

People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
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**Needs-Based Syllabus Design for the Students of English at
the National Institute of Electricity and Electronics at
M' Hamed Bouguara University, Boumerdes**

**Dissertation Submitted in Fulfillment of the Requirements for
the Degree of Doctorate Es Sciences in Didactics of English as a Foreign Language**

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Academic year: 2019/2020

Dedication

To my family,

My father, and my mother,

My wife, my son, and my three sisters.

Acknowledgements

I would like to acknowledge the assistance, patience, support, and insightful guidance of my supervisors Professor BOUHANIA Bachir and Professor MERBOUH Zouaoui throughout the course of this research study. They equipped me with recommendations and inspiration, as well as with valuable insights through the course of this research work.

I would also extend my special thanks to the members of the board of examiners: professor MELLOUK Mohammed as a chairman and professors OUERRAD Belabbes, LAMRI Chamseddine, and BENSFAFA Abdelkader as examiners for accepting to review, give scientific insights, examine and evaluate this research work.

I would not forget to express my sincere gratitude to the staff and teachers of the National Institute of Electricity and Electronics at M' hamed Bougara University, Boumerdes, as well as to the students of the first year who contributed significantly in the completion of the present dissertation.

I would also wish to thank with deep gratitude all the staff of the University Djillali Liabes, Sidi-Bel-Abbes and mainly the Department of English that gave me the chance to proceed in my higher studies.

Finally, I am indebted to my family, my father and mother, my wife, and my three sisters who gave me great moral support.

List of Abbreviations

CBA: Competency-Based Approach

CLA: Communicative Language Approach

CNP: Communicative Needs Processor

EAP: English for Academic Purposes

EFL: English as a Foreign Language

EGP: English for General Purposes

ELT: English Language Teaching

EOP: English for Occupational Purposes

ESL: English as a Second Language

ESP: English for Specific Purposes

EST: English for Science and Technology

FES: Faculty of Engineering Sciences.

ICTs: Information and Communication Technologies.

INELEC: National Institute of Electronics and Electrical Engineering.

LMD: Licence – Master - Doctorat

LSP: Languages for Specific Purposes

NA: Needs Analysis

PSA: Present Situation Analysis.

SFL: Systemic Functional Linguistics

SQ3R: Survey, Question, Read, Review, Recite.

TSA: Target Situation Analysis.

UMBB: University of M' hamed Bougara, Boumerdes.

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Abstract

The aim of this research work is to describe the initial phase of a needs analysis project which was developed in the context of the National Institute of Electricity and Electronics at M'hamed Bougara University, Boumerdes with the objective of identifying the needs of a target group of learners and introduce a needs-based syllabus design. It attempts also to provide the Algerian National Institute of Electricity and Electronics with a strong theoretical and practical basis for EST teaching/ learning in terms of a needs-based syllabus. It is known that needs analysis is an essential first step for designing appropriate language syllabus to help students acquire knowledge in their academic studies. To determine what students need to achieve through the medium of English, it is imperative to carry out needs analysis. Needs analysis is defined as the process of determining the needs for which a learner or group of learners requires a language and arranging the needs according to priorities. It is the absence of formal needs analysis procedures in ESP syllabus design that drives the researcher to review and revise the current English syllabus and provides modification based on learners' needs. Data was collected by using students' questionnaire that included closed and open-questions and is administered to eighty (80) first year students. Besides, another questionnaire is administered to twenty (20) teachers of English and structured interview for the administration staff in an attempt to gain more meaningful insights and findings into English language teaching/learning situation. The findings of this study revealed the need for the development of a highly specific English for Science and Technology (EST) syllabus with a clear focus on the target discipline, electric and electronic engineering. There was also a call for the provision of English for Specific Purposes (ESP) training that addresses the learners' immediate needs as students and their long-term needs as professionals in the field of science and technology.

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Resumé

ملخص

General Introduction

General introduction

There is no language as influential as English in worldwide trade and global information technology. The status of English as an international language and the growing demand for English for Specific Purposes (ESP) in the technological educational institutions in Algeria have highlighted the need for investigating into various aspects of teaching and learning in the particular context with the aim to optimize learning opportunities regarding the ESP courses provided. The absence of formal needs analysis procedures in ESP syllabus design at the National Institute of Electricity and Electronics at the University of M' hamed Bougara in Boumerdes has provided the stimulus for the design of the study which has been conducted in order to deal with the issue of ESP courses that have not been tailored to the needs of a target group of learners.

The present research work investigates issues of needs-based language course and syllabus design. Essentially, it focuses on the question of how to integrate learners' language needs, identified with the aid of a needs survey, into syllabus content. This can be attained through attempting to translate the results of a needs analysis, that investigated the English language needs of students at the National Institute of Electricity and Electronics (INELEC), the University M' hamed Bougara, Boumerdes, into syllabus design.

Within institutions of higher education in Algeria English language is taught as a separate subject matter in almost all university fields. Hence, teachers resort to design the content of language courses by themselves as administrative authorities do not equip them with syllabi to guide them in what to teach and how. However, in

order to solve this dilemma, a needs analysis can be adopted to design an English syllabus for the first year students at INELEC Boumerdes.

It is considered that since the present syllabus framework has not yielded the desired results and has proved inadequate in addressing the learners' professional and academic needs, the revision of the existing ESP syllabus seems to be a must. In quest of this issue, the role of needs analysis in any ESP syllabus should not be underestimated.

The current study attempts to answer the following key questions:

- 1) What is the present academic English language proficiency of the students of INELEC, Boumerdes?
- 2) What are the INELEC's students English language lacks, wants and needs ?
- 3) How can a needs- based syllabus be designed and conceptualized?

The present study tries to test the following three (3) hypotheses:

- 1) There was a discrepancy between the objectives and outcomes of the existing English language courses at the INELEC Boumerdes, and the English language needs of the ESP students as proved by the academic environment and situations occurring in students' everyday life, as well as the requirements of the labor market.
- 2) If the targeted learners academic and professional needs are taken into account in designing English language syllabus, the teaching and learning objectives will be highly achieved.

3) If students of electricity and electronics at INELEC Boumerdes learn specialized English through an appropriate and well-designed needs-based syllabus, they would gain high communicative proficiency needed in their academic and professional life.

This research work aims at investigating the English language needs of the students at the INELEC, Boumerdes, and attempts to design a needs-based syllabus accordingly. Additionally, the current study seeks to reach the following key objectives:

- 1) To examine the existing English syllabus currently taught at the Algerian National Institute of Electricity and Electronics (INELEC), the University of M'hamed Bougara, Boumerdes (UMBB) to ascertain how far they meet the students' communicative needs.
- 2) To propose modifications and revisions in the existing EST syllabus at the INELEC by adopting a needs-based syllabus.

The significance of the study stems from the following key points:

- 1) It attempts to analyze the present English syllabus of the students of electricity and electronics at INELEC, and to throw lights on its deficiencies.
- 2) This study provides the Algerian National Institute of Electricity and Electronics with a theoretical and practical basis for EST teaching/ learning in terms of a needs-based syllabus.
- 3) This study also provides language teachers with specific language teaching procedures and guidelines that they can use to enhance their students' achievement in English language.

The participants involved in this study are eighty (80) first year electricity and electronics students at the INELEC Boumerdes. It is the students of the first year who are selected as a sample for the study because their first semester is almost entirely taken up with the study of English, during the second semester they spend fifteen (15) hours per week in the English classroom. In addition to the students, of English and seven (7) members of the administration staff are added to the research sampling.

A multi-method approach that involved both quantitative and qualitative research methods is adopted in this research work project. Triangulation of sources and methods (Long, 2005) is also attempted in order to secure the validity and reliability of the research.

Data is collected by using students' questionnaire that included closed and open-questions and is administered to eighty (80) students and twenty (20) teachers respectively . Besides, structured interview targeting seven (7) members of the administration staff in an attempt to gain more meaningful insights and findings into English language teaching/learning situation.

The present study is divided into two main parts, a theoretical and a practical one with a total number of six (06) chapters. The theoretical part overviews the related literature and consists of three (03) chapters; whereas the practical work which describes the field work is composed also of three (03) chapters.

The first chapter revolves around a theoretical framework related to English for Specific Purposes (ESP) and Needs Analysis (NA). It covers ESP appearance, history, definitions and classifications. Then, the researcher emphasizes on one of its most important and relevant to the topic of the study subdivisions, English for Science and Technology (EST). After that, ESP is contrasted with General English (GE).

Additionally, a central focus is given to needs analysis. Various definitions of the concept are tackled meanwhile the different approaches and models of needs analysis are deeply discussed. And the importance of needs analysis to syllabus and course design takes a sufficient space of debate in the chapter.

The second chapter sheds light on the issue of syllabus design. This chapter gives a detailed description of syllabus and syllabus design, analyzes the importance of needs analysis to syllabus design, and the syllabus design based on needs analysis. Besides, the definitions as well as the differences between the concepts of course, syllabus and curriculum will be presented and clarified. The different kinds of syllabuses will be also presented. Then, the requirements for syllabus design, mainly establishing realistic goals as guidelines and roadmap, and surveying the existing syllabus through revising its limitations aiming at curing its deficiencies or to provide a sort of improvement to them are dealt with. At the end of this chapter, approaches and methods in English language teaching in addition to the role of ESP practitioners and subject specialists, the role of ESP learners, and considerations in designing ESP materials are focused on.

Chapter three is concerned with situation analysis. The introduction to the LMD system as a world higher education reform in the Algerian context, and the main factors favoring the emergence of such a reform are discussed. Then, the ESP situation at the level of the Department of Electronics and the Department of Electricity at the National Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes is presented, covering the status of ESP courses in those departments as well as their teaching load. The current traditions of teaching English at the National Institute of Electricity and Electronics (INELEC) at M'hamed Bougara University in Boumerdes are reviewed and described. The English syllabus

adopted by the faculty authorities is measured and evaluated. Its limitations are highlighted and presented.

The fourth chapter is dedicated to the research methodology and data analysis and interpretation. It unfolds the research aims and presents the main steps and instruments used in the investigation in addition to the analysis procedures. That is, it presents the research design, the informants and research tools used to carry out this research and gather data. The tools of gathering data- students' needs analysis questionnaire, teachers' semi-structured interview, and administrative staff structured-interview- are described, piloted and analyzed. Then, the data collected in each setting, and by each of the three (03) early-mentioned instruments are presented, analyzed and discussed. Accordingly, clear conclusions are derived from the findings' discussion that give the researcher a clear idea about the type of re-adaptation that should be brought to the EST syllabus at the National Institute of Electricity and Electronics (INELEC), the University of Boumerdes.

In the fifth chapter, suggestions and recommendations based on the results are presented and put in the hands of the faculty authorities. It recommends a number of procedures that should be taken to better the English syllabus based on the students' needs, and reflects both teachers and administration expectations. Moreover, a broad-lines scenario for a needs-based syllabus is suggested to be a model for EST teaching and learning in the EST settings across the country's universities.

Chapter one: English for Specific Purposes and Needs

Analysis

Chapter one: English for Specific Purposes and Needs Analysis

1.1 Introduction

This chapter is concerned in the first place with reviewing the literature related to English for Specific Purposes or in short (ESP) with emphasis on four (04) elements. The first part sheds light on the history of ESP, its origins and developments over time. The second part discusses the different definitions of ESP from the point of view of different linguists. The third part is devoted to the subcategories of ESP with a focus on English for Science and Technology (EST) as electricity and electronics constitute a part of EST. Finally, the last part deals with the characteristics of ESP courses.

In the second place, this chapter focuses on needs analysis which is the central issue of this study. Needs analysis was first introduced into language teaching through the English for Specific Purposes movement. Hutchinson and Waters define ESP as an approach to language teaching, course design and materials development in which all decisions as to content and method are based on learners reason for learning (Hutchinson and Waters 1987: 19).

By the 1980s, in many parts of the world a "needs-based movement" emerged in language teaching mainly in relation to ESP and vocationally oriented program design.

In this needs-based philosophy, learners are seen to have different needs and interests which had an important influence on their motivation to learn and therefore on the effectiveness of their learning. This led to the support of the development of the courses in which relevance to learners needs and interests are of great importance.

1.2 ESP: Historical Perspectives

The history of ESP, on when it emerged, has been the subject of much discussion and many viewpoints have been dealt with in the literature written on ESP. Some English language teaching practitioners consider it as an old subject, others consider it as a recent one.

Strevens (1977 b) notes that the beginning of ESP goes back to forty (40) years when the first phrase books for foreign tourists have been written. However, Swales (1985: 79) does not think that the history of ESP is as old as it is described: "ESP is a relatively recent development in the major worldwide industry of teaching English as a second or foreign language; indeed, nobody has yet retired from spending a professional lifetime working within it". From the above citation, one can understand that Swales refers the history of ESP only to the last few decades. He considers the article "Some Measurable Characteristics of Modern Scientific Prose" (Barber, 1962) as the most remarkable indication of the beginning of ESP.

Widdowson, on the other hand, does not consider ESP as a recent branch in English language teaching, he states:

The recognition of the importance of relating the teaching of language to the particular needs of the students is not as recent as might be supposed by the aura of revelation which surrounds some writing on ESP (Widdowson 1983: 14).

It is clear that the above quotations state that the exact history of ESP is still controversial. Meanwhile, it can be noticed that the major developments of ESP have taken place in the previous three (03) decades.

As with most developments in human activity, ESP was not a planned and coherent movement, but rather a phenomenon that grew out of a number of converging trends. These trends have operated in a variety of ways around the world.

Hutchinson and Waters (1987) identified three (03) main reasons contributing to the emergence of ESP: (1) the demands for "a brave new world", (2) a revolution in linguistics, and (3) an increased focus on the learner.

Since the end of the Second World War in 1945, English has become the worldwide language of technology and international commerce. Hence, this have paved the way to the emergence of a new generation of learners who feel that learning English is a top priority need to satisfy the demands of the commercially interconnected modern world. Additionally, the growth of English courses oriented towards specific needs and language demands shifted the focus away from analyzing the formal structures of language to investigating the ways in which language is actually used in real communication. Besides, new insights brought from educational psychology also contributed to the development of ESP. Instead of viewing learners as blank slates to be filled, learners were seen to have different needs and interests. This new dimension gained from educational psychology had a critical influence on their motivation and thereby resulted in the need for different approaches to achieve maximum effectiveness in their learning (Hutchinson & Waters, 1987).

Dudley-Evans and St John (1988) provide another historical perspective on ESP developments. They examined closely the interaction between applied linguistics; English language teaching (ELT), and the ESP from the 1960s to the 1990s. They traced four (04) factors contributing to the development of ESP: (1) the balance between research and practice, (2) trends in English for Academic Purposes

(EAP), (3) authenticity of text and authenticity of purpose, and (4) trends in English for occupational purposes (EOP). All these factors were greatly influenced by developments in education, business and computer technology.

Orr (2008) identifies three (03) phases of ESP development. He names them as First Generation ESP (First Gen ESP), Second Generation ESP (Second Gen ESP), and Next Generation ESP (Next Gen ESP). By First Gen ESP, Orr refers to the middle of the twentieth century, after World War II. This era was featured by English language education for academic and occupational purposes which started when a huge numbers of non native English speakers immigrated to English speaking countries and who felt they needed to learn English in order to have opportunities for higher education and better employment.

The Second Gen ESP began in the second half of the twentieth century and still extends to these days. It is characterized by needs assessment, purpose-driven English language instruction, publishing, professional events and a growth in the number of language educators identifying themselves as ESP professionals.

Orr notes that Next Gen ESP began in the 1990s onwards. In this period, the development of ESP lay in rapid changes in technology, economics, and culture. Next Gen ESP is characterized by (1) changes in ESP location, moving ESP training out of English departments to locations that can best meet the needs of learners; (2) changes in ESP staff, including staff with degrees not only in applied linguistics but also other professional fields to fulfill the requirements set by the language staff; (3) changes in ESP content, changing from content designed for general language teaching to materials for specialists who need high levels of discipline-specific understanding;

and (4) changes in ESP delivery, delivering materials not only through human beings but also technology.

The areas of theoretical development and interest in ESP teaching and learning, relating to the two main branches of ESP: EST and non-EST seem to include an interest in register analysis, discourse analysis, the specification of students' needs and wants, skills, or in various methodological approaches to the development of communication competence (Flowerdew, 1990).

The analysis of the students' language needs has been considered as one of the most essential prerequisite of an ESP course design and material preparations by course designers and practitioners of ESP (Arden-Close, 1993; Johns, 1981; Johns and Dudley-Evans, 1991; Mackay and Mountford, 1978; Robertson, 1983; Swales, 1985; Weddel and Van Duzer, 1997) (Cited in Ghedeir, 2014:23)

Weddel and Van Duzer (1997) state that needs assessment must be appropriate to the student or the group of students to be taught in an English program. Needs analysis can take different forms, e.g. survey questionnaires which is adopted in this study, observations and case studies, etc, and can be conducted at different times during the instructional process. An assessment of students' language needs is used to determine what the students' needs and wants are during their English course(s) and what they expect to obtain from the English program delivered.

1.3 Definitions of ESP

The term 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). (In Ghedeir, 2014:22)

There are a number of definitions that describe ESP and, to some extent, these definitions are different. In fact, the concept of ESP is not as clear as it seems. This may be due to the nature of the concept which is fluid enough to support many interpretations.

Munby (1978) defines ESP in relation to the ESP courses based on the analysis of the students' language needs, from this angle, he defines ESP as follows:

Those where the syllabus and materials are determined in all essentials by the prior analysis of the communication needs of the learner, rather than by non-learner centered criteria such as the teacher's or institution's predetermined preference for general English or for treating English as part of general education.

After detailed discussion, Robinson defines ESP course by stating that:

An ESP course is purposeful and is aimed at the successful performance of occupational or educational roles. It is based on a rigorous analysis of students' needs and should be tailor-made (1980: 13).

The two definitions stress on learners' needs since learners represent the most important element in the process of teaching ESP, and insist on the specific purposes of the learners if courses are intended to be as close as possible to the students' target situation.

The interpretation of the expression "learner need" deals with two different aspects of needs referring to (1) what the learner needs to do with the language once he or she has learned it; it is a goal-oriented definition of needs related 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 relates to 'transitional behavior', the means of learning. In ESP, the ends of learning are as important as the means (Hutchinson and Waters, 1987; Mc Donough, 1984; Robinson, 1991). Accordingly, ESP is meant "the teaching of English, not as an end in itself, but as an essential means to a clearly identifiable goal" (Mackay 1987: 29).

Stevens (1988: 63-64) formulates a definition of ESP that makes a distinction between four (04) absolute characteristics and two (02) variable characteristics. The absolute characteristics are that ESP consists of English Language Teaching (ELT), which is:

- (1) Designed to meet specified needs of the learners;
- (2) Related in content (that it is in its themes and topics) to particular disciplines, occupations, and activities;
- (3) Centered on language appropriate to those activities in syntax, lexis, discourse, semantics, and discourse analysis;
- (4) In contrast with General English.

The variable characteristics are that ESP:

- (1) May be restricted as to the learning skills to be learned (for example, reading only);
- (2) May not be taught according to any pre-ordained methodology.

Dudley-Evans and St John (1998: 25) give another definition to ESP. This definition is clearly influenced by that of Stevens (1988) and they have included more variable characteristics. They also use absolute and variable characteristics of ESP as Stevens (1988) focus on defining ESP.

Absolute characteristics:

- (1) ESP is designed to meet specific needs of the learners;
- (2) ESP makes use of the underlying methodology and activities of the disciplines it serves;
- (3) ESP is centered on the language (grammar, lexis, register), skills, discourse and genres appropriate to those activities.

Variable characteristics:

- (1) ESP may be related to or designed for specific disciplines;
- (2) ESP may use, in specific teaching situations, a different methodology from that of General English (GE);
- (3) ESP is likely to be designed for adult learners, either in tertiary education institutions or in a professional work situation. It could, however, be used for learners at the secondary school level;
- (4) ESP is generally designed for intermediate or advanced level students but it can be used with beginners. Most ESP courses assume basic knowledge of the language system.

In the same context, Douglas (2000) focused on the integration of both language skills and language components for teaching/learning and testing the target specific language ability of a learner. A teacher needs to comply with his/her learners' needs but again the language basic components and skills must be involved whatever the needs of the learners are.

One more definition to ESP is given by Ruiz-Garrido, Palmer-Silveira and Fortanet-Gomez (2010) who maintain that:

Specialized languages usually refer to the specific discourse used by professionals and specialists to communicate and transfer information and knowledge. There are as many specialized languages as there are professions. This what has usually been known as language for specific purposes or when applied to English, English for Specific Purposes (ESP), i.e., the special discourse used in specific settings by people sharing common purposes (p. 2).

Bankson (1996) defines ESP as "a branch of English as a second language (ESL). It is an approach to language teaching not as a product of language teaching" (p. 2). According to him:

ESP courses are designed to concentrate on the identified language needs, skill needs and interests of a particular group of ESL learners [...] the language becomes not the sole object of study [...] it is the medium through which specific topics are mastered while building English skills (Bankson 1996: 2).

Heredia (2000) states that ESP is a branch of teaching English as a second language according to the needs of the learners. Meanwhile, the syllabus must address the specific needs of the learners.

Jeong (2001) claims that what distinguishes ESP from General English is not the existence of a need, but rather an awareness of the need (p. 2). He adds that an ESP course is characterized by its content namely science, medicine, commerce, tourism, etc, (ibid).

In addition to what has been mentioned above about ESP, Tharp-Wiesauer (2002) adds that:

The needs of the learners may be assessed at many levels and functions including fluency, learning styles, occupation, and how the target language will be used [...] the ESP curriculum is then designed to best fit the learners (p. 2).

To conclude, the term ESP has thus been used by different scholars to mean different things. Nevertheless, the claims for ESP normally have in common 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 language (Hutchinson and Waters, 1984, 1987; La Perla, 1984; Mackay, 1987; Mc Donough, 1984; Strevens, 1977; Swales, 1985).

