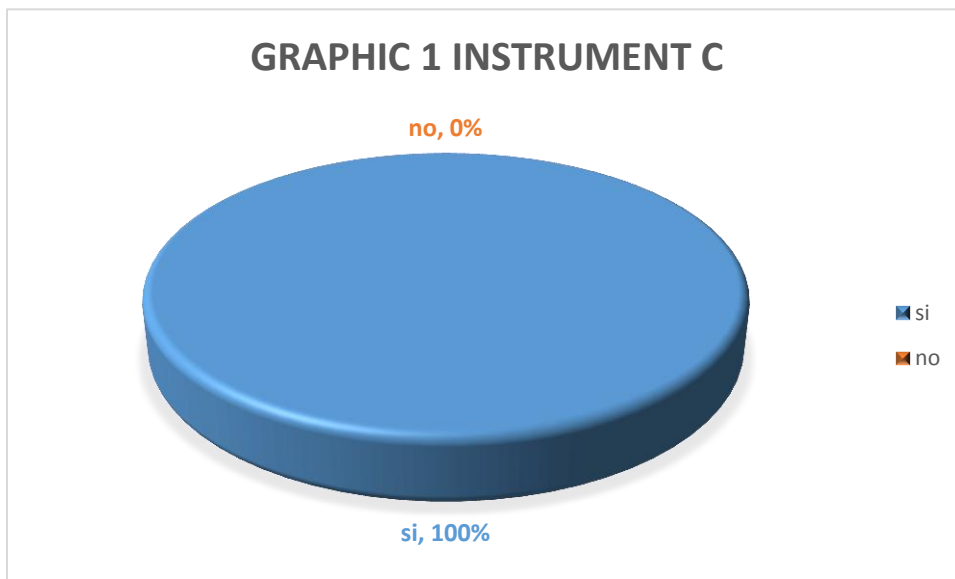
4.3 Industrial Engineering students

In this section, the results of questionnaire C applied to engineering students are analyzed.

4.3.1 Knowledge about English language

As can be seen in Figure 4.20, 100% of students have affirmed to have knowledge about English language, it represents the basis for meaningful learning due to “The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly” (Ausubel, 1968, p. vi).

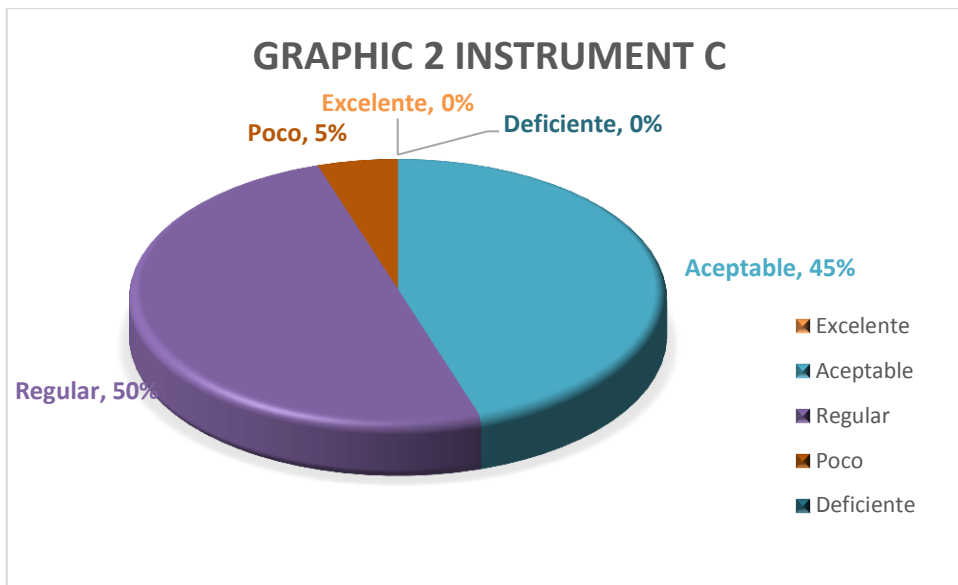
Figure 4.20. Knowledge about English language



4.3.2 Students' opinions about their English competence

Figure 4.21 shows the students' selves opinions about their English knowledge. As it could be observed barely 5% of students describe themselves as little, a 50% thought they were regular about their English knowledge and the 45% of students considered moderately acceptable. In meaningful learning the most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly" (Ausubel, 1968, p. vi)

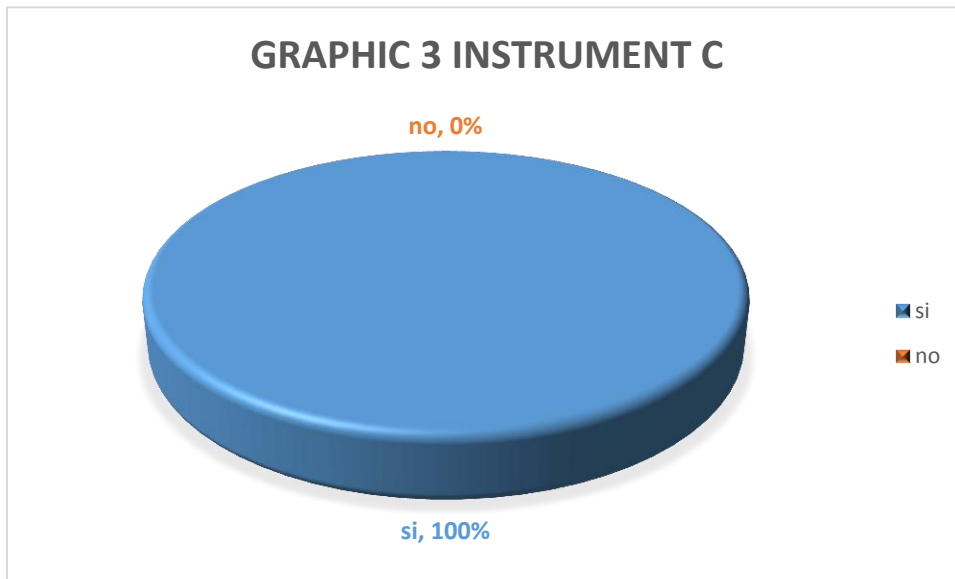
Figure 4.21. Students' opinions about their English competence



4.3.3 The importance of English language for industrial engineering students

This Figure 4.22 shows that all students consider English language important within their studies. According Deci (1975) Quoted by Schunk (1997p.62) students must be ready to control their environment through intrinsic motivation. In this way if students consider that English is important for industrial engineering they will dedicate in a great earnestness to learn English that is going to be useful in their career.