1.4 Subcategories of ESP

It is worth mentioning at this stage that ESP is a sort of an umbrella term which includes many other branches in English Language Teaching (ELT). ESP has traditionally been divided into two main branches: English for Academic Purposes (EAP), and English for Occupational Purposes (EOP) (Dudley-Evans and St John, 1998; Hutchinson and Waters, 1987; Munby, 1978; Robinson, 1991; Strevens, 1988) and within the framework of each of these, many other subdivisions have come into existence; as such English for Science and Technology (EST) which is the central type that takes much space and discussion in this research work due to the nature of this study.

1.4.1 English for Academic Purposes (EAP)

English for Academic Purposes (EAP) is a movement within the framework of ESP which emerged in the 1970s. It was in 1974 when the term EAP was used for the

first time (Jordan 1997: 1). In this context, Dudley-Evans and St John (1998: 34) mention that EAP refers to any English teaching that relates to study purposes. It is concerned with those communication skills in English which are required for study purposes in formal education system.

Additionally, Kennedy et al (1984: 4) state that EAP is taught generally within educational institutions to students reading English in their studies. The EAP course may cover the teaching of specific skills such as: analyzing experiments, reading texts, writing reports and so forth for students at university level (Ghedeir 2014: 28).

1.4.2 English for occupational Purposes (EOP)

English for Occupational Purposes (EOP) refers to the English which is used or learnt in the domain of professional purposes, e.g., those for practicing doctors, engineers, business people, administration, banking, etc. Kennedy et al (1984: 4) argue that EOP is taught in a situation in which learners need to use English as part of their work profession.

Another definition of EOP is provided by Dudley-Evans et al (1998: 7) in the following terms:

The term EOP refers to English that is not for academic purposes, it includes professional purposes in administration, medicine, law and business and vocational purposes for non-professionals in work or pre-study work.

1.4.3 English for Science and Technology (EST)

The third category of ESP is English for Science and Technology–(EST), which is the focus of this research work as electronic and electricity studies are branches of science and technology education. There was a debate among ESP

researchers (Mc Donough, 1984; Hutchinson and Waters, 1987; Dudley-Evans and St John, 1998) as to whether EST is an independent branch from EAP under the framework of ESP or a subdivision from EAP (Ghedeir 2014: 29).

The investigator may say that the dominant position of English is strengthened with the development of world economy and technology as well as the widespread use of computers and the internet. In this framework, Robert Phillipson (1992: 06) asserts that English has a dominant position in science, technology, medicine, and computers; in research, books, periodicals, and software, in transitional business, trade, shipping, and aviation; in diplomacy and international organizations; in mass media entertainment, news agencies, and journalism; in youth culture and sport; in education system, as the most widely learnt foreign language.

In an attempt to define EST, Widdowson (1979) states that it is best considered not a separate operation but a development from alternative realization of what has already been learned of existing knowledge. Thus, a knowledge of EST can be derived from what the student knows of science and the functioning of his own language in association with what he learnt of English usage.

To clarify the above statement, EST learners have a specific knowledge of science together with some English language knowledge.

Hutchinson and Waters (1987) share Widdowson's point of view on EST. They argue that the knowledge that science and technology students possess should be used as a base for target language learning.

In the same vein, Kennedy et al (1984: 6) mention that the term EST presupposes a stock of vocabulary items, grammatical forms, and functions which are common to the study of science and technology.

In contrast to the other ESP sub-branches, Swales (1985) argues that EST is the most traditional. He classifies three (03) categories under EST:

- (1) The first category deals with the level of education in which EST is taught whether secondary schools or universities;
- (2) The second category concerns the subject matter in which English is used: for example, English for general science, biology, physics, electricity and electronics, and so forth;
- (3) The third kind deals with types of activities involved in EST course as reading, writing, attending seminars, etc. (Swales 1985: 49).

According to Swales, EST falls into the teaching of English for Academic Purposes (EAP) and it includes two (02) main subcategories: 'science' and 'engineering and technology'.

In brief, EST is simply an important branch of ESP dealing with the scientific content, and as the present study is oriented towards needs analysis and syllabus design for electricity and electronics students, it can be put under the umbrella of EST.

One notes that ESP is a main branch of English as a Foreign Language (EFL), a major type of English Language Teaching (ELT), and it comprises two (02) major subcategories: EST and Non-EST (other than EST).

The latter has two (02) main subdivisions: EST and EAP. According to him, EOP has been divided into two (02) main sub-branches: EPP (English for Professional Purposes) and EVP (English for Vocational Purposes); EAP has its own two (02) main fields too: EST and fields other than EST.

1.5 ESP vs. EGP: Distinctive Features

There are some major factors that distinguish English for Specific Purposes (ESP) from English for General Purposes (EGP). Mountford and Mackay (1978) mention that when EFL is taught to children at primary and secondary levels of education, it is generally taught with general education aims in mind. That is, the fact that ESP was associated with needs analysis that aims to determine exactly what learners need to learn English for does not mean that general English has no teaching aims.

Anthony (1997) notes that it is not clear where EGP courses end and ESP courses begin. Many non-specialist ESP teachers use an EGP approach as their courses are not based on the analysis of learners' needs and their own personal specialist knowledge of using English for real communication. This is partly the case in teaching English at the Departments of Electricity and Electronics at the National Institute of Electricity and Electronics at M' hamed Bouguara University, Boumerdes.

The learners and their purposes for learning English constitute the major difference between ESP and EGP. In this context, Strevens (1988) argues that ESP differs from general English in that it is based on a close analysis of the learners' communicative needs for a specific occupation or activity, as well as a detailed analysis of the language of that occupation or activity.

In ESP course, it is needs analysis that determines which language skills are useful for the learners to be able to achieve certain academic and professional tasks. ESP courses are centered on the context. The English language is taught as a subject related to the learners' real needs, wants, and wishes in a particular academic or professional field.

ESP learners are usually adults who are familiar with the English language. They are learning English in order to communicate professional and academic information, and to perform some particular academic, professional or scientific functions. The ESP learners are highly motivated as they are aware of their specific purposes for learning English (Chris, 1992).

The above view is supported by Hutchinson and Waters (1987: 53) who say: "what distinguishes ESP from General English is not the existence of a need as such but rather an awareness of a need".

Widdowson (1983) establishes distinctive features of ESP and EGP. According to him, the most important EGP features are:

- (1) The focus is often on educational operation which seeks to provide learners with a general capacity to enable them to cope with undefined eventualities in the future;
- (2) As the learners' future needs are impossible to predict, the course content is difficult to select;
- (3) Due to the above point, it is important for the content in the syllabus to have a high surrender value. (Widdowson 1983: 92)

From Widdowson's point of view, the most relevant ESP features are:

- (1) The focus is on training operation which seeks to provide learners with restricted competence to enable them to cope with certain clearly defined tasks;
- (2) As English is intended to be used in specific academic and professional contexts, the selection of appropriate content is easier;
- (3) It is important for the content in the syllabus to have a high surrender value, most relevant to the specialty and academic or professional context;
- (4) The aim may be to create a restricted English competence.

1.6 The Development of ESP

In this section, a brief overview of the different phases of development undergone by the ESP and EST movement since its beginnings will be provided. In this sense, it should be noted that ESP witnesses different stages of development in its path. Hutchinson and Waters (1987) identified various stages of evolution where they linked each stage to a particular activity that has a relation with the term 'special languages'. In this section the focus will be on the description of the language in ESP. The terms register analysis, discourse analysis, the target situation analysis, authenticity, and a learning centered approach and genre analysis will be discussed:

1.6.1 Register Analysis

This first approach took place mainly in the 1960s and early 1970s and was linked with the works of Peter Strevens (1988) and John Swales (1985). The driving force behind the emergence of register analysis was the pedagogic one of making ESP syllabus/course more relevant to learners' needs (Hutchinson and Waters, 1987).

Language varies according to the different people who speak that language and in accordance with the different purposes to which it is put. Researchers in the field of ESP and applied linguistics (Hutchinson and Waters, Dudley-Evans and St

John) put the reason that as there is variation in language, there must be distinct varieties of particular languages; one is linked with the users and this is named dialect; while the second is associated with different uses, and register.

Before going deep in the discussion, one feels the need to define the notion 'register'. In his Dictionary of Linguistics and Phonetics, Crystal (1991: 295) defines register as " a variety of language defined according to its use in social situations, e.g. a register of scientific, religious, formal English". Another defining vision to the term is Spolsky's (1998: 34), who says:

"Register is a variety of language most likely to be used in a specific situation and with particular roles statuses involved. Examples might be a toast at a wedding, sports broadcast or talking to a baby. A register is marked by choices of vocabulary and other aspects of style".

Registers are what Widdowson (1979) called types of text. Hence, English for science and technology and its various subdivisions are represented as distinct registers that can be characterized in terms of how the language system is manifested.

Register analysis, also named 'lexico-statistics' by Swales (1985) and 'Frequency analysis' by Robison (1991) focused on the grammar and structural and non-structural vocabulary. According to Dudley-Evans and St John (1998) while the grammar of scientific and technical writing does not differ from that of general English, certain grammatical and lexical forms are used more frequently.

Register analysis phase has been criticized for being only descriptive, not explanatory. In this context, Robinson (1991: 24) notes that the two approaches must be combined in such a way that the description leads to the explanation and the

explanation is backed up by the descriptive data. It should be mentioned, here, that register analysis was sentence-based and form-focused and this, from a pedagogical angle, did not encourage learners to view their specialist English as a vehicle for communication. What is stated as criticism to register analysis can be summarized in Widdowson's words (1979: 55-56):

"The fact that scientific English exhibits a relatively high proportion of certain syntactic features and a relatively low proportion of others may be useful for identifying scientific English texts should we ever want to do such a thing. [...] But this approach cannot reveal the communicative character of what was written. It cannot of its nature deal with discourse".

1.6.2 Discourse Analysis

Register analysis as a research procedure was rapidly overtaken by developments in the world of linguistics. Since register analysis operated entirely at word and sentence level, the second phase of development shifted attention to the level above the sentence and tried to find out how sentences were combined into discourse (Hutchinson and Waters, 1987). Also, West (1998) asserts that the reaction against register analysis in the 1970s focused on the communicative values of discourse rather than the lexical and grammatical properties of register. According to Hutchinson and Waters (1987) ESP at this phase became closely involved with the emerging field of discourse or rhetorical analysis where the organization of sentences to form discourse is the core of this approach.

As discourse analysis is a key concept in the field of ESP and ELT, it is important to afford an appropriate definition to the term. In this framework, Dudley-Evans and St John (1998: 87) define discourse analysis as:

"Any study of language or, more specifically, text at a level above that of the sentence is a discourse study. This may involve the study of cohesive links between sentences, of paragraph structure, or the structure of the whole text. The results of this type of analysis make statements about how texts – any texts work".

Discourse analysis is, then, the way sentences are combined together to perform an act of communication.

It is assumed that "discourse" is the basis of discourse competence. Discourse originated from the Latin word 'discursus' meaning "conversation", "talk" but nowadays it is more often interpreted in different languages as "speech", "linguistic performance", "method of talking".

The meaning of discourse has changed during some decades. During the 1960s and 1970s, the term was referred to as a connected sequence of sentences or speech acts and, here, it correlates with the notion 'text'. It is also defined as a complex communicative phenomenon which involves apart from the text some extra linguistic factors which are important for the comprehension of the text (Karaulov and Petrov, 2015: 8).

The notion "discourse" plays a crucial role in the sphere of foreign language learning theory where the practice and theory of language teaching has been text-oriented.

However, the notion discourse sometimes is replaced by the term text. Thus, one should state the boundaries between both notions. It is considered expedient to correlate the notions 'discourse' and 'text'. Linguists remark that 'text' as a language

material does not always correspond to discourse. Here, one should emphasize that 'discourse' represents the language as a process with regard to extra linguistic factors in the act of communication and as a result in the form of a text. "Discourse is a text supplemented with events and facts" (Arutyunova, 1990: 136-137).

Another definition to the notion 'discourse' views it as a text and situation joined in one structure. Discourse is dynamic and actual whereas text is static, structured, simulated.

The pioneers in the field of discourse analysis, as cited by Robinson (1991), are H. Widdowson; L. Selinker; L. John; L. Selinker and M. Todd Trimble. Robinson advocates that "the focus was on the text rather than on the sentence, and on the writer's purpose rather than on the form" (1991: 24).

As far as ESP is concerned, Widdowson argued for a program of research on scientific English that should not be considered a variety of English defined in terms of its formal properties but as a kind of discourse – a way of using English to realize universal notions associated with scientific enquiry. Therefore, his reaction against register analysis approach focused on the communicative values of discourse instead of the lexical and grammatical properties of register. In this vein, Widdowson and Allen say:

"The first ability is to recognize how sentences are used in the performance of acts of communication, the ability to understand the rhetorical functioning of language in use. The second is the ability to recognize and manipulate the formal devices which are used to combine sentences to create continuous passages of prose. We might say that the first has to do with coherence of discourse, the second with the grammatical cohesion of text" (1974: 2).

In practice, discourse analysis approach tended to concentrate on how sentences are used in the performance of acts of communication and to generate materials based on functions – definitions, description of experiments, inductive and deductive statements, instructions, etc.

In this context, Hutchinson and Waters (1987) maintain that text-diagramming exercises constitute a means for teaching students to recognize textual patterns and discourse markers. As an example, they have mentioned English in Focus Series (OUP). Another example of discourse analysis is the Nucleus Series cited by Dudley-Evans and St John (1998).

One of the shortcomings of discourse analysis is that its treatment remains fragmentary, identifying the functional units of which discourse is composed at sentence/utterance level but offering limited guidance on how functions and sentences/utterances fit together to form text (West, 1998). There is also the danger that the results of discourse analysis fail to take sufficient account of the academic or business context in which communication takes place (Dudley-Evans and St John, 1998).

1.6.3 Genre Analysis

A much more promising approach to a theory of ESP comes from the analysis of ESP texts through genre analysis.

Discourse analysis may overlap with genre analysis. Dudley-Evans and St John show the distinction between the two notions:

"Any study of language or, more specifically, text at a level above that of a sentence is a discourse study. This may involve the study of

cohesive links between sentences, of paragraphs, or the structure of the whole text. The results of this type of analysis make statements about how texts –any text- work. This is applied discourse analysis. Where, however, the focus of text analysis is on the regularities of structures that distinguish one type of text from another, this is genre analysis and the results focus on the differences between text types, or genres" (1998: 87).

The term 'genre' was first used by Swales (1981, Quoted in Robinson, 1991). He defined 'genre' as "a more or less standardized communicative event with a goal or set of goals mutually understood by the participants in that event and occurring within a functional rather than a personal or social setting" (Swales, 1981: 10-11, quoted in Robinson, 1991).

According to a renown author (Vijay K. Bhatia, 1993), genre analysis is the study of situated linguistic behavior in institutionalized academic or professional settings. According to him, genre analysis has the following features:

(1) Genre analysis shows a genuine interest in the use of language to achieve communicative goals. In this sense, it is not an extension of linguistic formalism.

(2) But, genre analysis does not represent a static description of language use, instead, it gives a dynamic explanation of the way expert users of language manipulate generic conventions to achieve a variety of complex goals. In this sense, it combines the advantages of sociolinguistics perspective, especially the use of ethnographic information, with those of cognitive perspective, especially regarding the tactical use of language.

(3) It is narrow in focus but wide in vision, focusing on specific differentiation in language use at various levels of generality.

(4) Genre analysis is primarily motivated by applied linguistic concerns, especially language teaching at various levels. (Bhatia 1993: 22)

English for Specific Purposes focuses on studying and teaching specialized varieties of English in advanced academic and professional settings. ESP is often used as an umbrella term to include more specialized areas of study such as English for science and technology (EST). It is largely due to Swales' work (his book *Genre Analysis: English in Academic and Research Settings*) and the research it has inspired over the last twenty years that ESP and genre analysis have become in different ways synonymous.

One way of making a distinction between 'genre' and 'text type' is to say that the former is based on external and non-linguistic criteria while the latter is based on the internal, linguistic characteristics of texts themselves (Biber, 1988: 70,170). In this view, a genre is defined as a category assigned on the basis of external criteria such as intended audience, purpose, and activity type; that is, it refers to a conventional, culturally recognized grouping of texts based on properties other than lexical or grammatical occurrence features, which are, instead, the internal linguistic criteria forming the basis of 'text type' categories. Biber says about the external criteria: "Genre categories are determined on the basis of external criteria relating to the speaker's purpose and topic; they are assigned on the basis of use rather than on the basis of form" (1988: 170).

Genre theory provides a means for practitioners to learn specific characteristics about writing within a discipline and to be aware of the linguistic and

rhetorical skills necessary to communicate successfully in the discipline. Empirical studies that analyze genre within the framework of activity theory have shown the need for familiarity with the genres used by a certain community to become a member of that community. Simply speaking, genres are instruments that members of a community use to share information, mediate social activities, and respond to the communicative needs of the community.

In the same context, genre researchers can improve understanding of technical communication practice by analyzing the organizational and social context in which writing takes place by studying genres in relation to the activity system of a community, and by exploring the linguistic and rhetorical features of the repertoire of genres used by the community. Hence, genre analysis is a useful analytical category for researchers of technical communication (Paltridge, 1995: 293-296).

It should be noted that genre – based studies have implications for the teaching of communication related to science and technology fields. Recent researches have shown that although it is beneficial to help students become aware of the textual regularities of a genre, this is not enough. As these textual regularities are determined by the social actions that are performed through language in response to recurring rhetorical situations, it is necessary in teaching to emphasize the social context of workplace documents. Therefore, assignments in science and technology courses should ask students to use language in real situations related to their discipline.

Genre theory is, therefore, highly significant for science and technology teachers because by using genre-based pedagogy in their classes, they can empower their students to succeed as members of a community of practice. Another pedagogical implication of current genre theory is the need to teach genres of a

discourse community as dynamic forms that can be manipulated to respond to new real situations. This can be achieved only if the features of the genre are presented as a response to a specific situation or context (Paltridge, 1996: 440-242).

ESP' s expanded interest from descriptive analyses of linguistic features to analyses of genres and their communicative functions not only helps distinguish ESP research from corpus linguistics, but also reveals similarities and distinctions between ESP genre analyses and Systemic Functional Linguistics (SFL) genre analyses (Kennedy, 1998).

This is done even if learners already equipped with reasonable adequate competence in the use of the language for general everyday functions will still need to develop the following (Crombie, 1985: 36):

- (1) Understanding of the specialist code.
- (2) Familiarity with the dynamics of specialist genres that include rhetorical forms and contents.
- (3) Specific contexts they respond to and the conventions they tend to use in their responses.
- (4) Proficiency in the manipulation of specialist genres to respond to the exigencies of unfamiliar and novel situations.

To explain, learners need to develop the understanding of code, the acquisition of genre knowledge associated with the specialist culture, sensitivity to cognitive structuring of specialist genres, and then they can hope to exploit generic knowledge of a repertoire of specialist genres by becoming informed users of the discourse of their chosen field. Thus, learners must acquaint themselves with the communicative

goal-oriented purposes associated with specific use of genres. They need to become aware of appropriate rhetorical procedures and conventions typically associated with the specialist discourse community that they are aspiring to join.

The intent is to help the learner to use language more effectively in academic and professional settings and to bring much-needed psychological reality and relevance to the learning task. The approach to genre analysis and materials design seeks to clarify rather than prescribe. Once learned and adequately understood, the conventions and procedures can be exploited creatively to achieve private ends within the socially recognized communicative purposes (Bhatia, 1993).

1.6.4 Target Situation Analysis

In this phase of ESP development, ESP shifted attention to the communicative approach which main focus is to enable learners to function adequately in their target situation. Hutchinson and Waters (1987: 12) define target situation as: "the situation in which the learners will use the language they are learning".

At Target Situation Analysis (TSA) stage, ESP syllabus and course design according to Hutchinson and Waters (1987: 58-59) should proceed by:

(1) Identifying the target situation; (2) carrying out a rigorous analysis of the linguistic features of that situation; (3) the identified features will form the syllabus of the ESP course .

As the purpose of an ESP course is to enable learners to function appropriately in a target situation, then the ESP syllabus and course design process should proceed by following the three (03) stages stated by Hutchinson and Waters (1987) mentioned above. This process is usually known as needs analysis. However, Chamber's (1980:

29) term target situation analysis (TSA) is a more accurate description of the process concerned. He states:

"By the language I mean the language of the target situation. Thus, needs analysis should be concerned with the establishment of communicative needs and their realizations, resulting from an analysis of the communication in the target situation – what I will refer to as target situation analysis (TSA)".

In the framework of target situation, the ESP syllabus and course designer is asking the following question "What does the expert communicator need to know in order to function effectively in this situation?" The derived answers may be recorded and translated in terms of language items, skills, strategies, subject knowledge, etc.

In his work, *Communicative Syllabus Design* (1978), Munby introduced a highly detailed set of procedures for discovering target situation needs. He names this set of procedures the Communicative Needs Processor (CNP). This CNP consists of a range of questions about key communication variables as topic, participants, medium that can be used to investigate the target language needs of any group of learners.

In Munby's CNP, the target needs and target level performance are established by investigating the target situation, and his overall model clearly establishes the place of needs analysis as central to ESP. Munby's model produces a detailed profile of the learners' needs in terms of communication aims, communicative setting, the means of communication, language skills, functions, structures, etc.

Target situation analysis, however, has been widely criticized for its overfullness in design and for what it fails to take into account. In declaring that all except target situation considerations were "irrelevant to the specification of what the learner

needs the target language for" (Munby, 1977: 07). He excluded logistical, psycho-pedagogic and methodological considerations among others.

In order to counter the shortcomings of target situation needs analysis, a variety of forms of learning needs have been identified to give more information about the learner and the educational environment. These forms of needs should be seen as complementing the target situation needs analysis and each other, rather than being alternatives:

- **Deficiency analysis:** this gives us information about what the learners' learning needs are, i.e. which of their target situation needs they lack or feel they lack.
- **Strategy analysis:** this seeks to establish how learners wish to learn rather than what they need to learn. By investigating learners' preferred learning styles and strategies we "get a picture of the learners' conception of learning" (Allwright, 1982: 28).
- **Means analysis:** means analysis identifies precisely those considerations that Munby excluded. These relate to the educational environment in which the ESP syllabus or course is to take place, as classroom culture, ESP staff profiles, etc.

It is believed that needs analysis is a complex process. It involves much more than looking at what the learners will have to do in the target situation. Both target situation needs and learning needs should be taken into account.