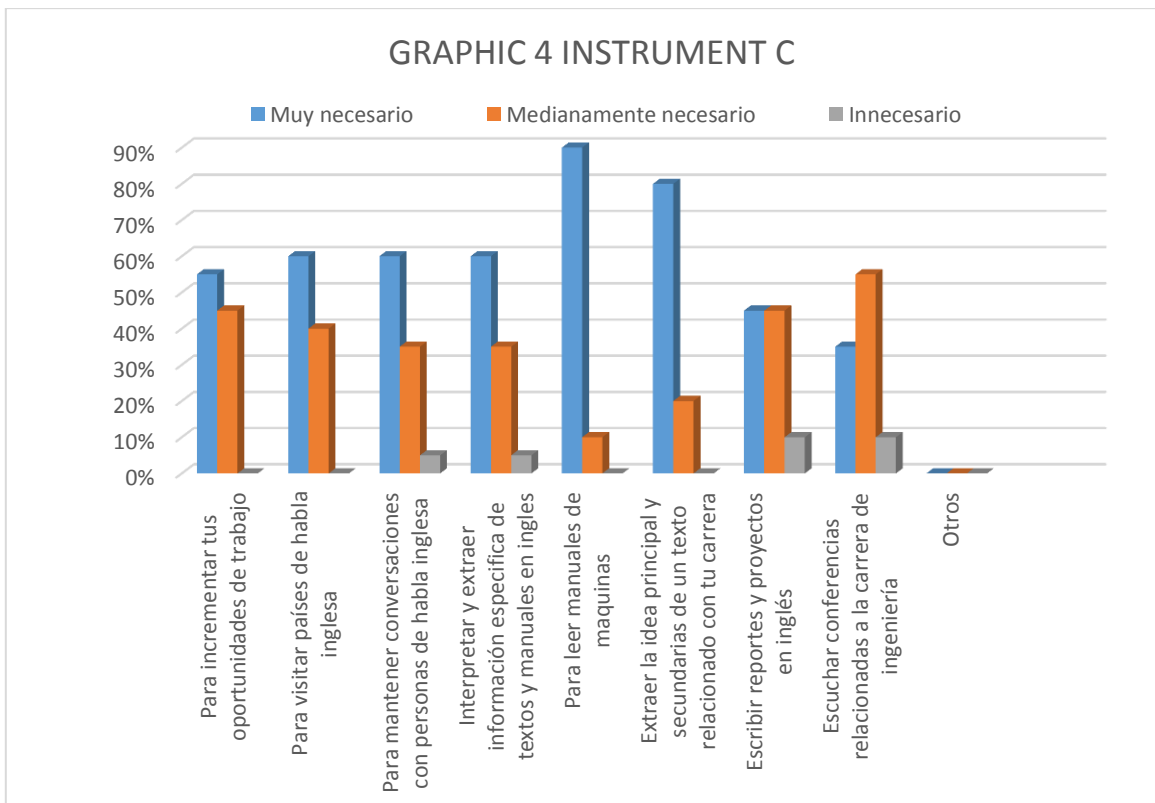
Figure 4.22. The importance of English language for industrial engineering students



4.3.4 English skills

As can be seen in Figure 4.23, students considered that English learning is important basically for reading and extracting specific information in machine manuals and texts, for conferences and talks and some video tutorials about industrial engineering. It is evident the necessity to include study contents from some engineering subjects with specific purposes as Smoak (2003) affirm, this could include technical vocabulary learning and the text readings that could be useful in the labor or study field.

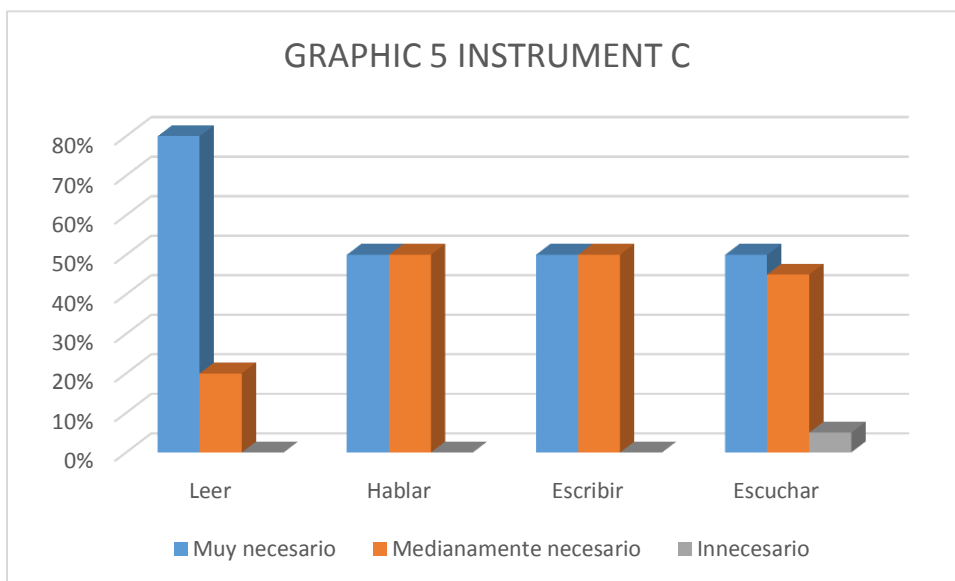
Figure 4.23. English skills



4.3.5 Basic needs

Among the student’s basic needs in their career Figure 4.24 shows that the 90% of the student’s opinions focus on the most important skill to be developed in English is reading. However a great number of students think that it is necessary to develop the four skills (reading, speaking listening and writing).

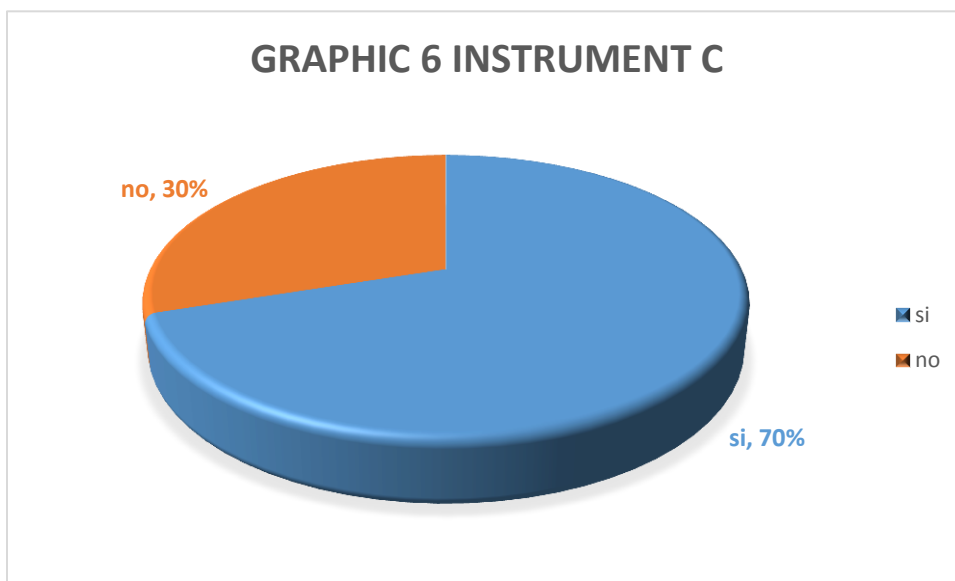
Figure 4.24. Basic needs



4.3.6 Writing material in English used by teachers in industrial engineering

About the material used by teachers, it is shown in the Figure 4.25 that the 70% percent of students considered that industrial engineering teachers bring (use) material in English and the 30% considered the contrary. According to Delmastro (1992) the teacher must use original authentic and diverse material related to work-study group areas. In this way, English teachers can count on material from other subjects for the application of the target language.

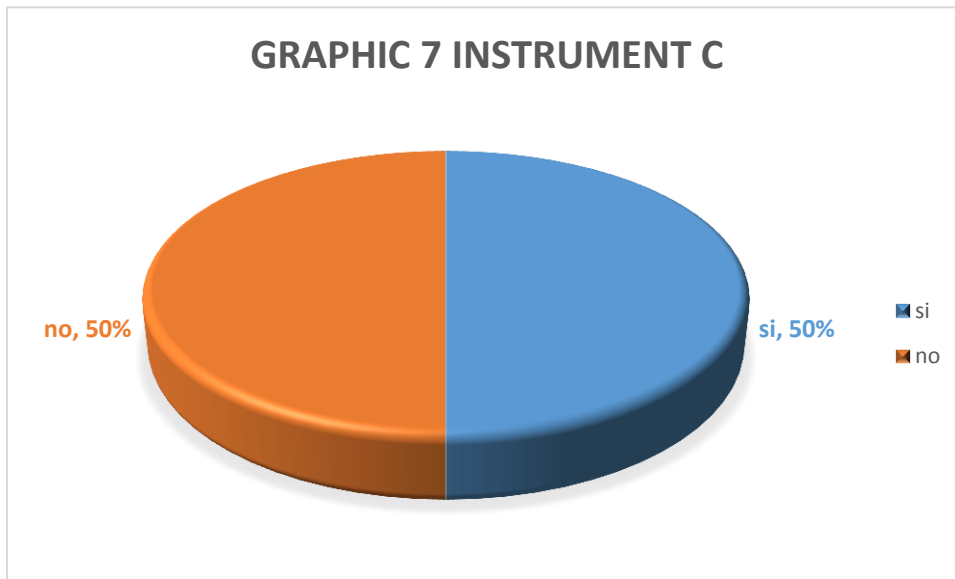
Figure 4.25. Writing material in English used by teachers in industrial engineering