1.6.5 Learning Centered Approach

In the fifth stage of the ESP development, it has rather shifted attention to the learner who is the corner stone in the ESP teaching/learning process whose needs, wants, and lacks should be taken into consideration in the process of syllabus design

that should suit and fulfill precise purposes for the learner's present situation and for his future job.

In ESP context, students should be provided individual learning atmosphere to get communicative skills for their academic and occupational purposes. The trend of learner-centered teaching is considered as an important strategy by second language teaching researchers and teachers. This new view encourages learners to make plans and choose what to learn according to their needs and interests. In learning centered approach individual ability can be well motivated.

An ESP learner-centered instruction starts with needs analysis of the learners, followed by formulation of aims and objectives, content, selection of teaching materials, assessment and evaluation. This process has an on-going nature where the teacher inserts necessary changes to meet students' needs and wants even when the ESP course/syllabus is in progress.

The impact of learner-centeredness in ELT was evident with the development of communicative approaches that shifted attention of the teaching/learning processes from language form to language function, in other words, to language use in accordance with the needs of learners. This change in the approach to language teaching is, as noted by Nunan (1988: 179), "an offspring of communicative language learning" that requires learners to participate and negotiate actively in meaningful interaction in order to interpret and construct meaning by themselves.

Dudley-Evans and St John (1998) offer a more comprehensive characterization of ESP since language teaching is designed to meet the specific needs of the learners by adopting effective teaching methodologies and teaching activities. In this sense, Dudley-Evans and St John (1998: 26) argue that:

"The concept of a learning-centered approach is outlined. This involves considering the process of learning and student motivation very fully and working out exactly what is needed to enable students to reach the end target".

They offer a useful definition of learner-centered approach. They state that learner-centered learning gives learners greater autonomy and control over choice of subject matter, learning methods, and pace of study. This trend in ELT is a sort of perspective that couples a focus on individual learner's heredity, experiences, background, talents, interests, capabilities and needs. The concentration is also on the best available knowledge about learning and how it occurs, and the teaching process that are effective in promoting learners motivation of higher degree.

Hutchinson and Waters (1987) book: 'English for Specific Purposes: A learning-centered approach' outlined a new approach to ESP. Mainly, this amounted to a reinstatement to the educational and psychological bases of ESP rather than the linguistic basis. According to them, all the approaches of ESP were fundamentally flawed in that they were all based on descriptions of language use.

They argue that the course and syllabus design process should be more dynamic and interactive. Mainly, factors concerned with learning must be brought into play at all stages of the design process. This approach to course, syllabus, and materials design has received its widest circulation in Hutchinson and Waters (1987).

In brief, the ESP learner along side with the process of needs analysis became the main core of this approach at this stage of ESP development.

1.7 Needs and Needs Analysis

Needs analysis is closely linked to the curriculum and occupies an important place in the curriculum. In the field of foreign language teaching, needs analysis is of a great importance. It is the preliminary step in course and syllabus design and is considered as a prerequisite for any syllabus design. It plays an important role in curriculum design in that it largely determines the goal and content of the course and syllabus being designed.

Needs analysis is a powerful tool that helps clarify and validate true needs. It enables educators and syllabus and curriculum designers to shape the curriculum development that bases the content of language courses on the communication needs, wants and interests of the learners.

1.7.1 Definitions of Needs Analysis

Needs Analysis is of a great importance in ESP. Needs analysis is the cornerstone of ESP and leads to a focused course (Brown, 1995; Chambers, 1980; Dudley-Evans and St John, 1988; Ellis and Johnson, 1994; Jordan, 1997).

According to Robinson (1991: 07): "needs analysis is generally regarded as critical to ESP, although ESP is by no means the only educational enterprise which makes use of it".

According to Iwai et al. (1999), the notion needs analysis generally refers to the activities which are involved in collecting information that will serve as the basis for developing a curriculum that will meet the needs of a particular group of students. From his view, formal needs analysis is relatively new to the field of language teaching. However, informal needs analyses have been conducted by teachers in order

to assess what language points their students needed to master. In fact, the reason why different approaches emerged and were then replaced by others is that teachers and course and syllabus designers have intended to meet the needs of the learners during their learning (In Ghedeir 2014: 38 – 39).

Stevens (1977) suggests that NA is a necessary first step for teaching English for specific purposes; it is more concerned with the nature of scientific discourse. Hutchinson and Waters (1987: 53) argue that any language course should be based on needs analysis.

NA is fundamental to an ESP/EAP approach to course and syllabus design. Dudley-Evans and St John (1988: 121) state that "NA is the process of establishing the what and how of a course". Language needs analysis is essentially a pragmatic activity focused on specific situations. Therefore, in the ESP and EAP context, NA is crucial in determining the aspects of language that are critical for a particular area of teaching and if needs are clear, learning aims can be expressed more easily and language courses become more motivating. In fact, successful experiences in designing ESP courses and syllabus show the importance of conducting needs analysis to ascertain learners' target and learning needs and then integrate the required linguistic elements and skills into the syllabus (Hutchinson and Waters: 1987).

Robinson (1991: 08) suggest that needs analysis is not only for determining the "what and how of language teaching". He adds that a study of needs analysis should be repeated so that it can be built into the formative process. This would lead to a very formative database of learners, sponsors, subject specialists, and above all ESP practitioners' views and opinions of the English language.

The literature written on ESP in general reveals that needs analysis is central in ESP. It is a key concept that has been considered inevitable to be conducted before designing any successful ESP course or syllabus.

Although there are slight variations in defining the concept of needs analysis among ESP practitioners, the overall tendency suggests that the vast majority of these practitioners insists on the importance of this issue and consider it as the infrastructure of any purposeful and successful ESP course or syllabus. As needs analysis precedes the stage of syllabus design, it is clear that it is the starting point in a series of stages that aim at producing the ideas or concepts to be taught in the syllabus.

The above mentioned idea is clear in most of the literature written on ESP. To illustrate, Widdowson (1983: 29) states that "I am using 'needs analysis' here to refer to an approach which characterizes language behavior in terms of the notion and function". The point about the necessity of needs analysis as an important stage that precedes the stage of designing ESP course or syllabus can be inferred from this definition.

The term NA (also known as needs assessment) generally refers to the activities that are involved in collecting information that will serve as the basis for developing a curriculum that will meet the needs of a particular group of learners. Once identified, needs can be stated in terms of goals and objectives which, in turn, can serve as the basis for developing tests, materials, teaching activities, and evaluation strategies. The purpose is to fill the "gap" of what a language program "lacks".

A 'need' is considered as a gap or measurable discrepancy in what learners need and what they receive in language programs. A 'gap' is defined as the

inconsistency between the target situation and the present situation. Determining the learners' needs in order to achieve the desired target situation is seen as the target of any needs assessment process.

Munby's Communicative Syllabus Design (1978) is a framework dealing with needs analysis for English language teaching. Munby presented a series of procedures to identify the expected needs of English. The first is called 'Communicative Needs Processor', which consists of a series of questions related to the variables in communication such as the subject matter, the participants, and means of communication. Such variables help pinpoint the specific needs of the learners in the target language. The second is a 'profile of needs', which highlights students' needs in the target language. Thus, the curriculum designer has only to take these needs into account when specifying the elements of the proposed ESP program.

Nunan (1989) states that for needs analysis information will need to be collected, not only on why learners want to learn the target language, but also about such things as social expectations, constraints, and resources available for implementing the syllabus. Hence, while designing questionnaires and interviews for needs analysis surveys, these factors are also to be taken into consideration.

Background factors of the learner influence learning outcomes and the tasks prescribed for practice should be helpful for fulfilling the targeted goals. NA refers to the students' study or job requirements as well as to what they like to gain from the language course.

Any ESP program should be preceded by conducting needs analysis. It is imperative to carry out needs analysis to determine the learners' specific reasons for

learning the language (Hutchinson and Waters, 1987) or to specify exactly what the students need to achieve through the medium of English (Robinson, 1991).

According to Dudley-Evans and St John (1998: 37), needs analysis is the process of establishing the what and how of a course. They further state that needs analysis is the corner stone of ESP and leads to a much focused course. If the course design does not take into account the actual needs of the learners and set realistic objectives to target the needs, the ESP program may not succeed in attaining the goals.

In the same vein, his article "Methodological Issues in Learners' Needs Analysis" Michael Long (2005) argues that:

"There is an urgent need for courses of all kinds to be relevant to the specific group of learners and to the society at large. In most of the needs analysis surveys in the teaching of English as a second language, semi-structured interviews or questionnaires with little or no inside knowledge of the course concerned were used as tools to base the findings. The views of the respondents alone may not be authentic as it forms one aspect of the study. Just as initial questions asked by a physician to a patient does not help him to diagnose the disease and offer a treatment, the needs analyst cannot draw conclusive proof about language needs simply by obtaining the response of the learners" (P. 19).

That's why there is a need to evaluate those needs by course and syllabus designers and adjust them with the needs of the institution as well as those of the teachers.

Hutchinson and Waters (1987) define needs analysis on the ground of 'necessities' and 'wants' in order to classify between what the learners have to know and what the learners feel they need to know. The focus, here, is on 'the lacks' that represent the gap between the required proficiency in the target situation and the existing proficiency of the learners.

1.7.2 Aims of Needs Analysis

Needs analysis plays a crucial role in ESL, EFL, and ESP classes. It is important because through NA teachers, learners, teaching materials, teaching and learning procedures make a harmonious relationship that enhance learners' learning. Needs analysis is recommended in English language teaching in general, and in teaching ESP in particular. Nunan (1988: 42-43) claimed that NA serves many purposes in ESP as:

- (1) It can be considered as a means of obtaining a wider input into the content, design, and implementation of language programs.
- (2) It can be employed in developing and setting up goals, objectives, and content of programs.
- (3) Data for reviewing and evaluation of existing syllabuses can be provided through needs analysis.

In another framework, Richards (2001) on his discussion of needs analysis aims. He purports that NA in language teaching serves different purposes which enable:

- (1) To find out what language skills a learner needs in order to perform a particular role, such as, sales manager, tour guide, or university students.

- (2) To help determine if an existing course adequately addresses the needs of potential students.
 - (3) To determine which students from a group are most in need of training in a particular language skills.
 - (4) To identify a change of direction that people in a reference group feel is important.
 - (5) To identify the gap between what students are able to do and what they need to be able to do.
 - (6) To gather information about a particular problem learners are experiencing.
- (Richards 2001: 8-9).

Briefly speaking, the results of needs analysis help teachers to identify the students' prospective professional need, the students' needs in terms of language skills, and the students' deficiencies in the area of language skills. Only after analyzing the students' needs and determining the objectives of the language course, syllabus and course designers, as well as teachers can select a material that meets the needs of the students. Hence, NA is the foundation on which they can develop curriculum content, teaching materials, and methods that can lead to increasing the learners' motivation and success.

1.7.3 Needs Analysis in ESP Syllabus Design

Needs analysis is a procedure for collecting information about learners and classroom activities to design a syllabus (Nunan 1988). Thus, NA is a prerequisite for any ESP course or syllabus design to achieve effective and instructional outcomes and to deliver appropriate input. Accordingly, NA focused on the learners' needs as a

source of information for designing syllabus or designing materials that fit learners' actual needs.

It is clear that ESP focuses on relating the teaching and learning of English process to the learners' communicative needs. Hutchinson and Waters (1987) observe that if we know why learners need English, the content of the language can be adjusted accordingly and the teaching process will focus on these needs.

As Brown (1995) observes, needs must be stated in terms of goals and objectives which in turn can serve as the bases for developing tests, materials, teaching activities and evaluation strategies. Teaching goals and objectives refer to the requirements that should be met through the teaching process. They are the particular knowledge, behaviors, and skills that the learner will be expected to know or perform at the end of a course or program. Direct assessment of the objectives at the end of a course or program will provide evidence if the teaching and learning objectives have been achieved. It should be noted that the orientation of the teaching objective is critical in the whole teaching process, which determines the teaching and learning activities. It is the starting as well as the ending point of teaching activities that have both orientation function and adjustment function.

To design a successful curriculum, the first to know, is to whom and what the curriculum is designed. That is, the designers have to know the target group and the purpose of the design. In traditional syllabus designs, usually the purpose is defined according to the state policy or designers' own understanding of the educational requirement. The focus is on what are available for learners, what teachers can offer to learners, and what the learners have to acquire, but very little is considered about what the learners themselves want.

The inefficiency of a foreign language syllabus is due to improper goals set in the language syllabus and failure of taking into account the curriculum consumer-learner in a specific institution.

A learner-centered syllabus design fully realizes the importance of the learners' role in teaching activities, and places learners' need, not only what they have to acquire, but also what they want to acquire, at the central part of the whole designing process.

However, a syllabus which is irrelevant to the needs of the learners cannot result in productive learning experience, because a need is also linked to motivation and motivation has an effect on learning. Thus, learning experiences not matching the needs of the learners can de-motivate learners. NA can play a vital role at all stages of the execution of a syllabus since it provides a tool for assessing the needs and measures can be adopted to meet them. Thus, NA keeps motivation sustained by bringing in relevance and giving the teaching and learning experience more precision.

1.7.4 Needs Analysis as a Determinant of Learners' Motivation

Motivation is the corner stone for teaching and learning foreign languages. Despite the fact that there is no agreement about its definition because of the different schools of thought and views, it is still considered as the most important factor in enhancing foreign language learning.

Outstanding researchers agreed on the importance of motivation as a key factor for success in learning foreign languages. For instance, Lifrieri (2005) points out that among the most important factors which influence individual levels of success in many tasks is motivation. Besides, Brown (1980: 160) asserts that "it is

easy in second language learning to claim that a learner will be successful with the proper motivation". Additionally, Crookes and Schmidt (1991) define motivation for learning a second language as the learners' orientation with regard to the goal of learning a second language. The studies conducted on the area of motivation tackled two (02) types of motivation mainly, instrumental and integrative motivation.

Gardner (1985: 203) defines integrated motivation as "learning a language because the learner wishes to identify himself with or becomes integrated into the society of the target language". Furthermore, Masgoret and Gardner (2003: 174) claim that "the integratively motivated student is one who is motivated to learn the second language, has openness to identification with the other language community, and has favorable attitudes towards the language situation". So, here integrated motivation refers to the learners' favorable attitudes towards the target language and his wish to be integrated into the target language society aiming at making contact with it and knowing more about its culture and values.

The surveying of the students' learning motivation and needs has been considered as a crucial part of a successful foreign language syllabus. Scholars as (Allwright, 1982; Nunan, 1988) assert that a well-designed language course or syllabus that aims at increasing students' learning efficiency, and at triggering students' interest and motivation in learning the language, should first take into account their attitudes and needs.

1.7.5 Approaches to Needs Analysis

Several approaches to NA have been provided by different scholars:

The first important approach to needs analysis is named **Target Situation Analysis (TSA)**. According to Jordan (1997), TSA is related to any needs analysis focusing on the learners' needs at the end of learning a language course. Its main concern is to prepare materials for designing the communicative syllabus. This approach to needs analysis is represented by Munby's (1987) model of needs analysis. Munby is concerned with communicative syllabus design, and his procedures are very detailed. The central of his approach is the Communicative Needs Processor (CNP) in which account is taken of the variables that affect communication needs by organizing them as parameters in a dynamic relationship to each other. Then, comes the profile of the students' language needs. The needs profile is later converted into a communicative competence specification, from which a sequenced syllabus can be drawn up. The way to arrive at the syllabus goes either via a language skills selector or via a meaning processor and linguistic encoder.

Munby's attempt to be systematic and comprehensive inevitably made his instrument inflexible, complex and time-consuming (West, 1994). According to him, all subsequent systems of needs analysis have aimed at simplicity. In this context, he says:

"Model collects data about the learner rather than from the learner [...] As a reaction, more recent needs analysis procedures have been developed which deliberately adopt a very different starting point, reasserting the value of the judgment of the teacher or involving the learner from the start". (West, 1994: 24)

Additionally, Munby's model has been criticized in two additional aspects: that practical constraints should be considered at the start of the needs analysis

procedure (Munby considered them after the procedure had been worked through); and that the language elements chosen for practice in ESP or EAP should reflect those used in the real world. For the sake of fairness, in spite of the criticisms, Munby's model and approach has been very influential, it is either developments have stemmed from his work, or as a result of reactions against it.

Another important approach to NA is called Present Situation Analysis (PSA). PSA is based on identifying learners' control of the target language at the beginning of the language course (Jordan, 1997). It seeks to estimate students' present strengths and weaknesses in the language skills and in the experience of learning (Dudley-Evans and St John, 1988). In PSA approach, there are three (03) main sources for collecting information: the learners themselves, the language teaching establishment, and the user institution. From each of these sources, information is sought regarding the levels of ability, resources, and views on language teaching and learning. Therefore, in this context, the success of learning in an ESP course is based on learners' identification of their learning objectives, and learning objectives set out by the teaching establishment and the user institution. This approach to NA was suggested by Richterich and Chancerel (1977) through their model of NA.

As a natural development of TSA and PSA, Hutchinson and Waters (1987) propose their approach to NA. In this NA model, named a learning-centered approach, they draw a distinction between learner-centered and learning-centered. Learner-centered infers that learning is totally determined by the learner, whereas learning-centered involves learning as a process of negotiation between individuals and society that includes teaching, syllabus, methods, materials, etc. (Hutchinson and Waters, 1987). They advocate that materials and methodology of an ESP course or syllabus are to be determined by learners' needs. Their approach combines TSA and

PSA, and objective needs as well as subjective needs. This approach divides learners' needs of the language into two (02) types: target needs and learning needs. The former is related to what knowledge and abilities the learner needs to have in order to function effectively in the target situation; and the latter refers to what the learner needs to do in order to learn. Additionally, Hutchinson and Waters (1987) divide target needs into three (03) key parts: 'necessities' (needs identified by the requirements of target situation) also called objective needs, they mean what the learner has to know in order to function effectively in the target situation. This would involve obtaining information about the situations in which the language will be used, e.g. lectures, seminars, etc., and discourse components and linguistic features used in them. 'Lacks' (the necessary proficiency for the target situation minus what the learners already know). Generally, the necessities that the learner lacks can form the basis of the language syllabus: this is often referred to as deficiency analysis. The third sub-division is the 'wants' (what the learners desire to learn), it is also named subjective needs of the learner.

In other words, Bowers (1980) has noted:

"If we accept [...] that a student will learn best what he wants to learn, less well what he only needs to learn, less well still what he neither wants nor needs to learn, it is clearly important to leave room in a learning program for the learner's own wishes regarding both goals and processes"

In many English language syllabuses, learners' wants may conflict with the views of sponsors and syllabus designers. To illustrate, a language course may concentrate on reading and writing skills and sub-skills as that will be the core of the subject course the students will be attending. But, the students may feel they want to develop their

speaking skills because their academic aim is developing speaking proficiency that allow them to function effectively in the English language environment around them.

Hutchinson and Waters consider the kind of information that is necessary for both course and syllabus designers to obtain from analyzing target needs and learning needs. They pose several broad questions that can be sub-divided into more detailed questions:

- Why is the language needed?
- How will the language be used?
- What will the content areas be?
- Who will the learner use the language with?
- Where and when will the language be used? (Hutchinson and Water 1987: 59)

In the 1980s, the focus of NA turned more towards Strategy Analysis, that is, methodologies used to implement language programs (Nunan, 1988). This approach to NA involved not only methods of teaching, but also methods of learning observing the preferred learning styles and strategies of students.

Allwright (1982) was the founding father of this model. This trend focuses on the students' perceptions of their needs in their own terms. He differentiates between needs (the skills which a student sees as being relevant to him/herself), and wants (those needs in which the student puts a high priority in the available, limited time), and lacks (the difference between the student's present competence and the desired competence). These terms match those later adopted by Hutchinson and Waters. The aim of Allwright was to help students identify skill areas and their preferred strategies

of achieving the skills. However, within this model problems have arisen where students use learning strategies or styles that are perceived by teachers to be inappropriate or inefficient. In this framework, learner training and the development of learner autonomy become important. This will assist in preventing the frustration of expectations where students are studying in a different environment.

Another important step in the development of NA is the attempt to adapt language courses to local situations. In other words, to accommodate what are frequently seen as to be constraints, e.g. cultural attitudes, resources, materials, equipment, methods. This model has been called means analysis. It involves a study of the local situation as the teachers, teaching methods, students, facilities, etc to see how a language course may be implemented (Holliday and Cooke, 1982).

In the approach suggested by Dudley-Evans and St John (1998), NA is broadened largely to encompass not only TSA and PSA, but also deficiency analysis, linguistic analysis, discourse analysis, genre analysis, and means analysis. According to this mode, in order to analyze and identify the learners' needs, all of these multifaceted approaches to NA should be adopted and applied.

The present study adopts Hutchinson and Waters (1987) approach to NA because in comparison with approaches to NA suggested by other scholars, it provides more manageable framework for analyzing the target situation and also a parallel framework for analyzing learning needs. In addition, it is comprehensive and clear as it includes TSA, PSA, objective needs, and subjective needs by dividing the learners target needs into necessities, lacks and wants. Moreover, Hutchinson and Waters model to needs analysis offers a useful classification of needs which may be

seen to reflect different viewpoints and give rise to different forms of NA. It has also been recommended and adopted by many scholars and researchers.

1.7.6 Procedures of Needs Analysis

The task of investigating students' needs is a challenging work as needs have been defined by different specialists from various perspectives. Munby, for example, focused on the selection of the material in needs analysis and observed that the selection of the material in NA depends upon the systematic analysis of specific learners' needs by analyzing the reasons for learning, place and time of anticipated target use, content areas (activities involved), skills (listening, speaking, reading, and writing, etc), and the level of proficiency required (Munby, 1978).

The primary objective of NA is helping both teachers and the educational institution to identify the students' educational and professional needs in terms of language skills and deficiencies in the area of language skills. Hence, NA is the foundation on which syllabus designers can develop syllabus content, teaching materials, and methods that can lead to increasing the learners' motivation and success.

Investigating learners' needs takes place through certain procedures and organized around scientific and methodological steps. Accordingly, conducting NA encompasses determining:

- (1) Professional information about the learners: tasks and activities learners are using English for (target situation analysis and objective needs).
- (2) Personal information about the learners: factors which may affect the way they learn as previous learning experiences, cultural information, reasons for attending the

course and expectations out of it, and attitudes to English (wants, means, and subjective needs).