4.3.7. Written English material consulted by students

As can be seen in Figure 4.26, 50% of students affirmed that they consulted material in English besides the material used by teachers the other 50% denied the use of any kind of English material. For this reason the best option would be that the BUAP provides consultant additional material in industrial engineering subjects. According the results in graphic 3; the absence of bibliographic and didactic material in English inside the industrial engineering library, thus the English teaching-learning process is limited and becomes unsuccessful. Delmastro (1992) claims to develop an instrumental English course must contain authentic and adapted material at the specific course.

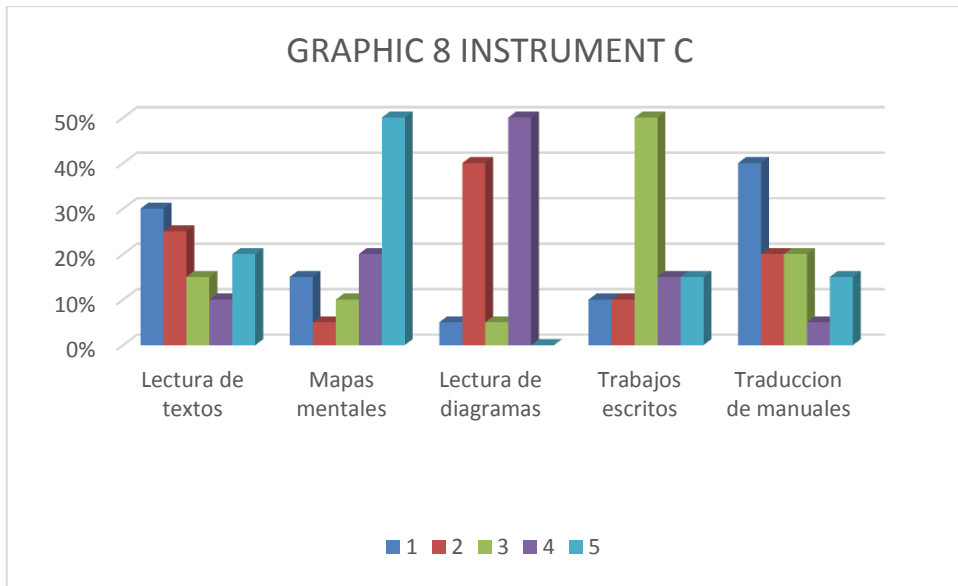
Figure 4.26. Written English material consulted by students



4.3.6 Suitable activities for English class developing, according students

In Figure 4.27 is shown that the most suitable activities for developing in classes are: manuals translation reading comprehension in technical texts and writing assignments respectively. Some of the students considered that mental maps and diagram reading are the most suitable activity. It is important that teachers emphasizes in those activities that are related to engineering subjects according to the basic's ESP principles (Hutchinson and Waters 1987) such as manuals' reading comprehension, and make students understand why this activities would be the most suitable and no the others.