(3) English language information about the learners: what their current skills and language use are (present situation analysis) which allows NA conductors to assess.

(4) The learners' lacks: the gap between (3) and (1).

(5) Language learning information: effective ways of learning the skills and language in (4) (learning needs).

(6) Professional communication information about (1): knowledge of how language and skills are used in the target situation (linguistic analysis, discourse analysis, genre analysis).

(7) What is wanted from the course

(8) Information about the environment in which the course will be run (means analysis). (Dudley-Evans and St John, 1998).

As far as tools of identifying learners' needs are concerned, West (1994: 7-8) provides a number of methods of data collection related to NA that can be listed in brief points as follows:

(1) Learners' assessment which estimate the language level of the students. In ESP, three (03) main types of tests are considered: placement tests, achievement tests, and proficiency tests. For placement tests, they are used to place learners in the ESP course that suits their levels and needs; it is a kind of diagnostic test. Achievements tests assess the attainment process of the learners, whereas proficiency tests measure

whether or not the learner can cope with the demands of a particular situation. (Hutchinson and Waters, 1987).

(2) Course assessment through tests feedback, discussions, comments, etc. Though it is hard to determine how often course evaluation should be done, it is advisable to be done at all the stages of the course (at the beginning of the course, at regular intervals throughout the course, at the end of the course, and after the course.

(3) Surveys based on questionnaires which have been established that help syllabus and course designers draw a profile of learners' needs, lacks, wants, learning styles, and strategies, meanwhile they rise the learners' awareness about their needs.

(4) Structured and semi-structured interviews which consist of pre-planned questions. Answers can be either written down or recorded.

(5) Case studies that give in-depth information related to the needs and difficulties of individual learners or groups.

Since each source of information is likely to be incomplete or partial, a triangular approach is advisable (Richards, 2001: 58). Therefore, in this study the investigation will be conducted by structured interview with the administrative staff at the INELEC, semi-structured interview with the teachers of English at INELEC, and survey based on questionnaire with the students of the first year at the Departments of Electricity and Electronics at INELEC Boumerdes.

1.7.7 Previous Empirical Studies Related to Needs Analysis

Needs analysis is investigated in order to collect the content of the syllabus, the present and the future skills and tasks most required by the learners as well as the objectives of the course. NA, from Dudley-Evans and St John viewpoints (1998),

involves activities and tasks learners will use in their professions, lacks of language skills necessary for their future careers, and knowledge of how language are to be used. Such elements are focused in the target situation analysis (Ghedeir 2014: 44).

According to Hutchinson and Waters (1987: 55), 'target needs' hides a number of important distinctive elements: "necessities, lacks, and wants". Needs analysis also includes effective factors influencing motivation to learn, ways to learn English effectively, and learning environment. Those factors are to be analyzed as "the learning situation analysis". What is more, NA investigates current skills and the language of the learners, also the objectives of the course. The investigation is known as "the present situation analysis". Hence and in brief, NA is taken in order to collect information of the target situation, the present situation, and the learning situation and balance them so that the mismatch between learning needs and learners' needs could be reduced.

There is a plethora of research that has been carried out internationally on NA. Many previous studies have revealed some mismatches between the learning needs and job needs. Savangvarorose (1983) conducted a survey study on the relevance of the English courses at Thai universities and needs of the private organizations, and a significant difference was found. While the educational institutions focused on the writing skills, business organizations showed the needs of oral communication skills, listening and speaking (In Zughouli and Hussein 1985).

Several empirical studies on NA reveal that the skill of taking class notes was a top priority for students' success in studying their courses and that the academic listening, speaking, reading, and writing requirements were different according to the academic discipline, the nature of the university, and the class type. In this

framework, Ferris (1998) shows that class discussion and participation were often required for students' academic study; that note-taking and having discussions with instructors in their offices were necessary skills for the students' success in science and engineering courses.

Taillefer (2007) studied the needs of economics graduates in France to encourage reflection on curriculum and pedagogical issues. He found that the students' major weakness is in oral communication despite the fact that they need to be proficient in all the four language skills. The perceptions explored consisted mainly of using language, receiving and producing language, self-assessment, using language in order to find a job, and language training. He also stressed that there is a disconnection of EAP courses from the changing needs of the outer world, so these two should be linked to meet the learners' needs. He emphasized that every context and discipline have their own specialty, for instance, the needs of economics students are different from chemistry students.

In Iran, a large-scale study was conducted by Mazdayasna and Tahririan (2008) at five (05) medical sciences universities for nursing and midwifery students. The researchers intended to see whether this course could satisfy the learners' needs. They concluded that EAP course could not meet the learners' needs because it does not consider students' language proficiency level, course goals, availability of resources in terms of staff, materials, time constraint, and the teachers capability in the field.

In the Arab context, a few needs analysis studies have been carried out. In Yemen, Al-Tamimi and Shuib (2009) investigated the English language needs of petroleum engineering students at Hadhramout University of Science and

Technology. Their study indicated that the four (04) English language skills were important for the students' education and that the students were lacking proficiency in the four (04) English language skills with speaking as the lowest. It also shows that the students wanted to improve their speaking skills most importantly.

In Jordan, there was a study conducted by Zughoul and Hussein (1985) on language needs of undergraduate students from different disciplines, including natural sciences, engineering, medical sciences, economics, administrative sciences, and arts and humanities at Yarmouk University, Jordan. This study examined the perceptions of both students and staff members. The findings revealed that the students overestimated their language abilities, whereas faculty staff members gave a more realistic assessment of the students' capabilities.

In Palestine, Alastal and Shuib (2012) explored the English language needs of the undergraduates at the Faculty of Applied Sciences at Al-Aqsa University based on students' perceptions. In this study, the students evaluated themselves as average in academic English language writing and reading comprehension skills, and as weak in academic English speaking and listening comprehension skills. The results also indicated that the most important academic English language skill for the Faculty of Applied Sciences students' study is reading comprehension followed by listening comprehension, and then writing.

Based on the previous studies, the learners' needs are specific, it should not be taken for granted that the students would come to the English class and would learn whatever the administrators, teachers, and the stakeholders manage for them via the syllabus.

In Algeria, Dekhmouche (2008) discussed the following problem in the Department of Computer Sciences, University Mentouri in Constantine, English language teachers were not specialists in the field and were not experienced at all to carry out the teaching of English for Specific Purposes. According to her, the problem was that no predetermined objectives were defined in the teaching of English and students' needs are not taken into account at all. As a result, the students failed in their attempt to acquire the basic knowledge of both the English language and the computer science in which they were specializing. She concluded that if the teaching of ESP at the Department of Computer Science, University Mentouri in Constantine followed some strategies of predetermined objectives and the students' needs are taken into account, the students' achievement would be enhanced (Ghedeir 1914: 47).

Unfortunately, in the Algerian context very few studies were conducted in the context of needs analysis. This is why the researcher in the present study attempts to shed light on the importance of NA in ESP syllabus and course design.

1.8 Conclusion

All in all, the most significant feature of the rapidly developing field of English language teaching over the past decades has been the importance attached to English for Specific Purposes (ESP) which is part of a more general movement of teaching Languages for Specific Purposes (LSP).

According to Dudley-Evans and St John (1998:2), for much of its infancy, ESP was dominated by the teaching of English for Academic Purposes (EAP). Today, the teaching of ESP is gaining popularity throughout the world for several reasons including: to expose students to the expectations and requirements of the faculties in terms of target situation needs and academic culture and to help international students

Chapter two: Syllabus Design

Chapter two: Syllabus Design

2.1 Introduction

High quality ESP courses and/or syllabus are of prime importance in all educational contexts. However, in the majority of Algerian institutions of higher education, English is taught as a separate subject in almost all university branches. In addition, teachers are outstandingly reckoned as the main stakeholder involved whereas learners are often overlooked. It is the teachers who design the content of the syllabus by themselves as administrative authorities do not equip them with syllabi to guide them in what to teach and how, and if they do so, the learners' objectives and needs are not taken into consideration. Yet, designing ESP, or in particular, EST syllabus requires collaboration among several concerned stakeholders including students, subject teachers, institutional administrators, and science and technology English teachers themselves. This chapter gives a detailed description of syllabus and syllabus design, analyzes the importance of needs analysis to syllabus design, and the syllabus design based on needs analysis. In this chapter, the definitions as well as the differences between the concepts of course, syllabus and curriculum will be presented and clarified. The different kinds of syllabuses will be also presented.

2.2 Course Design, Syllabus Design, and Curriculum

2.2.1 Course Design

A course could be defined as a series of lessons. But, the terms 'syllabus', 'syllabus design', and 'curriculum' have raised confusion. Hutchinson and Waters (1987: 65) define the course as: "an integrated series of teaching/learning experiences whose ultimate aim is to lead the learners to a particular state of knowledge".

ESP teachers are concerned more with designing appropriate courses for various groups of learners (Hutchinson and Waters, 1987). There are three factors influencing ESP course design which are: language description, learning theories, and needs analysis. The interdependence of these factors in the course design process is very important. The course design must bring the learner into play at all stages of the design process. Thus, the early mentioned steps would be the main steps that a course designer or a teacher may follow when designing an ESP course for a particular group of learners who are often adults and have a background in English and who are specialists in an academic or professional field.

There are three main stages that should never be neglected when designing an ESP course: setting the objectives of the course on the basis of target and learning needs. This involves analyzing the learners' needs, lacks, and wants: choice of the appropriate teaching/learning theory; and choice of the appropriate materials (authentic materials) which could be done through evaluation, development, or adaptation. By following these steps, one has the chance of designing an ESP course that really meets the requirements of the target learners.

According to Carver, D (1983), three features are common to ESP courses:

- (1) authentic materials;
- (2) purpose-related orientation;
- (3) self-direction.

Authentic materials are especially important for ESP trainees since they reproduce an immersion environment and provide a realistic context for tasks that relate to learners' needs. Authenticity has been pointed out by various authors as a

relevant feature in ESP methodology. These authentic materials should be taken from the real world and not primarily created for pedagogical reasons. As Morrow (1977:13) states: "an authentic text is a stretch for real language, produced by a real speaker or writer for a real audience and designed to convey real message for some sort". For Moore and Lorenzo (2007): "one of the prime requisites of the authenticity is genuine communication: the text must convey a message".

Authentic materials enable students to face the professional language they will deal with in the real labor world and react to it in authentic ways. Students in tertiary education are usually proficient enough to cope with the complexities of the language authentic materials entail. Meanwhile, they are also able to grasp the meaning of the specific texts because they are related to the field of their studies. As Hutchinson and Waters (1987) state: "the use of authentic materials increases students' motivation to learn".

Students and teachers can use authentic materials as a means to "link the formal and to some extent artificial environment of the classroom with the real world in which we hope our students will eventually be using the language they are learning" (House, S, 2008: 53-70). Authentic materials can greatly benefit problem-solving, project-based learning, case-based learning, role play, and simulation and gaming methodology.

"Purpose-related orientation" is another feature common in ESP course. It refers to the simulation of communication tasks required of the target-setting; for instance, a student simulation of a conference, involving the preparation of papers, reading, note-taking, and writing (Carver, 1983).

Finally, the last feature as viewed by Carver is self-direction. Self-direction is a characteristic of ESP courses as it is concerned with turning learners into users. In order for self-direction to take place, learners should have a certain degree of freedom to decide when, what, and how they will study. This freedom is a key feature of another trend in language learning, the autonomous learning.

Autonomous learning is characterized by particular procedures and relationships between learners and teachers, when learners take control over their learning (Benson et al, 2001). This trend in language learning is especially recommended for foreign language learning due to varying levels and abilities of the learners.

In fact, ESP course design is restricted by several factors, the main ones being:

- (1) Tutors: number available and their experience and capabilities.
- (2) Students: number and nationalities to be catered for, and their language level.
- (3) Other staff: administrative, secretarial, technical, social, welfare.
- (4) Time: length of the course: full time or part time (frequency); weeks, days, hours.
- (5) Space: number of rooms, room size (furnishings- fixed or removable); location and proximity.
- (6) Facilities/ Equipments: library, resource centre, language laboratory, CD's recorders, TV and video, computers, overhead projectors, photocopier, books, journals, stationery, and other materials.
- (7) Accommodation: hostels or other arrangements for students; proximity (transport, if necessary).

(8) Finance: budget- size, fixed or variable; method and speed of payment.

(9) Other influences: past experience, motivation of students (their attitudes and expectations), need for variety, a belief in learning by doing, awareness of non- ESP needs, need to be commercially viable, common sense, etc.

A usual approach is to prepare or design a course based upon the previous course, amended in the light of feedback, and then modified again according to perceived needs and constraints. Accordingly, Robinson (1991) comments:

"ESP course design is a product of a dynamic interaction between a number of elements: the results of the needs analysis, the course designers' approach to syllabus and methodology, and existing materials (if any). All of these are modified by the contextual constraints".

Since some of the ESP courses are more complex, and the course director is no more than a manager, the efficient use of time becomes more important. In this framework, White (1988) debates the issues involved in time management, identifying priorities and drawing up action plans. He also gives a great importance to timetable planning sequence that involves an analysis of: the courses and their components, sessions' length, teacher hours, teachers' responsibilities, areas of expertise and preferences, vacations, room availability, and cost.

On a course there is often insufficient time to cover all that is designed and desired. Hence, it is preferred to concentrate on those areas causing the difficulty or that will be most needed for the students' specialist studies. Therefore, appropriate needs analyses are essential (Jordan 1997: 65-66).

Most importantly, in the context of ESP course design, needs analysis is the corner of ESP and leads to a focused course (Brown, 1995; Chambers, 1980; Dudley Evans and St John, 1998; Jordan, 1997; West, 1994). It plays a vital role in the process of designing and carrying out any ESP course. In this framework, Dudley-Evans and St John (1988: 126) mention that needs analysis aims at knowing learners as people, as language users and as language learners. Second, a study of needs analysis also aims at considering how language learning and skills learning can be maximized for a given group of learners. Third, needs analysis aims at knowing the target situations and learning environment so that data can be appropriately interpreted.

It is obvious that needs analysis is a very crucial first step prior to designing and developing a language course. In brief, needs analysis is a primary specific characteristic in designing ESP courses. In order to design adequate ESP courses, learners' needs must take a top priority by course and syllabus designers.

2.2.2 Syllabus Design

There are several conflicting views on just what it is that distinguishes syllabus design from curriculum and curriculum development. Hence, the notion "syllabus" and "syllabus design" will be coined and defined in the first place.

Various definitions are given to the concept syllabus and syllabus design. Syllabus design is seen as being concerned essentially with the selection and grading of content.

Shaw (1975) defines the syllabus as " the statement of the plan for any part of the curriculum excluding the element of curriculum evaluation itself". Whereas for

Wilkins (1981: 82-88) syllabuses are "specifications of the content of language teaching which have been submitted to some degree of structuring or ordering with the aim of making teaching and learning a more effective process".

In the same vein, Allen asserts that «syllabus refers to that subpart of curriculum which is concerned with a specification of what units will be taught" (cited in Nunan, 1988: 6). In some cases, the syllabus replaces the concept of 'method', and the syllabus is now seen as an instrument by which the teacher, with the help of the syllabus designer, can achieve a degree of fit between the needs and aims of the learner and the activities which will take place in the classroom (Yalden, 1987: 14). For him, a syllabus is the planning of the learners' needs and objectives into a number of tasks and activities that constitute the content of courses. Thus, syllabus designers should highly consider course objectives and aims, learners' actual knowledge, and timing when designing a syllabus.

The big question that might be asked when defining the concept 'syllabus', is it possible to separate so easily what we have been calling content from what we have been calling method or procedure?

It should be noted, here, that any syllabus will express indirectly certain assumptions about language, about the psychological process of learning, and about the pedagogic and social processes within a classroom (Breen, 1984: 49). And as language is highly complex and cannot be taught all at the same time, successful teaching requires that there should be a selection of material depending on the prior definition of objectives, proficiency level, and duration of course. This selection takes place at the syllabus planning stage. In this context, Breen (1984) asserts that the

syllabus should be a subject to six universal requirements that must be taken into account in the process of designing by both syllabus designers and teachers:

- (1) Provision of an accessible framework of required knowledge and skills;
- (2) provision of continuity for its users;
- (3) ability to give a retrospective account of what has been achieved;
- (4) evaluation – provision of accountability to colleagues, learners, and to the wider institution and society;
- (5) precision of purpose, so that it may be assessed for appropriateness through implementation;
- (6) sensitivity to the environment for which the plan is intended.

Recently, Basturkmen affords a perspective of syllabus on the ground of a set of characteristics, the attributes of a syllabus according to him can be listed in this order:

- (1) Consists of a comprehensive list of content items as (words, structures, topics), and process items as (tasks, methods);
- (2) it is ordered, easier and more essential items first;
- (3) has explicit objectives (usually expressed in the introduction);
- (4) it is a public document;
- (5) may indicate a table schedule;
- (6) may indicate preferred methodology or approach;

(7) may recommend materials.

(2006:21)

Additionally, Corder (1973: 296) says:

"A finished syllabus is the overall plan of the learning process. It, too, much specify what components or learning items must be available or learned by a certain time and what is the most efficient sequence in which they are learned".

Briefly speaking, the syllabus consists of the subjects, the language structures, and tasks and activities that should be taught in a given course. That is, a plan or a roadmap of work that can be considered as a guideline for teachers. It determines the content of the course and the way in which it has to be organized.

Among the documents that give a detailed account of the various syllabus components which need to be considered in developing language courses is Threshold Level English (Van Ek 1975). Van Ek lists the following points as necessary components of a language syllabus:

- (1) The situations in which the foreign language will be used, including the topics which be dealt with;
- (2) the language activities in which the learner will engage;
- (3) the language functions which the learner will fulfill;
- (4) what the learner will be able to do with respect to each topic;
- (5) the general notions which the learner will be able to handle;

- (6) the specific (topic-related) notions which the learner will be able to handle;
- (7) the language forms which the learner will be able to use;
- (8) the degree of skill with which the learner will be able to perform.

(Van Ek 1975: 8-9).

Before syllabus design process, a set of criteria should be taken into consideration. In this sense, Miliani (1984) lists them as follows:

- (1) Situation analysis.
- (2) Setting aims and objectives.
- (3) Generating syllabus content.
- (4) Assessment.

It should be noted that Miliani (1984) asserts that the relation between the above listed factors is cyclical. A failure in the designed syllabus can be explained by a deficiency occurrence when dealing with one of the criteria previously mentioned.

Situation analysis is centered around the educational institutions and what it offers as financing, teaching materials, teachers' profile in terms of covering their attitudes towards the syllabus and their professional abilities, as well as learners' profile in terms of motivation and attitudes towards the language syllabus provided.

Aims and objectives are derived from learners' needs analysis. Aims are defined as general statements set by course and syllabus designers while objectives refer to the learner achievements that should be met by the end of the course.

According to Miliani (1984), generating syllabus content requires the consideration of five criteria, which are:

- (1) Validity: authenticity and acceptability of the syllabus language.
- (2) Significance: the syllabus content should reflect its aims and objectives.
- (3) Interest: the syllabus content should motivate the learners.
- (4) Learners' ability: syllabus content should be compatible with learners' levels abilities.
- (5) Flexibility: the content of the syllabus should be flexible in order to allow eventual revision as learners' needs are changeable.

The last criterion to be discussed and explained is assessment. Through assessment, learners' achievements, course objectives and aims, teaching and learning techniques, teaching and learning materials, as well as the syllabus itself can be evaluated and modified.

2.2.3 Curriculum and Curriculum Development

Curriculum is a very general concept which involves consideration of the whole complex of philosophical, social, and administrative factors which contribute to the planning of an educational program.

According to Shaw (1975), "the curriculum included the goals, objectives, content, processes, resources, and means of evaluation of all the learning experiences planned for pupils both in and out of the school and community, through classroom instruction and related programs".

For Nunan (1988), the curriculum is a broad and complex notion which consists of three main phases: (1) planning phase, centered on the identification of the learners' needs, lacks, and wants, identifying goals and objectives, and selecting, generating and grading the content. (2) implementation phase, translating the planning phase elements into a practice in classrooms. (3) assessment phase, that is the evaluation of what has been planned and how it is translated into practice in classrooms.

The term 'curriculum' refers to the substance of a study-program of an educational system. Stenhouse (1975: 17) defines curriculum as "an attempt to communicate the essential properties and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice". Graves (1996) describes curriculum as a broad statement of the philosophy, purposes, design, and implementation of the entire language teaching program . In this view, curriculum is concerned with what can and should be taught, to whom, when, and how. It includes the entire teaching and learning process, including materials, equipment, examinations, and the training of teachers.

Brumfit (1984) states the general characteristics of curriculum, along the following dimensions:

(1) Curriculum specifies the work of a particular department in a college or school, organized in subsections, defining the work of a particular group or class.

(2) It is linked to time, specifying a starting point and an ultimate goal.

- (3) It specifies some kind of sequencing either in accordance with a theory of language learning, or with the structure of specifiable material relatable to language acquisition.
- (4) The mode of sequencing above is constrained by administrative needs such as materials.
- (5) As a document of administrative convenience, it is both negotiable and adjustable.
- (6) It can specify what is taught, rather than organizing what is learnt.
- (7) As a public document, it is an expression of accountability.

From what is stated above, curriculum is a wider concept as compared with syllabus (Nunan, 1988). Both of them are two major documents necessarily prepared in a course design task. While syllabus stands for the content or subject matter of an individual subject, a curriculum describes the broadest context in which planning for language instruction takes place. That is, a syllabus is more specific and more concrete than a curriculum that may contain a number of syllabi. A curriculum may specify the goal of teaching and learning – what the learners will be able to do at the end of the instruction – whereas the syllabus specifies the content of the lessons used to lead the learners to achieve the goals.