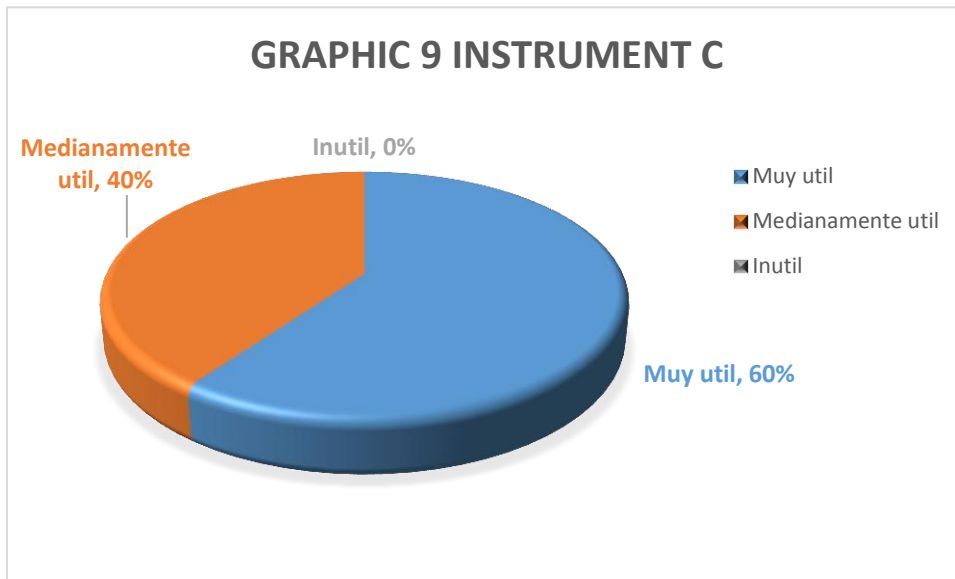
Figure 4.27. Suitable activities for English class developing, according students



4.3.9 The importance of English in the labor field

Figure 4.28 shows that 40% of industrial engineering students' opinions about the English that they were taught will be medium useful. This opinion shows the lack of awareness by students about what they really need and the BUAP's program stated for industrial engineering. Contrary to Delmastro (1992) said about instrumental English which offers students a tool that can be used effectively forward as professional.

Figure 4.28. The importance of English in the labor field



The results previously presented in this research pointed out a guide to follow in the industrial engineering English course development at DGIE. This research allows to know the importance of the background information of the students and to identify their needs in the English language. This information could help to determine the contents, the objectives, the methodology and the strategies that are necessary to teach English to these students. The conclusions will be discussed in chapter V.

CHAPTER V

CONCLUSIONS

5.1 Conclusions

The purpose of this study was to perform a need analysis in order to design and develop a specific English course that will be taught to industrial engineers at BUAP. Based on the data obtained from 3 questionnaires, this study yields to the following conclusions. Regarding the research questions posed at the beginning of this thesis, the data show the following:

1. Why do industrial engineering students need to learn English?

It can be concluded that 100% of the participants considered that learning English is necessary in their field. These industrial engineering students need an ESP course that focuses on their field of study to improve their reading comprehension skills that can help them to read conceptual maps, read diagrams, read manuals, and in some situations to translate an article. This kind of English course can also help them to obtain the A2 level to graduate from the program. This reading ability can help these future engineers to develop their job and to update in their field.

2. What kind of skill do they need to develop?

The results and analyses show that industrial engineers also need to develop communicative skills. They reported that they need English to comprehend a lecture, to attend to a seminar, to give an oral presentation in English. Therefore, reading comprehension was not the only skill they need to develop, they consider that listening, writing and speaking are also necessary to accomplish their work in the future. In this case an English for Academic Purpose is needed Jordan (1997p74) says that EAP aim is to deal with those communicative skills in English that are required for studying specific subjects in formal educational systems. But students need it for both occupational and for academic purposes. English for Occupational Purposes (EOP) involves those needs related to work and training Robinson (1998).