2.3 Syllabus Types

The choice of a syllabus is a major decision in language teaching. It should be made as consciously and with as much information as possible. There are several classifications to the types of syllabuses, as such, Hutchinson and Waters (1987) classify syllabi on six main types on the basis of what will be learnt: (1) Evaluation Syllabus, (2) Organizational Syllabus, (3) Materials Syllabus, (4) Classroom Syllabus,

and (5) Learner Syllabus. For Brown (1995: 142) seven kinds of syllabi existed. These include: (1) Structural Syllabus, (2) Situational Syllabus, (3) Topical Syllabus, (4) Functional Syllabus, (5) Notional Syllabus, (6) Skills Syllabus, and (7) Task Based Syllabus. Additionally, according to Krahne (1987), there are six types of language teaching syllabus including: (1) A Structural or Formal Syllabus, (2) A Notional or Functional Syllabus, (3) Situational Syllabus, (4) Skill Based Syllabus, (5) Task Based Syllabus, and (6) Content Based Syllabus. (Krahne's syllabus typing will be discussed and explained in this study).

Teachers as well as administrative staff in higher educational institutions have different manners to organize courses. In this context, teachers should utilize their professional abilities to select, combine and adjust the appropriate syllabus(es). The most known and widely used syllabi can be listed and explained as follows:

2.3.1 A Structural or Formal Syllabus

The structural or formal syllabus, (also named grammatical syllabus), is doubtless the most familiar of syllabus types. It is based on a theory of language that assumes that the grammatical or structural aspects of language form are the most basic or useful. It is one in which the content of language teaching is language form, primarily grammatical form, and the teaching is defined in terms of form. That is to say, the content of language teaching is simply a collection of the forms and structures, usually grammatical, of the language being taught. The usual grammatical categories are the familiar ones of noun, verb, pronoun, adjective, singular, plural, present tense, past tense, and so forth. The domain of structural syllabi has tended to be limited to the sentence level. In this type of syllabi, the sentence is the largest unit of discourse that is regularly treated. A classification of sentence types usually

includes semantically defined types such as statements or declaratives, questions or interrogatives, exclamations, conditionals; and grammatically defined types such as simple, compound, and complex sentences. In this vein, Richards and Rodgers (2001: 42) mention that: "A structural syllabus is a list of basic structures and sentence patterns of English, arranged according to their order of presentation".

A key feature of the structural syllabus is that it is 'synthetic' (Wilkins, 1981; Yalden, 1983). Because of their synthetic nature, structural syllabus assumes a general theory of learning that holds that learners can synthesize the materials being taught in one of at least two ways. First, the analyzed information – the rules and patterns – are available as the learner attempts to use them in linguistic communication. The learner uses the information either to generate or produce utterances or discourse, or to check the accuracy of production. Second, the analyzed information is transformed from analyzed knowledge, into the largely unconscious behavior that makes up language use.

According to Krahne (1987), the positive characteristics of structural syllabus can be summarized in two main aspects: firstly, form or grammar is the most general and principal component in communicative competence. Each well-formed and structured utterance can be used for a variety of functions and situations. Secondly, the content of this type of syllabus is easy to describe because each grammatical component (noun, verb, plural, gerund, etc) is generally shared within the language profession and has a specific meaning agreed upon.

However, Richards (2001: 153) states the key deficiencies of this type of syllabus that can be summarized in the following key points: firstly, structural syllabus focuses on a partial dimension of language proficiency. Besides, it is

centered on the sentence rather than longer units of discourse. Additionally, it focuses on form rather than meaning and marginalizes communicative skills.

2.3.2 The Notional or Functional Syllabus

The notional or functional syllabus is the best known of contemporary language teaching syllabus types. The definitions of the terms used in the name of this syllabus seem important before dealing with this type of syllabus. According to Finocchiaro and Brumfit (1983: 13), the notion "function" refers to the communicative purpose of the speaker. The functions can be personal, interpersonal, directive, referential or imaginative, and they can be expressed through fixed language forms or communicative expressions (Finocchiaro and Brumfit, 1983: 28).

From Finocchiaro and Brumfit point of view, 'notions', derived from 'notional', can be defined as the words following the functional expression. Hence, 'notions' are meaning elements which can be expressed through nouns, pronouns, verbs, adjectives, adverbs, etc. According to them 'notions' rely basically on three key factors: the functions, the elements in the situation and the topic which is being discussed (Finocchiaro and Brumfit, 1983: 15).

Notional/functionality has been closely linked with what has been called "communicative language teaching" (Brumfit and Johnson, 1979; Richards and Rodgers, 2001; Widdowson, 1979) which has been referred to as a method but is really a collection of different approaches and procedures clustered around notional/functionality content.

Notional/functionality grew out of a functionally oriented linguistic tradition that has long existed in Britain. This trend has insisted that adequate description of

language should include information on how and for what reasons and in what ways language is used.

Based on Richards and Rodgers (1986) theory of language, notional/functionalism holds that basic to language are the uses to which it is put. If language is seen as a relationship between form and function, it takes the function side as primary and the form side as secondary. Other interpretations and applications have elaborated on notional/functionalism, but the most basic point of the movement in language teaching is that categories of language use rather than categories of language form have been taken as the organizing principle for instruction.

Generally speaking, notional/functional syllabus content is organized around communicative functions as requesting, complaining, suggesting, agreeing, etc. In this vein, Harmer (2001: 297) mentions:

"The syllabus designer then chooses exponents for each function. In other words, the content of the language teaching is the number of the functions that are performed on using the language, within the notions that language uses to express. Functions can be exemplified by instances such as inviting, requesting, agreeing, and notions embrace age, color, size, comparison, time, etc".

Among the critics oriented towards notional/functionalism is the fact that language functions do not usually occur in isolation, in addition to the difficulties that can be found in selecting and grading function and form. Functional syllabus is also described and regarded as a partial component of a communicative syllabus. Thus, the door is opened to alternative proposals of syllabus types.

2.3.3 Situational Syllabus

The situational syllabus has a long history in language teaching, but situational content has mostly been used as an adjunct to instruction that is primarily focused on language form and structure. It is another framework around which to organize language into various situations. For instance, the most familiar way of presenting a situation is as a dialogue. The many ways in which dialogues can be handled in classrooms are not described, but they include passive listening, active listening, and memorization; they can serve as models for student improvisation, and so on.

The topics, settings, and participants in situations can vary infinitely. For any use of language, a situation can be created or selected to create it. The content of situations can be completely created by materials writers or teachers, or taken from real life.

In this context, White (1988: 63) asserts that: "in a situation-based syllabus, a series of situations will form the main organizing principle". In the same vein, Richards (2001: 156) claims that: "one that is organized around the language needed for different situations such as the airport, at a hotel. A situation is a setting in which particular communicative acts typically occur". Thus, teaching the language that the learners can come across in various situations is the major aim of a situational syllabus. It promotes students' motivation since it is possible to set up real life situations.

While situational syllabus can potentially increase transfer to language use in settings that are closely related to the instructional situations, intensive use of predetermined and artificial situations can lead to lack of transfer, as students are led

to rely on pre-learned routines and patterns of language use rather than creative and negotiated uses of language.

2.3.4 Skill-Based Syllabus

Skill-based syllabus is a type that has not been previously identified as a separate kind of instructional content in the literature on language teaching. The term 'skill' in language teaching has generally been used to designate one of the four modes of language: speaking, listening, reading, and writing. In other words, a 'skill' represents the way of using language that combines structural and functional ability, but exists independently of specific settings or situations. Krahnke (1987, p. 50) defines a skill as a specific way of using language that combines structural and functional ability but exists independently of specific settings or situations.

9)To illustrate, examples are reading skills such as skimming and scanning; writing may include writing memos or reports; speaking may consist of giving instructions and delivering public talks; and listening may involve getting or extracting information. Here, the content of language teaching is a collection of abilities that may play a part in using language.

Skill-based content is most useful when learners need to master specific types of language uses, either as exclusively or as a part of broader competency. For example, students planning to work in higher education in a second language obviously need broad proficiency in the language. And through needs analysis, syllabus designers and teachers can predict the kinds of skills they need to develop and master.

Relevance to student-felt needs or wants is an advantage of the skill-based syllabus because learners who know what they need to do with the language generally show great acceptance of instruction that is clearly directed toward their goals.

It is clear that skill-based instruction is most appropriate when learners need specific skills, and especially when these skills are well-defined and the learners have little need for global language ability. Language programs preparing students for academic work certainly have some need for skill instruction, as do vocational language programs whose content is intended to be applicable to a variety of similar work situations, and all of these are ESP programs.

As with other types of instructional content, the drawbacks of skill-based syllabus are potential rather than absolute. According to Willis et al. (2005), a skills-based syllabus is not much more than a list of skills and micro-skills to be practiced. It is possible that skill or competency based instruction that is too limited in scope can program students for particular kinds of language proficiencies and marginalizes a great proportion of those competencies, or isolate them from achievements and ambitions that the competencies do not prepare them for.

2.3.5 The Task-Based Syllabus

The task-based syllabus is relatively little known. It is largely based on the works of Krahne (1987), Candlin and Murphy (1986)). The defining characteristic of task-based content is that it uses activities that the learners have to do for non-instructional purposes outside the classroom as opportunities for language learning. In this framework, Krahne (1987) asserts that " the defining characteristic of task-based content is that it uses activities that the learners have to do for language learning.

Tasks are distinct from other activities to the degree that they have non-instructional purposes".

Tasks are a way of bringing the real world into the classroom. As to Nunan (1988: 159) "a task is a unit of planning teaching containing language data and an activity or sequence of activities to be carried out by the learner on the data". According to him, tasks are twofold: real world tasks and pedagogical tasks. The former refers to tasks to tackle beyond the classroom and the latter tend to occur within the classroom. In educational context, Richards (2001: 45) defines a task as:

"an activity or action which carried out as a result of processing or understanding language. For example, drawing a map while listening to an instruction and performing a command [...] A task usually requires teachers to specify what will be regarded as successful completion of the task".

Task-based learning can be applied in a number of instructional settings, essentially anywhere that real life tasks can be devised or discovered for learners. It can be used with learners of all ages and backgrounds, although some uniformity of interests in a class can be an asset. It addresses the crucial problem in language teaching, the transfer problem, by using active and real tasks as learning activities. Krahnke (1987) mentions that task-based learning "can also be valuable for learners who have a clear and immediate need to use the language for well-defined purposes.

However, another problem discussed by Krahnke (1987, p. 61) is that task-based learning requires a high level of creativity and initiative on the part of the teacher (Rajee, p:77). If teachers are limited to more traditional roles or do not have the time or resources to implement task-based teaching, this type of teaching may be

impossible. Besides, task-based learning requires resources beyond the textbooks and related materials usually found in language classrooms.

2.3.6 The Content-Based Syllabus

Content-based instruction has recently been recognized as a viable way of teaching language as an end in itself. It allows learners to acquire language through the study of a series of relevant topics, and each topic is exploited in a systematic way.

Widdowson (1987: 16) suggests a type of content-based teaching (incorporating aspects of task-based teaching) as a means of bringing more language use into the school classroom:

"I would argue, then, that a foreign language can be associated with those areas of use which are represented by the other subjects on the school curriculum and that this not only helps to ensure the link with reality and the pupils' own experience but also provides us with the most certain means we have of teaching the language as communication, as use, rather than simply as usage. The kind of language course that I envisage is one which deals with a selection of topics taken from the other subjects: simple experiments in physics and chemistry, biological processes in plants and animals, map-drawing, descriptions of historical events, and so on. It is easy to see that if such a procedure were adopted, the difficulties associated with the presentation of language use in the classroom would, to some considerable degree, disappear. The presentation would essentially be the same as the methodological techniques used for introducing the topics in the subjects from which they were drawn".

Any content-based syllabus is by definition identical to the syllabus of content course at any scientific or academic branch, including science and technology fields, or any other school or university subject. Extensive reading of literature or other content material in a target language can also be seen as a type of content-based learning. A content-syllabus might be supplemented with traditional, form-focused, language-intensive work on, for example, vocabulary development, spelling, specific and intensive writing activities, and so on.

The strongest point in favor of content-based instruction is that it allows school students to learn subject matter and language simultaneously, avoiding the problem of having to learn the language of instruction before experiencing the instruction. A second benefit of content-based syllabus is that there is an almost perfect match between what needs to be learned and what is provided. Students learn exactly what they need to learn.

In analyzing this type of syllabus, content-based instruction potentially can lead to premature fossilization or overreliance on compensatory communication strategies if learners are not carefully monitored and given appropriate feedback on their language proficiency.

2.4 The Requirements for Syllabus Design

In this section, the requirements or the basis for syllabus designing will be discussed from two (02) crucial angles: The first, establishing realistic goals where syllabus designers use the information gathered in order to set board policy and make operational decisions related to the content and how to translate it into a fruitful practice. That is, they set the overall objectives of the language program. The second, surveying the existing syllabus that presents a situation in which there is an existing

syllabus, textbooks ,and/or other materials. In this sense, the new syllabus may come to replace an older one, it may be added to the existing ones, or it may be presented as an experiment to enable policy makers to choose the best syllabus once they have all been evaluated with each other. In this context, syllabus designers need to be familiar with the existing materials because new decisions cannot be made without fully understanding the existing situation.

2.4.1 Establishing Realistic Goals

The data gathered during the fact-finding stage is used by a policy-making authority whose job is to prepare guidelines for new courses. At the broad line or the national level, the authority represented by the ministry of higher education and scientific research might be a curriculum advisory committee, whilst at the local level, it could be a teachers' committee assigned the task of preparing a new syllabus. In both stages, the process requires translating academic, professional, societal needs and expectations into operational and attainable objectives. In the case of the advisory committee a draft document specifying the overall educational goals would be prepared, then passed on to a syllabus committee. Later on, the teachers' committee would prepare both the specifications of the goals and the syllabus with its more specific objectives.

Despite the fact that individual needs and wants must be taken into account in both ESL (English as a Second Language) and EFL (English as a Foreign Language) settings, they are very important in the ESP one where learners have moved to a new environment in which the target language plays a crucial role in the overall process of acculturation. In this kind of contexts, courses of this kind must set up goals to fit individual needs and wants by reflecting social objectives as well as academic,

professional or occupational ones. It should be noted that adult learners in higher education also have dual needs: on the one hand, they should cope with English in classes in their field of interest. For this aim, their academic needs might be defined in terms of both language and general learning skills such as understanding lectures in the target language, taking notes, reading textbooks, etc. On the other hand, those learners often have strong needs to acculturate and socialize in the new specialized community. Again, the course must set up goals that incorporate both academic-professional and survival situations faced by students.

To exemplify, if the focus is on the communicative aspect of language learning, or in other words, on the learners' ability to use the target language for communicative purposes, then syllabus designers are likely to design a utilitarian-oriented syllabus, one which encourages the development of communicative-type teaching materials. In more operational terms, the curriculum committee might define the terminal goal of the syllabus as follows: "The student finishing this program will be able to converse effectively with a native speaker on topics of interest, will be able to read authentic materials for pleasure or professional needs, and will be able to correspond with friends, colleagues or business associates in the target language". (Fraida, D and Elite, O 1986: 24).

Additional operational example of how goals are established to fit broad needs, consider a typical ESP course. In a course for "English for science and technology", for instance, the stated objectives might be for learners to develop the following abilities: (a) to write scientific reports and articles, (b) to communicate fluently using English, (c) to develop a richer science and technology vocabulary, (d) to correspond with foreign companies, etc. For such a course to be successful, it is

necessary to broaden objectives to include both the university' s or institute' s agendas and the learners' requests.

2.4.2 Surveying the Existing Syllabus

The new syllabuses are designed either to cure the deficiencies in existing ones or to provide a sort of improvement to them. Therefore, it is imperative to begin any new endeavor with surveying the existing conditions. In the process of describing syllabus currently in operation, five (05) basic components of the syllabus should be examined: (a) the existing curriculum and syllabus, (b) the materials in use, (c) the teacher population, (d) the learners, and (e) the resources of the syllabus. This investigation is guided by a broad fundamental question: "In what ways has the syllabus succeeded or failed ?" It is only by well-understanding the strengths and weaknesses of the existing syllabus can a better one be developed and designed.

The syllabus which is the first component to be examined is the vehicle through which policy-makers convey information to teachers, textbook writers, examination committees, and learners concerning the syllabus. It is the content of the syllabus that concerns syllabus designers. It is a document which ideally describes:

- (1) What the learners are expected to know at the end of the course, or the course objectives in operational terms.
- (2) What is to be taught or learned during the course, in the form of an inventory of items.
- (3) When it is to be taught, and at what rate of progress, relating the inventory of items to the different levels and stages as well as to the time constraints of the course.
- (4) How it is to be taught, suggesting procedures, techniques, and materials.

(5) How it is to be evaluated, suggesting testing and evaluating mechanisms. (Fraida, D and Elite, O 1986: 28).

After the document is fully prepared, it becomes a beneficial starting point in examining the existing situation. However, deep revision of the syllabus may reveal that the syllabus fails to supply the necessary information. It may be more general lacking details essential for course planning leaving both course designers and teachers without any direction. Consequently, one may expect to find a lack of cohesiveness in materials and evaluations and testing used within the system.

Indeed, one might expect a situation in which there is no existing syllabus. In such cases, this situation is preferable from the point of view of course designers as the syllabus specification becomes an integral part of the larger task of course design. As an alternative to the syllabus document, designers will produce another document stating the broad and specific lines that answers all the questions specified related to the objectives and content of the course. (Fraida, D and Elite, O 1986: 29).

In the operation of surveying the existing materials in practice, it is necessary to develop questions as an aid for evaluating them. In this context, the following key questions are suggested:

(1) By whom and where were the materials developed: by a team of materials developers who are familiar with this particular educational system and learners population, or were they produced for the international market which at best is concerned with the broadest possible definition of the target population? If the latter is the case regarding all or most of the existing materials, this may be the central drawback in their design.

(2) Are the materials compatible with the syllabus? Compatibility should be evidenced for all the points specified within the syllabus. Here, the techniques, procedures, and presentation of items should be in harmony with the specifications given in the syllabus. But, if the materials are not compatible, they may need to be evaluated separately. Illustration for non-compatibility may often be found in materials which do not exhibit more awareness for learners' and teachers' needs. Additionally, a new syllabus which is to serve as a basis for new materials will often incorporate the latest developments in the field of language teaching and learning while the existing materials still reflect earlier versions of the syllabus.

(3) Do most of the materials provide alternatives for teachers and learners? Alternatives may be provided in terms of learner-tasks, learning styles, presentation techniques, expected outcomes, etc. This is a significant feature of effective materials as not all types of learning procedures are suitable for all learners. It is known that when there are no built-in alternatives which allow teachers and learners to choose what suits them in their particular situations, then the materials might be imposing and restricting rather than allowing for expansion and enrichment. Effective materials should enable experienced teachers and autonomous learners to develop their own alternatives according to their needs and personal preferences.

(4) Which language skills do the materials cover? Are they presented separately or are they well integrated? Materials often reflect their developers' preference for some language skills at the expense of others.

(5) How authentic are the text types included in the materials? This can be a very crucial question especially in cases where texts might have been adapted for a variety of purposes. If a textbook or text types are not deeply attached to the students' field of

study, students using that material may never have the opportunity of encountering authentic texts.

(6) How do learners and teachers who have used the materials feel about them? This question is very important to be asked in order to gain additional insights into how teachable and learnable the materials really are. This type of data can be gathered via a questionnaire or interview. (Fraida, D and Elite, O 1986: 29-30).

Policy-making related to syllabus design can be realistic and effective only if it takes into account the limitations of available resources for implementation, both quantitatively and qualitatively. The limitations on resources can be translated into a number of key factors that need to be considered carefully as part of the policy-making process:

(1) Time available for implementing the syllabus is a key factor and can easily be determined since any planning takes into account the available hours per week, weeks in the academic year, and even years for the course. Therefore, the success of translating the syllabus into action is dependent on the amount of time available and how it is distributed.

(2) Classroom setting is another important factor, reflecting a number of relevant features of the teaching and learning situation. Factors as the number of students and teachers in the classroom and whether the tables are fixed or easily rearranged might be very important considerations when planning group or individual activities. The actual physical environment of the classroom – light, shape of the room, etc – is also important and may affect the learning process positively or negatively.

(3) Availability of equipments such as tape recorders, slides, films, pictures, posters, and others which may greatly affect some of the activities carried out in class.

In planning a new program, it is important to assess both existing resources and their limitations since they can either render new feasible ideas or be doomed to failure. Syllabus designers might incorporate some of the solutions to these limitations within the new syllabus or adapt syllabus designing to the existing reality, possibly even postponing the new program if necessary. (Fraida, D and Elite, O 1986: 32).

2.5 Approaches and Methods in English Language Teaching

The narrow view towards defining the concept "syllabus" draws a clear distinction between syllabus design and methodology. Syllabus design is seen as being concerned essentially with the selection and grading of content, while methodology is concerned with the selection of learning tasks and activities. In this context, reviewing literature about the main approaches and methods used in teaching English as a foreign language is necessary. And according to their characteristics, language teaching approaches are divided into three categories: structural, functional, and interactive.

There is undoubtedly no single best way to teach a foreign language. The most successful language teachers do not limit their teaching process to only one method although they may lean towards certain characteristics of a particular one. Additionally, students' levels are not similar, and they differ even in learning styles. Hence, teachers should be flexible and conscious of all the possible existing ways of conveying knowledge.

2.5.1 Grammar Translation Method

Grammar Translation Method emerged in the nineteenth century. It dominated Europe and foreign language teaching from the 1840s to the 1940s, and in modified form it continues to be widely used in some parts of the world today. It focused on the knowledge of Latin and Greek as they were acknowledged as the key to classical literature and thought. This method emphasizes memorization of both grammar rules and long lists of native vocabulary items. Its main focus was reading, writing and structure, and little concern was given to speaking, listening, or interactive communication.

The principle characteristics of the Grammar Translation Method according to Richards and Rodgers (1986: 03-04) were these:

(1) The goal of foreign language study is to learn a language in order to read its literature or in order to benefit from the mental discipline and intellectual development that result from foreign language study. Grammar Translation is a way of studying a language that approaches the language first through detailed analysis of its grammar rules, followed by application of this knowledge to the task of translating sentences and texts into and out of the target language. It, hence, views language learning as consisting of little more than memorizing rules and facts in order to understand and manipulate the morphology and syntax of the foreign language. The first language is maintained as the reference system in the acquisition of the second language .

(2) Reading and writing are the major focus; little or no systematic attention is paid to speaking or listening.

(3) Vocabulary selection is based solely on the reading texts used, and words are taught through bilingual word lists, dictionary study, and memorization. In a typical Grammar Translation text, grammar rules are presented and illustrated, a list of vocabulary items are presented with their translation equivalents, and translation exercises are prescribed.

(4) The sentence is the basic unit of teaching and language practice. Much of the lesson is devoted to translating sentences into and out of the target language. It is this focus on the sentence that is a distinctive feature of the method.

(5) Accuracy is emphasized. Students are expected to attain high standards in translation, because of the high priority attached to meticulous standards of accuracy which, as well as having an intrinsic moral value, was a prerequisite for passing the increasing number of formal written examinations that grew up during the century.

(6) Grammar is taught deductively, that is, by presentation and study of grammar rules, which are then practiced through translation exercises. In most Grammar Translation texts, a syllabus was followed for the sequencing of grammar points throughout a text, and there was an attempt to teach grammar in an organized and systematic way.

(7) The student's native language is the medium of instruction. It is used to explain new items and to enable comparisons to be made between foreign language and the students' native language.

Toward the mid-nineteenth century several factors contributed to a questioning and rejection of the Grammar Translation Method. Increased

opportunities for communication among Europeans created a demand for oral proficiency in foreign languages.

2.5.2 The Direct Method

The Direct Method was elaborated as a reaction to the Grammar Translation Method. Gouin had been one of the first of the nineteenth century reformers to attempt to build a methodology around observation of child language learning. This method argues that the language should be learned in the same way children acquire their first language. Then attention was turned to naturalistic principles of language learning where attempts have been made to make second language learning more like first language learning..

Believers in the Natural Method argued that a foreign language could be taught without translation or the use of the learners' native language if meaning was conveyed directly through demonstration and action. That is, a language could best be taught by using it actively in the classroom. These natural language learning principles provided the foundation of the Direct Method. It focused on oral communication, more spontaneous use of the language, and developing the ability to think in the target language.

In practice, the fundamental principles of the Direct Method according to Richards and Rodgers (1986: 9-10) are:

- (1) Classroom instruction was conducted exclusively in the target language.
- (2) Only everyday vocabulary and sentences were taught.

(3) Oral communication skills were built up in a carefully graded progression organized around question and answer exchanges between teachers and students in classes.

(4) Grammar was taught inductively.

(5) New teaching points were introduced orally.

(6) Concrete vocabulary was taught through demonstration, objects, and pictures; abstract vocabulary was taught by association of ideas.

(7) Both speech and listening comprehension were taught.

(8) Correct pronunciation and grammar were emphasized.

This method was criticized as it overemphasized and distorted the similarities between naturalistic first language learning and classroom foreign language learning and failed to consider the practical realities of the classroom.

2.5.3 The Audio-Lingual Method

The Audio Lingual Method developed by the USA army during the Second World War. The entry of the United States into World War II had a significant effect on language teaching in America. In order to supply the US government with personals who were fluent in foreign languages and who worked as interpreters, translators, and code-room assistants, it was necessary to set up a special language training program. For that reason, the government commissioned American universities to develop foreign language programs for military personals.

The objective of the army programs was for students to attain conversational proficiency in a variety of foreign languages. Since this was not the goal of

conventional foreign language courses in America, new approaches were necessary. Linguists and applied linguists during this period were becoming increasingly involved in the teaching of English as a foreign language.

As America had now emerged as an international power, there was a growing demand for foreign expertise in the teaching of English. A huge number of foreign students entered the United States to study in its universities and they required training in English before they could begin their studies. These factors led to the emergence of Audio-Lingual Method by the mid-fifties.

The goal of this method was to teach students to speak a foreign language as native speakers. It was characterized by introducing new material through taped dialogues and recorded drills to allow learners to imitate the native pronunciation and intonation.

Dialogues and drills form the basis of audiolingual classroom practices. They provide the means of contextualizing key structures and exemplify situations in which structures might be used as well as some cultural aspects of the target language. Dialogues are used simply for repetition and memorization. After a dialogue has been presented and memorized, specific grammatical patterns in the dialogue are selected and become the focus of various kinds of drill and pattern-practice exercises (Richards and Rodgers, 1986: 53).

However, the theoretical foundations of Audio-Lingual Method were attacked as being unsound both in terms of language theory and learning theory. Besides, practitioners found that the practical results fell short of expectations. Learners were often found to be unable to transfer skills acquired to real communication outside the classroom.

2.5.4 The Silent Way

This method was devised by Caleb Gattegno in the early 1970s. It is based on the premise that the teacher should be silent as much as possible in the classroom and the learner should be encouraged to produce as much language as possible by discovering and creating language rather than just remembering and repeating what has been taught. In this context, from Gattegno's point of view, as a founder to this method, the learning hypotheses underlying this method could be stated as follows:

- (1) Learning is facilitated if the learner discovers or creates rather than remembers and repeats what is to be learned.
 - (2) Learning is facilitated by accompanying (mediating) physical objects.
 - (3) Learning is facilitated by problem-solving involving the material to be learned.
- (Richards and Rodgers, 1986: 99).

Criticism to this method was that it marginalized the role of the teacher as it tried to create a less teacher-oriented classroom by preventing teachers from providing direct guidance when at most times such guidance would be helpful. Additionally, it neglects cultural input and communicative dimension in the syllabus.

2.5.5 Community Language Learning

Community Language Learning was developed by Charles A. Curran and his associates in the early 1970s. This method represents the use of Counseling-Learning Theory to teach foreign languages. In this framework, Community Language Learning draws on the counseling metaphor to redefine the roles of the teacher 'the counselor' and learners 'the clients' in the language classroom.

Similar to most methods, Community Language Learning combines innovative learning tasks and activities with conventional ones. They include:

(1) Translation. Learners form a small circle, a learner whispers a message or meaning he or she wants to express, the teacher translates it into the target language, and the learner repeats the teacher's translation.

(2) Group work. Learners may engage in various group tasks, such as small group discussion of a topic, preparing conversation, etc.

(3) Recording. Students record conversations in the target language.

(4) Transcription. Students transcribe utterances and conversations they have recorded.

(5) Analysis. students analyze and study transcriptions of target language sentences in order to focus on particular lexical usage or on the application of particular language rules.

(6) Reflection and observation. Learners reflect and report on their experience of the class, as a class or in groups.

(7) Listening. Students listen to a monologue by the teacher involving elements they might have elicited or overheard in class interactions.

(8) Free conversation. Students engage in free conversation with the teacher or with other learners. (Richards and Rodgers, 1986: 120).

This method is the most responsive of the methods we have reviewed in terms of its sensitivity to learner communicative intent. In this sense, Brown (1995: 59) notes that:

"In order for any learning to take place [...] what is first needed is for the members to interact in an interpersonal relationship in which students and teacher join together to facilitate learning in a context of valuing and prizing each individual in the group".

Critics of Community Language Learning centered around whether teachers should attempt counseling without special training. Besides, teachers should be fluent in both the target language and the students' mother language. Other concerns have been expressed regarding the lack of a syllabus, which makes objectives unclear and evaluation difficult to accomplish, and the focus on fluency rather than accuracy, which may lead to inadequate control of the grammatical system of the target language (Richards and Rodgers, 1986: 126).

2.5.6 Suggestopedia

This method was developed in the late 1970s by the Bulgarian psychologist Georgi Lozanov. It is a specific set of learning recommendations derived from Suggestology which is a science concerned with the systematic study of the non-rational and non-conscious influences that human beings are constantly responding to. Suggestopedia sees the physical surroundings and atmosphere of the classroom as of a vital importance.

A more conspicuous feature of Suggestopedia is the centrality of music and musical rhythm to learning. It assumed that music created a level of relaxed concentration that could facilitate memorization and recall, and the whole process of learning.

This method aims to deliver advanced conversational proficiency. It apparently bases its learning claims on students' mastery of prodigious lists of

vocabulary pairs and the main aim of teaching is not memorization, but the understanding and creative solutions of problems.

Some of the limitations of this method touch the point that equipping classes with comfortable seats and music selections are not available in most schools and may not be effective for large classes. Besides, translating the principles of the method into a practice needs well-trained teachers who can respond to its requirements.

2.5.7 Total Physical Response

Total Physical Response was developed by James Asher in the 1970s. The basic foundation of the method is the fact that the human brain is programmed for acquiring any natural language. This method was built around the coordination of speech and action; it attempts to teach language through physical (motor) activity.

Asher has elaborated an account of what facilitates or inhibits foreign language learning. In this context, he draws his learning theory on three decisive hypotheses:

- (1) There exists a specific innate bio-program for language learning, which defines an optimal path for first and second language development.
- (2) Brain lateralization defines different learning functions in the left and right –brain hemispheres.
- (3) Stress intervenes between the act of learning and what is to be learned; the lower the stress; the greater the learning (Richards and Rodgers, 1986: 90).

Among the key features of Total Physical Response is that the role of the teacher is not so much to teach as to provide opportunities for learning; here, the

teacher directs and the student acts in response. "The instructor is the director of a stage play in which the students are the actors" (Asher, 1977: 43). Besides, grammar and vocabulary are emphasized over other language components, and spoken language is emphasized over written language.

This method represents a useful set of techniques and is compatible with other approaches to teaching. Total Physical Response practices may be effective for reasons other than those proposed by Asher and do not necessarily demand commitment to the learning theories used to justify them.

2.5.8 Communicative Language Teaching

In the mid-eighties century, the field of approaches to foreign language teaching gave birth to what we now identify as Communicative Language Teaching Approach. This method is interested in giving students necessary skills to be able to communicate under various circumstances. The focus is on functional language usage and the learners' communicative competence to express their own ideas, feelings, attitudes, desires and needs. Teachers' qualifications become important and motivation for learning is highlighted.

Brown (1995: 77) describes the scene of ELT under the umbrella of Communicative Language Teaching by:

"Beyond grammatical discourse elements in communication, we are probing the nature of social, cultural, and pragmatic features of language. We are exploring pedagogical means for real-life communication in the classroom. We are trying to get our learners to develop linguistic fluency, not just the accuracy that has so consumed

our historical journey. We are equipping our students with tools for generating unrehearsed language performance 'out there' when they leave the womb of our classrooms. We are concerned with how to facilitate lifelong language learning among our students, not just with the immediate classroom task. We are looking at learners as partners in a cooperative venture. And our classroom practices seek to draw on whatever intrinsically sparks learners to reach their fullest potential".

From the above quote it appears that involving learners into the language contexts, that is, teaching reading or writing the target language in real life situation, would lead them to achieve successful communicative goals.

At the level of language theory, Communicative Language Teaching has a rich theoretical base. Some of the characteristics of this communicative view of language follow:

- (1) Language is a system for the expression of meaning.
- (2) The primary function of language is for interaction and communication.
- (3) The structure of language reflects its functional and communicative uses.
- (4) The primary units of language are not merely its grammatical and structural features, but categories of functional and communicative meaning as exemplified in discourse. (Richards and Rodgers, 1986: 71).

Piepho (1981:8) discusses the following levels of objectives in a communicative approach:

- (1) An integrative and content level (language as a means of expression).

(2) A linguistic and instrumental level (language as a semiotic system and an object of learning).

(3) An effective level of interpersonal relationships and conduct (language as a means of expressing values and judgments about oneself and others).

(4) A level of individual learning needs (remedial learning based on needs analysis).

(5) A general educational level of extra-linguistic goals (language learning within the school curriculum).

These are proposed as general objectives applicable to any teaching situation.

The adoption of Communicative Language Teaching Method raises important issues for teacher training, materials development, and testing and evaluation. Questions around whether a communicative approach can be applied at all levels in a language program, how such an approach can be evaluated, and how suitable it is for non-native teachers. These kinds of questions will doubtless require attention if the communicative movement in language teaching continues to gain momentum in the future (Richards and Rodgers, 1986: 83).

2.6 Testing and Assessment Trends in Needs-Based Syllabus

All today' s forms of teaching and learning are envisaged with certain forms of assessment as educational stakeholders are eager to be informed about learners' progress. Additionally, course or syllabus objectives, content and methodology are also scrutinized in this process so that suggestions for improving the course or the syllabus could be made.

As far as ESP is concerned, its aim is to develop the specific skills of the learner in response to the needs identified or indicated by different stakeholders. This specificity comprises equipping learners with "not only knowledge of a specific part of the English knowledge, but also competency in the skills required to use this language" (Orr 2008: 01). Moreover, ESP learners include almost all adult age groups, as well as cultural, linguistic, professional, and academic backgrounds.

The guiding principle of assessment in ESP framework is collecting evidence to understand the effectiveness of the course or syllabus in terms of the skill enhancement of learners. NA in ESP covers the purpose of assessment, the personal, educational, the characteristics of the learners, and the context of specific purpose language use (Douglas, 2000: 167).

The ultimate aim of assessment is to give learners an opportunity to present what they have learned, and what they can do with that, by being given the same instructions and the same input under the same conditions. A well-constructed test will give learners the opportunity to notice themselves that they can perform and communicate in the target language.; it will also provide the teacher with the necessary information to know his/her learners, and consequently to evaluate their progress in a fair way. In this context, Alderson and Waters 1982: 40) asserts:

"Feedback on the success of activities is regarded as crucial to learners, and when this feedback can be given during a course – what has come to be known as formative evaluation – it can motivate learners, inform their future learning and help to make possible a truly communicative process of interaction and negotiation between learners, language and teachers".

Here, the assessment instruments that can be employed in specific purpose programs varies since assessment is a process, which may give answers not only to questions as such, how much students have learned (this purpose is achieved by means of a test), but also to questions on how they learned and why a given result happened. This type of data can be obtained by techniques other than tests, comprising observations, surveys, interviews, performance tasks, and portfolios. Thus, assessment serves the purpose of students' improvement and development through a variety of approaches.

The most important in ESP testing is if students have the ability to communicate in a specific target language and use knowledge of the field in order to achieve their aims and get their messages across English language. ESP testing approach is based on the analysis of learners' target language use contexts and specialist knowledge of using English for real communication. Hence, when designing an ESP test, the ESP underlying principles should pervade the whole process: (1) language use varies with context; (2) specific purpose language is precise; (3) there is an interaction between specific purpose language and specific purpose background knowledge (Douglas, 2000: 368).

Devising an ESP test requires valid and reliable measures of language ability to be developed. These measures are expected to be as authentic as possible, and provide accurate and reliable measures of language ability, have beneficial impacts, and be practical and cost effective in terms of administration, time, money, and personnel. The listed factors have been identified as quintessential ones that affect the quality of the test in a positive or negative way (Alderson et al. 1995; Bachman and Palmer 1996; Douglas 2000; Dudley-Evans and St John 1998).

Another important aspect of ESP testing is related to the target group. ESP students stand out as it is assumed that they have become aware of both their target needs – subdivided into necessities, lacks, and wants – and their learning needs (Hutchinson and Waters, 1987: 54-61). In comparison with general English tests, which are in sometimes targeted for certain age groups, ESP tests are more likely to be used with adults either at tertiary level institutions or in a professional work situation.

2.7 The Role of ESP Learners

In the framework of learner-centered approaches, course design and teaching often become negotiated, dynamic processes as needs, expectations, and student resources vary within each group and within a single course sequence. Additionally, practitioners should take into account students learning styles, strategies and language processing approaches.

In any instructional framework, the focus on language learning styles and strategies as two influential factors should be made. Oxford (1990) states that these two factors show how and how well EFL and ESL students learn a language. The importance as well as the effectiveness of learning strategies in language learning have turned the concept into a hotly-debated issue, paving the way to the appearance of various definitions and classifications (Cohen, 1988; Oxford, 1990; Stern, 1992). Oxford (1990) defines learning strategies as "the learners' operations which help them acquire, store, retrieve, and use information". She adds "learning strategies are actions taken by the learners to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to the new situation". As far as the categories of language learning strategies are concerned, Oxford (1990) has proposed

six main kinds: memory strategies, cognitive strategies, meta-cognitive strategies, compensation strategies, affective strategies, and social strategies.

Another important and essential factor in language learning success is learning styles. In comparison with language learning strategies that are in essence consciously chosen by learners, learning styles are inherent preferences that learners use in learning a new language. The inherent nature of learning styles turns them into a favored habitual mental activity in processing new information. Kolb (1981) states that learning styles, quite unique in each person, are developed as a result of life experience and the environmental factors, enabling people to emphasize on some learning abilities over others. Based on his theory, language learning relies on four major learning modes upon which learners' accomplishment in the second language learning heavily depends, namely concrete experience abilities (CE), (e.g., feeling), reflective observation abilities (RO), (e.g., reflection, watching), abstract conceptualization abilities (AC), (e.g., abstractness, thinking), and active experimentation abilities (AE), (e.g., action, doing). The combination of these four learning modes has led to four learning styles; the converger, the diverger, the assimilator, and the accommodator.

It is obvious that learning strategies and learning styles are two related factors that go hand in hand in any instructional framework. Thus, striking a balance between learners' favored style and strategy, and also between the teaching methodology and materials is of paramount importance which results in learners' better performance, self-esteem, and low anxiety (Oxford, 1990). Hence, teachers should assist students becoming more flexible and more aware of their learning styles and approaches.

The role of the students' voice in the syllabus is now starting to be acknowledged. When assessing the syllabus of English in the science and technology branches in Algerian higher educational institutions, it is noticed that the voice of the learner has largely been absent. Therefore, the educational product is not properly aligned to the needs of the learners.

Science and technology students are adult learners who are highly conscious of themselves and their purpose. Thus, it is crucial to make use of what they bring to the class and nourish their interests and motivations.

2.8 The Role of ESP Practitioner and the Subject Specialist

Richards (2001) mention that being a good and effective teacher means more than being a skillful and experienced classroom practitioner. It means having the ability to develop and adapt materials, plan and evaluate courses, and adapt teaching to learners' needs.

As ESP teaching is extremely varied some authors as (Dudley Evans and St John, 1998) use the term 'practitioner' rather than 'teacher' to emphasize that ESP work involves much more than teaching. They have identified the following five key roles for ESP practitioners who need to play the following roles:

- (1) Teacher;
- (2) course designer and materials provider;
- (3) collaborator;
- (4) researcher;
- (5) evaluator.

The role of an ESP practitioner as a teacher "becomes more pronounced as the teaching becomes more specific" (Dudley-Evans and St John, 1998: 13). It is true that the ESP teacher and the GE one share common roles as teaching English language. Yet, the difference lies in the objective behind teaching. In ESP, the teacher is a needs analyst, that is, he/she has to understand his/her learners' needs in order to understand their knowledge of the content so as to bring the relevant materials required by the group of learners in class.

Goonetilleke (1989: 45) mentions that it is not easy to find teachers who know English as well as the subject of the students. The students, especially where the course is specifically oriented towards the subject content or work the students are engaged in, may know more about the content than the teacher. He/she has the opportunity to draw on students' knowledge of the content in order to generate communication in the classroom. ESP teachers need to have considerable flexibility, be willing to listen to learners, take interest in the disciplines or professional activities the students are involved in when engaged in the process of teaching.

Course designing and providing relevant materials is one of the most important aspects of ESP teaching. And as ESP courses aim at motivating learners to use English in an academic or a professional setting, both ESP courses and materials are based on analyzing the learners' needs (Basturkmen 2006), however, teachers and sponsors' needs are also taken into account in most educational institutions. Thus, the needs of ESP learners are specific, and ready-made teaching materials may not suit their learning objectives. For that reason, Dudley-Evans and St John (1998: 10) have chosen the term 'material provider' to emphasize that the ESP teacher should survey what is available, select units from a number of course books, adapting these if

necessary, and write a number of extra units. In this context, Dudley-Evans and St John (1998: 15) state that:

"Role of ESP teachers as 'providers of material' thus involves choosing suitable published material, adapting material when published material is not suitable, or even writing material where nothing suitable exists".

It should be noted, here, that there is a controversy on whether the materials provider should adopt authentic textbooks or write his/her own. According to Hutchinson and Waters (1987), materials writing should be the last step when the other possibilities are exhausted.

Additionally, ESP practitioners also need to assess the effectiveness of the teaching material use whether it is published or self-produced.

According to Nunan and Lamb (1996), coordinating with colleagues is considered to be an essential step in any educational task. It is believed that subject-specific work is often best approached through collaboration with subject specialist. It may involve specific collaboration so that there is some integration between specialist studies or activities and the language. The aims of this cooperation can be having sufficient knowledge about the subject skills, tasks, and syllabus, and discovering how the subject integrates with the language in order to bring the suitable material and courses for the learners (Dudley-Evans and St John 1998).

Hutchinson and Waters (1987) argue that ESP teachers do not need specialized subject knowledge in order to teach content-based language courses; they require the following three key features:

- (1) A positive attitude towards the ESP content;

(2) A knowledge of the fundamental principles of the subject area;

(3) An awareness of how much they already know.

In other words, the ESP teacher should not be the teacher of the subject matter, but rather an interested student of the subject matter.

ESP teachers should also have the ability to actively integrate students' knowledge about the subject matter as Ellis and Johnson (1994: 26) say: "learner who has the specific content knowledge and who is able to bring that knowledge to the classroom".

The curriculum design process of all ESP courses requires a concerted effort from subject specialists and language teachers. Cooperation and collaboration among ESP instructors and subject specialists are essential for the success of such courses. In this context, Dudley-Evans and St. John 1988: 15-16) state that: " [...](Subject – specific work) may involve specific collaboration so that there is some integration between specialist studies or activities and the language. This might involve relating the reading component of an EAP course to the actual content of a subject course by exploiting texts in English that present additional relevant material, in other words, the subject teacher provides 'the carrier content' for the English course".

In this case, discussions between subject specialists and language teachers revealed gaps in learners' knowledge and language abilities, which should be addressed in the design of the course.

As a researcher, the ESP practitioner needs to be in touch with the latest researches, incorporating their findings. Thus, before designing courses or providing materials, ESP practitioners need to do research in order to investigate the genres of

texts, language, and skills required by the specific field of the study (Dudley-Evans and St John, 1998). They need to update their knowledge by remaining constantly in touch with the research in the various fields of ESP. ESP practitioners carrying out needs analysis, designing a course, or writing teaching materials need to be capable of incorporating the findings of the research, and those working in specific ESP situations need to be confident that they know what is involved in skills in the academic context. In this context, Dudley-Evans and St John (1998: 15) states that "Those carrying out NA, designing a course, or writing teaching materials need to be able to incorporate the findings of the research". They suggest that ESP practitioners have to go beyond NA and should be able to carry out research to understand the discourse of the specialized texts that students use.