5.2 Limitations

Due to the time taken in developing and researching for this study many things have changed at BUAP; programs have changed for example. When this study started; it didn't exist "la biblioteca central" the material in the target language increase, some criteria and policies at the university have changed. This study could have covered industrial engineers working in transnationals enterprises, but it was difficult for the researcher to get an easy access to those companies

5.3 Suggestions for further research

For further studies, it is possible to consider students and teachers from other universities. DGIE offers courses not only to BUAP's students but also to public in general. The time taken in this study implied to the researcher changing some criteria and adjusting many times the study. It would also be necessary to interview managers of some companies to know the characteristics of the engineer that they are hiring.

5.4 Pedagogical implications

This study will allow to develop a curriculum and a program for industrial engineers. This program will accomplish the needs of the students and will help them to achieve their future goals.

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APENDIX 1

QUESTIONNAIRES

INSTRUMENTO A

Dirigido a profesores de la carrera de Ingeniería

A continuación se presentan una serie de preguntas con diferentes opciones, de las cuales usted debe escoger la respuesta que más se adapte a la realidad, ya que con éstas buscamos recabar información sobre el inglés que reciben los alumnos de la carrera de ingeniería en relación con la materia que usted imparte

1.1 ¿Indique para que necesitarían los estudiantes el inglés dentro de la materia que imparte?

Uso y actividades	Muy necesario	Medianamente necesario	Innecesario
Para extraer información de textos en Inglés			
Elaborar reportes escritos en inglés			
Comprender resúmenes científicos (abstracts)			
Actualizarse en los avances tecnológicos			
Comunicarse por escrito con gente de habla inglesa a través de internet			
Mantener conversaciones con personas de habla inglesa			
Asistir a eventos internacionales			
Para leer manuals			
Para traducir textos en inglés			
Otros ¿Cuáles? _____			

1.2 ¿Cuenta la biblioteca con material bibliográfico y didáctico en inglés para la enseñanza de la materia que imparte si _____ no _____

1.3 ¿Considera usted que algunos objetivos de la asignatura se alcanzarían con mayor facilidad recabando información en inglés?

Si _____ No _____

1.4 ¿Considera usted que el inglés es importante para comprender términos relacionados con su asignatura?

Si _____ No _____

PARTE II
Campo laboral

2.1 ¿Cree usted que existe relación entre el idioma inglés y el perfil del egresado de ingeniería? Especifique:

Mucha	Poca	Ninguna

2.2 ¿Considera usted que la comprensión de textos en inglés y adquisición de vocabulario técnico en el campo de la ingeniería ayudaría a los futuros egresados a un mejor desempeño laboral? Si_____ No_____

2.3 ¿Considera usted que el conocimiento del idioma inglés es importante para el desarrollo integral del egresado de esta institución?

Mucha	Poca	Ninguna

2.4 ¿Considera que la lectura de manuales escritos en inglés para el manejo de equipos ayudaría a los futuros egresados a un mejor desempeño en el campo laboral?

Si _____ No_____

INSTRUMENTO B
Dirigido a profesores de inglés

A continuación se presenta una serie de preguntas con diferentes opciones, de las cuales usted debe escoger la respuesta que más se adapte a la realidad, ya que con éstas buscamos recabar información sobre el inglés de la carrera de ingeniería en relación con el idioma inglés.

I PARTE

Campo académico

1.1 indique para que necesitarían los estudiantes el inglés? dentro de la carrera de ingeniería?

Uso y actividades	Muy necesario	Medianamente necesario	Innecesario
Para extraer información de textos en Inglés			
Elaborar reportes escritos en inglés			
Comprender resúmenes científicos (abstracts)			
Actualizarse en los avances tecnológicos			
Comunicarse por escrito con gente de habla inglesa a través de internet			
Mantener conversaciones con personas de habla inglesa			
Asistir a eventos internacionales			
Para leer manuales			
Para traducir textos en inglés			
Otros ¿Cuáles? _____			

1.2 ¿Cuáles destrezas considera que son más necesarias desarrollos en los alumnos de la carrera de ingeniería?

Habilidades	Necesario	Medianamente necesario	Innecesario
1. Leer			
2. Escuchar			
3. Escribir			
4. Hablar			

1.3 ¿Considera que los objetivos planteados por el programa de estudio cubren la necesidades de los alumnos de ingeniería con respecto al inglés?
Si _____ No _____

1.4 ¿Considera que los contenidos de dichos programas son los más pertinentes?
Si _____ No _____

1.5 ¿Considera que las estrategias metodológicas planteadas por el programa de estudio son las más adecuadas para el logro de los objetivos y contenidos en función del perfil del egresado de la carrera de ingeniería?

Si _____ No _____

1.6 ¿Considera que las estrategias de evaluación según vienen propuestas en el programa son la más adecuadas para la carrera de ingeniería?

Si _____ No _____

II PARTE

Campo Laboral

2.1 ¿Considera necesario el conocimiento del idioma inglés para el desarrollo integral del egresado de esta institución?

Muy necesario	Poco necesario	Innecesario

2.2 ¿Considera que el inglés que usted imparte está acorde con las necesidades de los alumnos de la carrera de ingeniería?

Si _____ No _____

Especifique _____

2.3 ¿Cree que existe relación entre el idioma inglés y el perfil del egresado de ingeniería?

Especifique _____

Mucho	Poco	Ninguna

2.4 ¿Considera que la comprensión de textos en inglés y la adquisición de vocabulario técnico en el campo de la ingeniería ayudarían a los futuros egresados a un mejor desempeño en el campo laboral?

Si _____ No _____

2.5 ¿Considera que la lectura de manuales escritos en inglés para el manejo de equipos ayudaría a los futuros egresados a un mejor desempeño en el campo laboral?

Si _____ No _____

INSTRUMENTO C

Dirigido a Alumnos de diferentes grados de la carrera

A continuación se presenta una serie de preguntas con diferentes opciones, de las cuales tú como estudiante debes escoger la respuesta que más se adapte a la realidad, ya que estamos buscando recabar información necesaria para indagar en qué medida es necesario para ti el conocimiento y manejo del idioma inglés dentro de la carrera de ingeniería.

I PARTE

Campo académico

1.1 ¿Tienes conocimientos acerca del inglés?

Si _____ No _____

Cómo describirías tu conocimiento del inglés

Excelente	Aceptable	Regular	Poco	Deficiente

1.2 Especifica la importancia del inglés en los diferentes puntos:

Uso y actividades	Necesario	Medianamente necesario	innecesario
1. Para incrementar tus oportunidades de trabajo			
2. Para visitar países de habla inglesa			
3. Para mantener conversaciones con personas de habla inglesa			
4. Interpretar y extraer información específica de textos y manuales en inglés			
5. Para leer manuales de máquinas			
6. Extraer la idea principal y secundarias de un texto relacionado con tu carrera			
7. Escribir reportes y proyectos en inglés			
8. Escuchar conferencias relacionadas a la carrera de ingeniería			
9. Otro(especifique) -----			

1.3 ¿Cuáles de las siguientes destrezas consideras más necesarias en relación con tu carrera?

habilidades	Necesario	Medianamente necesario	Innecesario
1. Leer en inglés			
2. Escuchar en inglés			
3. Escribir en inglés			
4. Hablar en inglés			

1.4 ¿Algún profesor de otra asignatura emplea material escrito en inglés?
Si _____ No _____

1.5 ¿Aparte del material que utiliza el profesor de inglés consultas algún material adicional en inglés?
Si _____ No _____

1.6 ¿Cuáles actividades consideras más idóneas para el desarrollo de las clases en inglés?
Enuméralas por orden de importancia

a) Lectura de textos	
b) Mapas mentales	
c) Lectura de diagramas	
d) Trabajos escritos	
e) Traducción de manuales	

II PARTE

Campo laboral

2.1 ¿Consideras que el inglés que te han enseñado te será útil para tu futuro como profesional?

Muy útil	Medianamente útil	Inútil