As evaluator, the ESP practitioner has to evaluate students, courses, and teaching materials. Students evaluation should be done in order to assess how much they have learnt from the course. It should be mentioned that evaluation of course design and materials design should be done during, at the end, and even after the course. In this framework, Dudley-Evans and St John (1998:16) asserts "evaluation of course design and teaching materials should be done while the course is being taught, at the end of the course, and after the course has finished".

In ELT in general and ESP in particular, evaluation plays a role as a feedback for learners and the course achievement. Nunan and Lumb (1996: 299) argue that:

"Monitoring and evaluation are essential parts of everyday life. We monitor ourselves and others as we carry out the many tasks of everyday life, shopping, riding the subway to work, looking after our kids in the park, watching television, and so on".

2.9 Teaching Materials Design

Authentic materials have been discussed as beneficial in language teaching. These materials may also work as a motivating feature and as a link between students' general knowledge of language and their professional language needs. Authentic materials can serve as excellent resources for introducing language in its real form to ESP learners whose final goal in taking ESP courses is to communicate properly in real-world contexts.

Hutchinson and Waters (1987: 107-108) define the objectives of materials design through identifying some principles that guide syllabus designers as well as practitioners in the actual writing of the materials. Those principles could be listed as follows:

- (1) Materials provide a stimulus to learning. Well-designed materials encourage learners to learn. Good materials should contain interesting texts, enjoyable activities which engage the learners' thinking capacities, opportunities for learners to use their existing knowledge and skills, content which both learner and teacher can cope with.
- (2) Materials aid to organize the teaching-learning process by providing a path through the complex mass of the language to be learnt. Thus, well-designed materials should provide a clear and coherent unit structure which guides teachers and learners through various activities in such a way as to maximize the chances of learning.
- (3) Materials embody a view of the nature of language and learning. Hence, they should reflect what materials designers or practitioners think and feel about the learning process.

(4) As language learning is a complex process involving many different kinds and levels of knowledge, materials reflect the nature of the learning task through creating a balanced outlook which both reflect the complexity of the task, yet make it appear manageable.

(5) One of the materials functions is broadening the basis of teacher training by introducing teachers to new techniques.

(6) Materials provide models of correct and appropriate language use as they become a statement of language use rather than a vehicle for language learning.

Taking into account the principles outlined by Hutchinson and Waters (1987), materials designers or practitioners can prepare models of materials that can satisfy and respond to the learners' target needs.

Karpova (1999) provides a list of criteria which need to be considered when using authentic materials:

(1) Content: the content of authentic materials has to be appropriate for learners' age, interest, needs and goals.

(2) Tasks: tasks must be sequenced and differentiated and must include communicative and cognitive procedures so that the learners' background and new knowledge can be integrated.

(3) Teacher-learner relationship: the materials must be structured in a way that a "reciprocal" interaction between the instructor and the learner takes place.

(4) Learning strategies: cognitive abilities of the learners must be improved by paying attention to learning strategies.

(5) Learning environment: the environment provided should in a way encourage risk taking and idea sharing.

(6) Social values and attitudes: authentic materials must be a reflection of social values and attitudes.

(7) Culture issue: authentic materials must further learners' cultural, sociolinguistic, and paralinguistic awareness.

ESP practitioners or course designers can adopt appropriate materials for the ESP course(s). They can produce in-house materials based on the content of the course. ESP practitioners also have to be good providers of materials. Dudley-Evans and St.John (1988: 173) think that a good provider of materials will be able to:

- (1) select appropriately from what is available;
- (2) be creative with what is available;
- (3) modify activities to suit learners' needs; and
- (4) supplement by providing extra activities (and extra output).

Some of these materials which can be used in ESP courses include articles as a part of their specific field of literature, advertisements, brochures, scientific newspapers and magazines, audio recordings, and videotapes and best of all the Internet which differs from the other sources as it can be updated continuously (Berardo, 2006).

ESP practitioners should play their roles as material developers effectively and should meanwhile consider the benefits inherent in authentic materials. This can be used in creating a connection between ESP learners' needs and the real world outside

the classroom. Hence, in professional settings, it may be possible to simulate the real world in classrooms via presenting authentic materials that are probable to occur in learners' future vocational settings.

To sum up, it can be concluded that although authentic materials are abundant, the selection to fit them into the learning/teaching context is not accomplished effortlessly as learners' language level must be considered in selecting texts and texts must be carefully examined for their lexical and structural difficulty. Moreover, to choose appropriate themes and topics, learners' needs and interests are required to be reflected on.

2.10 Conclusion

This chapter has provided a broad overview of the link between needs analysis and syllabus design. Some key concepts in ESP syllabus design have been clarified as the concepts: course, syllabus, and curriculum. The chapter content asserts that the choice of a syllabus depends on many criteria, among them the students' needs, the course objectives, and the English language teaching method. It is through needs analysis the teacher can adopt and make use of the appropriate language teaching methodology and design the accurate and practical syllabus aiming at helping students to acquire the needed language skills from their point of view.

Chapter three: Situation Analysis

Chapter three: Situation Analysis

3.1 Introduction

The present chapter represents an observation towards ESP teaching in Algeria. It endeavors to show the status of English language in Algerian educational system, its values and necessity especially in science and technology departments including Electricity and Electronic Departments at the University of M'hammed Bougara, Boumerdes). It also provides a deep observation on the teaching and learning situation at different aspects: an overview of the current English syllabus in addition to the subjects taught.

3.2 The Algerian Educational Reforms

In most countries, educational reform is rooted to instill change and increase the efficiency and effectiveness of schooling. Educational reforms are usually reform efforts focusing on particular problems or issues, such as developing the low level of teachers through training and improving their socio-economic situation, revision of curriculum content, and the status of foreign languages.

Historically speaking, Algerian educational system was changed by a program of Arabization shortly after independence. The government introduced new teaching methods and began training Algerian teachers and bringing in foreign Arabic-speaking teachers. Since 1973, however, the curriculum has been arabicized and the teaching of French has been restricted.

The first reform movement was the arabization policy that was enhanced in 1962 in order to eradicate the dominance of the colonial language, French, after more than 130 years of colonization. In this context, Ben Rabah (2002: 17) states:

Starting from 1962 the Algerian government that inherited the remnants of an education system focused on European content and conducted in a foreign language by foreign teachers, sought to gradually increase Arabic sessions in all levels and all subjects were taught in Arabic and there was a decrease in the amount of time for teaching French. This policy, of course favored the national integrity , unity and religion" .

It should be noted that this policy had been widely criticized for ignoring the population linguistic diversity and marginalizing introducing international foreign languages, mainly English language in the educational reforms.

According to Benrabbah (1999), until the 1970s , the educational system consisted of the primary school and middle school (09 years), and secondary school (03 years).

An other turning point in Algerian educational reforms was marked in 1976 where a new schooling system called the fundamental school was applied. It was a fusion of the primary and middle school (09 years) with all the subjects taught in Arabic but foreign languages. During this era, French was reimplemented as subjects such as mathematics and biology were taught in French (Rezig, 2011: 132). In that system, English was taught in middle school (approximately at the age of thirteen 13) which is not that beneficial for learners. In this context, it is proved that younger children in immigrant families are found to acquire perfect accent, while old people could only master other aspects of the language like its syntax and vocabulary (Rezig, 2011: 133).

By the mid of the year 2000, Algeria has started a series of changes aiming at improving the structure of the educational system. Since the introduction of the

English language into Algerian schools, it has become an important part of the curriculum and has recorded a great demand in all levels of education. English has become an important subject and specialty at all stages of the educational system.

In the Algerian case, as a matter of fact, English has been defined as a second foreign language in the beginning of the 1990s, and as a first foreign language after the 2000 educational reform, to gain the status of the language of science and technology used in lifelong learning in recent years.

3.3 Reforms at the University Level: The Introduction of the LMD System

Last decades witnessed an immense quantitative evolution of higher education in Algeria. The classical system, i.e., four (04) years bachelor, two (02) years magister – four (04) years doctorate, did not respond to main challenges imposed by the changing situation of economy, of politics, and of the society in Algeria, an important shareholder of many European countries. The changing situation led the government and education policy makers to re- think the educational system in Algeria and to integrate a new system that can correspond and respond to socio- economic mutations contributing to a significant evolution to this country. As a matter of fact, a decision was made to implement the European educational system known as LMD (Licence- Master – Doctorate) in 2004.

Since Algeria' s independence in 1962, national higher education policies have achieved some successes, especially in the management of massification, but have also many constraints and difficulties. Starting from the year 2004, Algeria joined the international higher education reform of the Bologna process known in Algeria by the name of the LMD reform (LMD: Licence- Master- Doctorate, equivalent of BMD: Bachelor – Master- Doctorate in Bologna process system). In order to achieve the

reforms objectives, Algerian higher education system launched a quality assurance policy.

This process that attempts to respond to the country's new socio-economic needs, support economic development efforts and to facilitate the adaptation of the Algerian higher education system to an international standard of quality, was introduced in Algeria at the tertiary level in the academic year 2002- 2003, modeled to the Anglo- American higher education system aiming at modernizing and aligning the Algerian higher education system with international standards. In this context, El-Watan, a daily Algerian newspaper, cited on October 28, 2004:

Malgré les réserves et les appréhensions émises par l' ensemble de la famille estudiantine, le processus de la restructuration du système de l' enseignement supérieur à travers la mise en œuvre système anglo-saxon (LMD) est déjà en place. De crainte d' être encore à la traine des pays occidentaux, le ministère ne peut reculer.

In the same framework, the Algerian Ministry of Higher Education and Scientific Research initiated in January 2004, a guideline summarizing the key tasks of the university. These include:

- Provide quality training.
- Make a real osmosis with the socio-economic environment developing all possible interactions between the university and the outside world.
- Develop mechanisms for continuous adaptation to changing jobs.
- Openness to global developments, mainly those of science and technology.

- Encourage diversity and international cooperation by the most appropriate terms.
- Lay foundations for good governance based on participation and consultation.

(Hemche 2014: 123-124)

In order to implement this educational reform at the university level, the government represented by the Ministry of Higher Education and Scientific Research worked in accordance with the National Evaluation Committee before putting it into practice. Prior to drafting the official document, the principles of the educational reform were debated by a number of teachers of higher education from about ten (10) universities. The final document was the result of a serious long discussion of about one year. The engaged partners did much efforts to make this enterprise succeed aiming at encouraging the future well being of the Algerian university (Hemche 2014: 124-125).

The application of the LMD system began in the academic year 2004/2005. However, not all universities accepted to implement it. Some universities as Annaba, Bejaia, Tlemcen, and Mostaghanem were the first to adopt the system. Today, the system is in use as most Algerian universities adopted it.

In fact, the LMD implementation objective is to improve the transparency of qualifications on the job market and to align with the rest of the world at the educational level of integration by the implementation of the LMD system at the tertiary level aiming at unifying or harmonizing with European qualifications.

3.4 The Impact of the Implementation of the LMD Reform on Teaching English as a Foreign Language

In present day, education policy makers emphasize enhancing EFL students' levels to get much knowledge in order to secure their jobs through acknowledged degrees and high levels of employment because the spread of unemployment in Algeria has upset both the government and the stakeholders. Aiming to obtain higher degrees is simply a means to access better jobs likely to lead to higher social status. Hence, English language becomes, for students, a dominant subject, an international language, and a means to get access to good jobs.

As English has become the most dominant and useful language worldwide, many countries have adopted various policies that promote ELT and Algeria is not an exception. In present day Algeria, English is considered as a foreign language that is offered as a required subject at all levels of tertiary education. To understand and recognize that the efficiency of English language development in the Algerian educational system paves the way for learners to take part in the globalization, Algerian government has made a huge effort to change the ELT policy and some changes were made in the 1990s (Bouhadiba et al, 2012: 181).

To illustrate, at the university level, the LMD system which is applied as a new approach is based on the communicative approach that has been implemented in the Algerian university almost in all subjects and specialties. The LMD system, as the latest new reform applied in the Algerian universities, aims at bringing the Algerian diploma to the universality and the Algerian student to a higher level of learning on the one hand and to the business world on the other.

It should be highlighted that the introduction of the LMD into the Algerian universities should be accompanied by these new ideas for innovative teaching practices to improve the performance of the university system but also lead to greater employability of graduates.

Although the text of regulations in the LMD system brings some innovations in assessment and the roles of teachers and students in the teaching and learning process, it does not offer any solutions to the employment of graduates. For assessment, the evaluation of skills and knowledge acquisition is based either on a continuous and regular control or by a final exam, or the combination of the two modes of control. But priority should be given to continuous monitoring. Therefore, the assessment of students leans on a set of procedures meant to measure the results of their learning in terms of the grasped knowledge, the deduced comprehension, and the acquired competence. Also, within the framework of new procedures in the LMD system that the teacher has to be able to pass logic of knowledge controlling to a process of evaluation seems rather feasible (Bouhadiba et al, 2012: 181-182).

In another angle, the LMD system paved the way to the emergence of new roles for both teachers and learners in the teaching and learning process. The recent pedagogical procedures derived from the implementation of the LMD reform tend to transform the student from a passive agent into a principle active agent in the learning process. Accordingly, the role of teachers has been changed for the reasons that it suits the freedom given and prescribed for the student. Hence, teachers roles are mediator and facilitator of knowledge in the learning process. That is, teachers are no more, the only exclusive source of knowledge. They are required not only to master the discipline they teach, but also the methodological competencies that allow them to

clearly define the objectives of the learning process as well as the referential of the competence on which the control of the learning process is based.

More importantly, even if the necessity to renovate the contents of formation is not deniable, the demand of a new vision of the pedagogical act is essential and indispensable. This new vision has to integrate the actual realities into the considerable increasing of knowledge. The shift from an annual system to a semi-annual system that tolerates the passing to the following year with debts is often conflicting and it imposes an individualized management of students (Bouhadiba et al, 2012: 182).

At the level of higher education, the Algerian ministry has assigned special commissions to evaluate the Licence, Masters, and Doctorate' s offers. In order to render the LMD architecture more beneficial, a number of measures have to be adopted at the level of curriculum design and integration. Accordingly, success would rely on the following perspectives:

- (1) Planning and evaluation of the students' needs as well as those liaised to the socio-economic market;
- (2) Developing multimedia at the level of oral expression and vocabulary;
- (3) Encouraging student enhancement with mobility;
- (4) Creating cooperation between universities who share the same objectives and interests;
- (5) Creating listening cells and audits in order to register students' propositions;
- (6) Prepare students for vocational education through the choice of English.

(Abdellatif, 2013: 913).

It is undeniable that Algeria has accomplished steps forward in its educational policy about languages, but the hardest work is yet to come. Teaching English in Algerian university as a second or simply foreign language needs deeper planning at all levels of education.

3.5 The Status of English in Algerian Educational Settings

English has become an international and favored language in science and technology related fields, business, education, etc. In Algerian context, English is apprehended as a second foreign language. its teaching is in competition with French language since the year 2000; it introduced at the first year middle school. However, ninety percent (90%) of undergraduate and post graduate courses in science and technology or medicine are taught in French language (Miliani, 2000: 20).

In Algerian context, English is taught as compulsory course starting from the first year middle school. However, being a second foreign language in the educational system and due to historical and social reasons, English is primarily learned for educational reasons as to pass exams.

For a country like Algeria, , that has witnessed turmoil in the choice of languages used in education, it has been difficult to set the objectives of studying English as a foreign language. in tertiary education, for example, students are often asked about their motives of studying English as specialty or a subject. Their answers are often vary between "because it is the language of the world", "it was not my choice but this is the only thing I could do with my marks". Giving more importance to marks may hinder the learner from making research for the sake of making

knowledge. In order to remedy the situation, it is necessary to put conditions to learning and insert it in the syllabus.(Abdellatif 2013: 912).

It is worth mentioning that despite the fact that the language of instruction in Algeria is mainly either Arabic or French, Algerian decision makers are aware of the vital role of English language. Therefore, they try to implement the use of English at all levels of education. In this vein, Zughoul (2003: 122) argues:

In Arab North Africa, and despite the fact that French has had a strong foothold in Tunisia, Algeria and Morocco, it has been retreating and losing a lot of ground to English. In fact, the tendency of what can be termed a shift from French to English in these countries cannot be cancelled.

At the university level Algeria, English is introduced in different curricula at different departments all over the country, either as a main subject at the English Department where students are required to attend different modules as: written expression, oral expression, grammar, phonetics, literature, civilization, research methodology, etc; or simply as an additional compulsory module.

As stated above, English is also introduced in other departments and it has the status of additional but compulsory subject. Hence, students who study electric or electronic engineering, mathematics, physics, chemistry, economics, and so forth are required to study ESP courses based on the requirements of their academic specialty and their academic and professional needs. Different ESP courses are provided in Algerian universities under different labels: English for Science and Technology (EST), English for Business and Economics (EBE), etc. in this context, English as a subject is studied along side with fundamental modules of the academic discipline.

3.6 Issues in Teaching English in an ESP Context

Teaching and learning English to fulfill communicative purposes become a worldwide concern, and Algeria is one of the countries that attempts to develop the status of English regarded as the key to scientific and technological development. Thus, the educational authority in Algeria implements the use of English particularly at all tertiary level institutions.

ESP courses are provided in different departments including science and technology fields departments to meet learners' specific objectives both academic and occupational. In this respect, teaching English for specific purposes at the university level seems to have its own challenges and requirements in Algeria.

It is vital to understand what ESP courses are. They are determined by the analysis of the communicative needs of the learners. The aim of ESP courses are to prepare learners in accordance with the specific skills and vocabulary needed in their specific study fields. Hence, the foundations of ESP course or syllabus is associated with why the learners need to learn the language. Accordingly, the syllabus that results from NA may be produced and applied with emphasis on authenticity (Djaileb, 2015: 29).

Additionally, certainly there are components that are important for the process of teaching the language: students, teachers, materials, teaching methods and evaluation. ESP teachers should be flexible. They can modify, delete, or add lessons according to the students' expectations. That is, they can teach without focusing on a specific textbook. For Dudley-Evans (2001), the key defining features for ESP is its teaching and materials development on the basis of the results of NA.

In ESP context, preparation of materials are done by teachers according to a specific setting. In most ESP courses, two (02) approaches are adopted in materials development: language in use and formal linguistic syllabus based on grammar, pronunciation and vocabulary. One of the main goals of ESP courses is to develop the four language skills – listening, speaking, reading and writing – for a specific group of learners specialized in a given academic discipline. Thus, the course development process should consist the following steps:

- (1) Needs assessment.
- (2) Determination of goals and objectives.
- (3) Content conceptualization.
- (4) Evaluation. (Djaileb, 2015:29-30)

3.7 Realities of Teaching EST in Algerian Universities

EST, or teaching and learning English for scientific and technological purposes, is one of the ESP genres that is widely used and needed in almost all scientific, technical, and technological faculties, mainly in Algeria.

Owing to the constant and rapid developments taking place in science and technology, most of the traditional models of language education have become an extremely inadequate to meet the present day' s demands and practices of the academy in the world of professions. Up-to-date technologies and scientific ideas continue to be exchanged all around the world. Hence, it is imperative that engineers and scientists, among them graduates of technical universities, to develop the language skills necessary in order to be active players in this competitive world. Since the language needed science and technology students should be related to their

professional field, their language skills should be improved. This can be achieved through allowing learners to perform a full-fledged communication in the typical situations of their professional activity. Accordingly, a language learning approach had better be based on the activities that are associated with their profession in an international context. In this framework, the language syllabus should equip learners not only with language necessary skills, but should also enhance their comprehensive awareness enabling learners to communicate adequately with colleagues of the same specialty from other countries (Musikhin 2016: 29).

According to Ono and Maurimura (2007 in Musikhin 2016: 34) within an ESP/ EST course it is essential learners acquire:

- An English proficiency which will allow them to communicate with English speaking specialists all over the world.
- A cosmopolitan, global outlook.
- Experiences which will enable them to communicate with other specialist-partners on equal terms outside their own country.
- Creative skills and self-motivation for exploring solutions to problems related to their professional domains.

However, regarding EST in the Algerian universities, Algerian students generally are not capable of understanding English mainly teacher' s spoken language easily. They are motivated and willing the target language because of their big awareness about the necessity and importance of English language in all scientific and technology fields including electricity and electronics branches. It should be mentioned that English as a subject in most science and technology departments and

faculties in Algeria is taken once per week; but it is central subject for the students of electricity and electronics at the National Institute of Electricity and Electronics during the first year, and the language of instruction in the remaining specialty subjects is English. This simply reveals the extent of the importance of English for science and technology students mainly INELEC' s students.

During science and technology lectures and TD sessions, multilingualism is used. The use of French or Arabic in English for science and technology classes permits learners to better understand the target language. EST teachers found themselves obliged to translate ambiguous terms for students either in Arabic or French though the right pedagogy asserts that the target language should be studied and understood without translating it to another language.

In Algerian EST teaching context, there is a wide variety of EST ideas for teaching. One of the overwhelming ideas is to begin with the exploration of a scientific text which is related to their study fields; students will discover all the specific terms that are associated with a a given science and technology topic, then they look out for their definitions.

Additionally, comprehension questions were introduced and asked in order to assess learners understanding of the content and to measure the clarity of the text. Comprehension questions also allow creating a sort of debate with students that would initiate learners to practice the language freely (Baghli 2014: 575).

Then, grammar would also be useful to enable students to reestablish the basic functioning of words and sentences. Teaching grammar in EST courses must differ from GE courses in terms of prioritizing, ordering and staging. There are many areas of grammar that should clearly take the priority in EST courses as they are more

relevant to learners' needs than other areas, such as, passive voice as it accounts for a high percentage of all verb forms in EST. some researchers (Swales 1971) have estimated this percentage to be approximately one third of verb forms in English (Harb Mansouri 2010: 18). The requirements of writing scientific reports, explaining the findings of scientific experiments, or taking notes during science and technology lectures are the pillars of writing in EST courses in science and technology Algerian classes.

EST learners are likely to have a high degree of motivation if the materials used have a scientific and technological content and exhibit the distinctive features of science and technology discourse. EST teachers should explicitly deal with syntactic and discursive features of the language of science and technology. Research in science and technology teaching reveals that EST reading and writing skills improve provided that the syntactic, lexical and rhetorical patterns of scientific English are dealt with in the process of teaching ((Harb Mansouri 2010: 19).

3.8 EST Teaching Methods

EST teaching is mainly a question of planning, structuring, integrating, and management of various activities aiming at enhancing learners' attainments.

It should be highlighted that the idea of practicing language learning in authentic environment as the case in EST settings is now new. It should be in line with Communicative Language Approach (CLA) which has been largely used for ESP teaching in recent years. The major features of CLA that should be adopted in EST classes are the following:

- (1) An emphasis on learning to communicate through interaction in the target language.
- (2) Introduction of authentic texts into the learning situation.
- (3) Provision of opportunities for learners to focus, not only on language but on the learning management process.
- (4) An enhancement of the learner' s own personal experiences as important contributing elements to classroom.
- (5) An attempt to link classroom language learning with language activities outside the classroom.
- (6) Responding to the learners' needs, wants, and lacks in the teaching content and activities introduced.
- (7) Inserting authentic materials associated with the academic specialty field in the teaching process. (Musikhin 2016: 32).

Generally, in EST teaching practices, Communicative Language Approach takes the form of pair and group work requiring negotiation and interaction between learners, communicative-based activities that motivate learners and rise their self-confidence.

Bell (2002) initiated a model named three (03) Cs through which EST practitioners are engaged with EST learners. The diction of this model is presented in the table below:

Features of ESP teachers	Performance
Curiosity	ESP teachers should be interested in the learners' field of study, trying to get as much knowledge as possible from their learners.
Cooperation	ESP teachers should constantly consult with subject matter scientists.
Confidence	ESP teachers' confidence will grow as they understand their role, learn more about the learners' field of study and work with specialists.

Table. 3.1. Bell's three Cs model of ESP teacher performance.

3.9 Description of the Setting of the Study

The Institute of Electrical and Electronic Engineering at the University of Boumerdes formerly called the National Institute of Electricity and Electronics-INELEC, was created in March 1976 and came into existence as a result of an agreement signed between the National Company for Manufacture and Assembly of Electrical and Electronic Equipment, SONELEC, and Education Development Center, EDC, Newton, Mass., USA. The agreement was signed as early as March 1976, according to the program set forth in the planning study conducted for SONATRACH in March 1974. In 1998, INELEC has been reorganized and became the Electrical and Electronic Engineering Department within the Faculty of Engineering of Boumerdes University with more than 600 enrolled students. The Department continued to work as an American type of higher educational institution, and English was still the language of instruction. Efforts were made to adapt the curriculum to the national

standards set by the Ministry of Higher Education while keeping the spirit of the INELEC project with the American way of working. From 2010, the Electrical and Electronic Engineering Department became the Engineering of Boumerdes University with more than 1000 students currently enrolled. The new institute continues to work as an American type of higher educational institution, and English is still the language of instruction.

A consortium of American universities and companies supported the creation of INELEC, including:

- Case Western Reserve University, Cleveland, Ohio.
- Oklahoma State University, Still Water, Oklahoma.
- Stevens Institute of Technology.
- University of Houston, Houston, Texas.
- University of Missouri-Rolla, Rolla, Missouri.
- University of Wisconsin Stout, Menomonie, Wisconsin.
- Wentworth Institute of Technology, Boston, Massachusetts.
- Massachusetts Institute of Technology, Harvard, Massachusetts.
- Purdue University, West Lafayette, Indiana.
- GTE (General Telephone and Electric Corporation).
- RAETHEON Company (Electronic systems, Defense, Aerospace).

After the installation of the institute, the Algerian teacher training program was launched in March 1976. A total of more than 180 candidates were recruited and

trained according to the needs of the institute. Training took place in America for holding the degrees of master and Ph.D. The candidates were equipped with pedagogical experience (courses, seminars, and industrial experience through various internships in companies).

For the teaching staff, INELEC Continued its development by recruiting American teachers who had decided to sign a direct contract with the institute , and recruiting other English-speaking teachers, notably from India and England. The university has maintained its link with some American universities; it has also set up an agreement exchanges and co-operation with the University of Sheffield in England.

When it joined the University of M' hammed Bougara, Boumerdes, INELEC had fully Algerian teaching staff. The first promotions were made in 1980 for the senior technicians and 1981 for the engineers.

The National Institute of Electronics and Electrical Engineering quickly gained a certain reputation among young bachelor graduates. Thus, in order to attract excellent candidates, the institute raises the quality of the courses and diplomas awarded.

In 1988, the University of Boumerdes was created on the basis of the grouping of six national institutes:

- National Institute of Hydrocarbons (INH),
- National Institute of Mechanical Engineering (INGM),
- National Institute of Building Materials (INBM),
- National Institute of Manufacturing Industries (INIM),

- National Institute of Food Industries (INIA),
- National Institute of Electronics and Electrical Engineering (INELEC).

INELEC becomes the Department of Electrical and Electronics Engineering (DGEE) at the Faculty of Engineering Sciences (FSI) within the University of M'hamed Bougara, Boumerdes (UMBB), keeping the American method of teaching and English as a language of instruction.

In 2010, DGEE was promoted to the rank of institute. The IGEE (Institute of Electrical and Electronic Engineering) adopts the LMD system and becomes independent from the financial side, but remains under the supervision of the UMBB.

Having adopted the LMD system in 2010, INELEC awards an Academic Licence in Electrical and Electronics Engineering. Masters in the following courses are offered to students who have obtained a licence degree under certain conditions: Power Engineering, Computer Engineering, Control Engineering, and Communication Engineering.

Inscription at INELEC of Baccalaureate holders is mainly based on a ranking according to the average obtained at the national examination of Baccalaureate. The institute is opened to baccalaureate holders in the following branches: Experimental Sciences, Mathematics, and Technical Mathematics with a calculated average (mathematics + physics + general average/3) equal or greater than 14/20, a ranking is then organized. INELEC recruits on average only 400 students per year.

3.10 The Traditions of Teaching English at the Institute

The Algerian National Institute of Electricity and Electronics (INELEC) was established in 1976 to train men and women as engineers and technicians for Algeria'

s growing industrial system. Its unique feature in Algerian terms is the fact that all its course work is conducted completely in English. Education Development Center of Newton, Massachusetts, which provides staff, equipment, and guidance in curriculum design, works closely with INELEC in developing an innovative program based on the country's needs.

INELEC students usually have had several years studying English during their high school education. Nevertheless, at the institute, their first semester is almost entirely taken up with the study of English (25 hours per week); during the second semester, they spend 15 hours per week in the classroom.

The INELEC curriculum employed general EFL or EAP materials between March 1976 and September 1977. Yet, the need for a syllabus that would prepare students to comprehend engineering and technology lectures, understand laboratory instructions, write technical reports, and read required texts forced a re-evaluation of the curriculum (Marjorie 1980: 86).

Needs analysis of INELEC students, taking into consideration their backgrounds, course demands and future jobs, revealed specific skills and content areas in which assistance was essential. In this context, INELEC syllabus designers decided that first and second semester English classes for technology and engineering students would include English for Academic Purposes but stress English for Science and Technology. The reasons why they adopt this type of English have been clearly stated by Strevens (1977:126):

On the whole, ESP is taught to learners who are cooperative because they are aware of the benefits of success and are grateful not to be subjected to the long and irrelevant haul of a general purpose English course.

In addition to the selection of the type of English to be taught, INELEC teachers are working on the development of vocabulary and of listening, reading, and writing skills in their classes. They developed previously mentioned skills through activities where materials in the students' areas of specialty are involved. In essence, teachers are responsible for teaching the ways in which students' fields use English.

Thus, in order to achieve the aim of teaching and learning English within a context of scientific and technological discourse, teachers and materials developers have created an impressive collection of materials that combine relevance, stimulating activity, enjoyment, and exercise of language skills (Marjorie 1980: 87).

3.11 Description of the Overall Curriculum Content

Student engagement with science and technology engineering including the case of electrical and electronic engineering is a critical emphasis that can only be achieved through quality curriculum and instruction. The overall curriculum content instill wonder in students about the world around them through engaging and exciting learning experiences. The general vision of the curriculum is to engage learners in the core ideas through the integration of science and technology practices, while making connections to what they know and the world they live in.

The goals of the curriculum can be achieved through including thoughtful activities both theoretical and practical, works on laboratories, fostering investigations and design challenges.

As shown in the tables (See Appendix D), English as an independent subject is taught in the first and second semester. But, in all the other subjects the language of

instruction is English. Thus, the focus of the present study is on the syllabus of English as an independent subject.

For the first semester, the main objectives of the subject of English language can be summarized in the following points:

- Learn the essentials of English grammar; particularly the rules used in the scientific and technical literature.
- Asking and understanding questions, understanding lectures, taking notes and making oral presentations.
- Comprehend general technical and scientific texts and be able to write coherent paragraphs.
- Learn scientific discourse and terminology specifically for electricity and electronics.

The content of the subject are the following:

- Statements: Affirmative , negative , interrogative statements
- Prepositions, Phrasal verbs, Comparisons, Tenses, Modals, Clauses, The sounds of English,
- Simple questions, Complex questions
- Listening for general comprehension, Listening for details, Listening to lectures
- Note-taking, Oral presentation, Learning dictionary skills
- Reading for general comprehension, Scanning , Skimming
- Writing simple sentences, Writing compound and complex sentences
- Learning dictionary skills
- Properties and shapes, Measurements
- Basic electricity concepts, Basic electricity terminology, Basic electronics concepts, Basic

electronics terminology, Electricity and Electronics discourse.

In the second semester, at the end of the unit of advanced English, students should be able to:

- Understand technical lectures, to understand and interpret graphs and to give oral presentations.
- Comprehend general technical and scientific texts and be able to write coherent texts and lab reports.

The content of the module are centered around the following axes:

- Understanding oral discourse (lectures)
- Drawing conclusions
- Expressing opinions
- Interpreting data (graphs , figures , pie charts)
- Taking notes
- Giving oral presentations
- Types of sentences (review)
- Types of paragraphs
- Paragraph organization
- Connectors
- Academic essay
- Advanced reading skills

3.12 Conclusion

This chapter has outlined the status of English in Algerian educational system. Then, emphasis has been put on the implementation of the LMD reform in Algerian

tertiary education settings, focusing on science and technology faculties and departments, particularly the Institute of Electricity and Electronics at M' hamed Bouguara University in Boumerdes.

The current chapter has also provided a general vision over the current English syllabus implemented in the institute. A description of the syllabus content has been provided aiming at exploring the syllabus provisions and its relevance to the learners' academic branch and needs.

Chapter four: Research Methodology and Data

Analysis and Interpretation

Chapter Four: Research Methodology and Data Analysis and Interpretation

4.1 Introduction

The fourth chapter is dedicated to the research methodology used in the present study. It unfolds the research aims and presents the main steps and instruments used in the investigation in addition to the analysis procedures. That is, it presents the research design, the informants and research tools used to carry out this research and gather data. The tools of gathering data- students' needs analysis questionnaire, teachers' questionnaire, and administrative staff structured- interview- are described, piloted and analyzed.

Then, the data collected in each setting, and by each of the three (03) early-mentioned instruments are presented, analyzed and discussed. Accordingly, clear conclusions are derived from the findings' discussion that give the researcher a clear idea about the type of re-adaptation that should be brought to the EST syllabus at the Institute of Electricity and Electronics , the University of Boumerdes.

4.2 Methodology Description

The current study is intended to be an exploratory investigation aiming at identifying the academic needs of the students of the first year at the National Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes in order to design a needs-based syllabus.

Triangulation as a strategy for increasing the validity of evaluation and research findings is adopted in this research work. By definition, triangulation " is a process of verification that increases validity by incorporating several viewpoints and methods. In the social sciences, it refers to the combination of two or more theories,

data sources, or methods in one study of a single phenomenon to converge on a single construct, and can be employed in both quantitative and qualitative studies" (Sabina & Khan, 2012: 156).

The methodology implemented in this study is both qualitative and quantitative. As the purpose of this study is identifying learners' needs and better describe them regarding both learners, teachers and administration staff views, the qualitative approach seems to be appropriate as a part of this mixed-methods research. Besides, as the focus of the quantitative research is to represent the actual results derived from research instruments in terms of numbers and statistical results, quantitative approach also seems to be suitable as a part of this mixed-methods research.

4.2.1 Sampling

Sampling is a process of selecting samples from a group or population to become the foundation for estimating and predicting the outcome of the population as well as to detect the unknown piece of information.

The objectives of choosing a sample is to achieve maximum accuracy in the estimation within a given sample size and to avoid bias in the selection of the sample.

Sampling techniques often depend on research objectives of a research work. As the objective of this study is designing needs-based syllabus for the students of English at the National Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes, probability sampling is selected. This sampling technique includes sample selection that is based on random methods. Random sampling is used

to increase the probability of the sample selected. By adopting this technique, each member of a population stands a chance to be selected (Galloway, 1997: 126).

The population of this study comprises 231 first year students, 32 teachers experienced teaching English for science and technology, in addition to 13 members of the administration staff.

The sample of the study is 80 first year students selected randomly, the seven (07) groups of the first year are represented in the sampling with 10 to 11 students from each group. Besides, 20 teachers and seven (07) members of the administration staff, are selected in the sampling process.

The table below gives more details about the population of the study:

	The entire population	The sample
First year students	231	80
EST teachers	32	20
Administration staff members	13	07
Total	276	107

Table. 4.1: Details of Research sampling.

4.2.2 Data Gathering Tools: Reasons and Basics of Selection

In order to achieve the study' s aims, three (03) data gathering instruments were administered: students' and teachers' questionnaires in addition to administration staff structured interview.

The choice of a particular instrument of data collection depends on the characteristics of the respondents as well as the field situation. The reasons why these data collection tools are selected is that questionnaires and interviews are often used together in mixed method studies investigating educational-related issues. Questionnaires can provide evidence of patterns amongst large populations whereas qualitative interview data often gather more in-depth insights on participant attitudes, thoughts, and actions (Kendall, 2008 In Cairo et al: 136).

Questionnaires are usually designed to gather data from large, diverse, and widely scattered groups of people. Hence, it is a device for securing answers to questions by using a form which the respondent himself/herself fills in. It is either mailed to the respondents or administered to a group of people at the same time by giving them appropriate forms and collecting them later. In order to justify questionnaire selection as a data gathering tool, it is important to consider the advantages of using questionnaires:

- (1) The data gathered is standardized and therefore easy to analyze;
- (2) Data can be gathered quickly from a large number of respondents;
- (3) It is possible to compare your results with similar surveys used in other institutions;
- (4) Respondents can answer anonymously which may produce more honest answers;
- (5) Online surveys are relatively inexpensive.

The value of interviewing is not only because it builds a holistic snapshot, analyzes words, reports detailed views of informants, but also because it enables respondents to speak in their own voice and express their own thoughts, views, and

feelings (Berg, 2007: 96 In Alshenqeeti, 2014: 39). In the field of research in education, the significance of interviews has long been recognized. In the same line, as qualitative and quantitative researchers tend to provide detailed descriptions of individuals and events in their natural settings, interviewing has usually been thought of as a key factor in research design (Alshenqeeti, 2014: 39).

In brief, the specific preparation, construction and use of these tools largely depend on aim, nature, scope and contour of the study.

4.2.3 Description of Data Gathering Tools

It is worth noting that data gathering instruments are central in any research work as they connect theory with practice. Data collection tools are defined as "the means of producing quantitative and qualitative data to be analyzed and interpreted" (Griffie 2012: 128). In the current research work, three data gathering tools were utilized and implemented: students' questionnaire, teachers' questionnaire, and administration staff structured interview.

In the present study, data is collected by using students' questionnaire that included closed and open-questions and is administered to eighty (80) students. Besides, teachers' questionnaire targeting twenty (20) teachers of English and a structured interview with seven (07) members of the administration staff in an attempt to gain more meaningful insights and findings into English language teaching/learning situation.

4.2.3.1 Students' Questionnaire

This questionnaire is designed to collect data regarding a needs-based syllabus design for the students of English at the National Institute of Electricity and

Electronics at M' hamed Bougara University in Boumerdes, Algeria. It attempts to identify the specific needs of the targeted students with respect to the ESP syllabus they are studying.

The questionnaire comprises twenty (20) questions ranging between closed and open-ended. The respondents were asked either to check or tick the appropriate answer closed questions, or fill in spaces with open-ended questions. Students' questionnaire is split up into three (03) sections: personal identification or subjects' background information (questions 01 to 05), present situation analysis (questions 06 to 09), target situation analysis (questions 10 to 20).

The questions used and asked include the following broad lines:

- The demographic and background information of the respondents focusing on their gender, specific academic specialty, years of studying English in schools, self evaluation in English, attitudes towards English language learning, and the reasons behind learning English
- Analyzing the current English level of students, difficulties encountered while learning English, and the current traditions of teaching English in the institute.
- Students lacks.
- The relevance between students academic needs and the current ESP syllabus.
- Students' academic wants and needs
- Components that should be included in the ESP syllabus. (See appendix A)

4.2.3.2 Teachers' Questionnaire

The main aim of teachers' questionnaire is to investigate if English language teachers at the Institute of Electrical and Electronic Engineering are aware of the necessity of needs analysis in enhancing learners' mastery of the language and to identify teachers' perceptions and evaluation to the current English language syllabus.

It is made up of twenty (20) questions gathered under three (03) key sections: subjects' background, personal and academic identification (questions 01 to 06), present situation analysis (questions 07 to 15), and teaching expectations and possible teaching modifications (questions 16 to 20). The questionnaire items vary between closed and open-ended questions.

Teachers' questionnaire questions cover the following axes:

- Respondents background, personal and academic information.
- The current ESP syllabus, teaching methodology, and teaching materials adopted in EST teaching.
- The basics of teaching materials selection.
- Teachers evaluation to their students current abilities in English.
- Collaboration between English teachers and subject specialists: existence or non-existence.
- The expected modifications to the current ESP syllabus.
- Kinds of tasks that learners should perform with respect to the four language skills.
- Teachers suggestions for the improvement for the ESP syllabus. (See appendix B)

4.2.3.3 Administration Staff Structured Interview

This standardized interview seeks to investigate the basics of designing ESP syllabus implemented in the institute, and to judge whether the specific academic and professional students' needs are taken into account in designing the syllabus.

This survey comprises thirteen (13) questions ranging between closed and open-ended. It is divided into three (03) sections: participants background information (question 1 with its sub-elements), overview of the current English language syllabus (questions 2 to 7), and administration staff members attitudes towards initiating modifications on the syllabus based on students academic needs (questions 8 to 13).

The central key axes of this interview survey are the following:

- Subjects background information.
- Participants evaluation of the current English syllabus.
- The type and the basics of selection of the current English syllabus.
- The objectives of the current English syllabus and whether they are achieved.
- Whether the students' academic and professional needs are taken into account in designing the current English syllabus.
- The aspects of the syllabus that need adaptation and modifications from their viewpoints. (See appendix C).

4.2.4 Pilot Study: Reviewing Data Gathering Tools

A pilot study is one of the essential stages in any research project. A pilot study means "a small study to test research protocols, data collection instruments,

sample recruitment strategies, and other research techniques in preparation for a larger study" (Lancaster et al: 2004: 309). Accordingly, the review of data gathering instruments referred to as a pilot study."A pilot investigation is a small-scale trial before the main investigation, intended to assess the adequacy of the research design and of the instruments to be used for data collection" (Sapsford and Jupp, 2006: 103).

The aims behind the decision to perform this pilot study prior to implementing the main investigation can be summarized in the following key points:

- To determine the feasibility of the study protocol and identify weaknesses in a study.
- To test whether data gathering tools are asking the intended questions, whether the format is comprehensible, and whether the selected validated tools are appropriate for the target population.
- To test the data collection process- the time taken to complete questionnaire, and the subjects' willingness to participate in the study
- To test data entry, coding of the items, and appropriateness of statistical tests.

(Zailinawati et al, 2006: 73)

Thus, before administering data gathering tools, students' and teachers' questionnaires together with administration staff are tested and reviewed. Research instruments are afforded a trial run focusing on ten percent (20 %) of the sample population of the students (16 students), twenty-five percent (25 %) of the sample population of teachers (05 teachers), and three (03) administration staff members.

In order to verify the extent of questionnaires and interview instructions clarity, a checklist was attached with data gathering tools. The checklist comprises five (05) questions:

- (1) How long did it take you to complete the questionnaire ?
- (2) Were the instructions clear ?
- (3) Were any of the questions unclear or ambiguous ? If so, will you say which and why ?
- (4) Was the layout of the questionnaire clear and attractive ?
- (5) Any other additional comments ? (Bell, 1999)

The answers given by the sample population were taken into consideration, and some questions and elements of the data gathering instruments were amended and modified. However, piloting data gathering tools have revealed that the overall study protocol is feasible. This small range study has demonstrated the effectiveness of a pilot study in identifying flaws in the questionnaires and the standardized interview which after appropriate amendments can then be used in the full study. It has also given a clear vision of how to implement research instruments. The findings of this pilot study are represented in changing the wordings of some questions in students' questionnaire and reformulating other questions in teachers questionnaire to rise clarity, comprehensibility, and precision.

4.2.5 The Implementation of Data Gathering Tools

Prior to administering data gathering tools, the researcher took the official written consent from the director of the institute to perform the field work study (See

appendices D and E). The study was conducted at the Institute of Electricity and Electronics in Boumerdes between May 06th and May 10th, 2018.

With the aid of the Head of the Department of Fundamental studies at the institute, both students' and teachers' questionnaires were given to the targeted population to respond to the questions. Meanwhile, the researcher contacted the members of the administration staff, each in his office where the interview was held face to face with each member. The members of the administration staff includes: the Director of the Institute, Vice Director of the Institute in Charge of Studies and Issues Related to Students, Vice Director of the Institute in Charge of Post-Graduation, Scientific Research, and Foreign Relations, the Secretary General of the Institute, the Head of the Department of Fundamental Studies, the Head of the Department of Electronics, and the Head of the Department of Electronics and Automatics.

4.3 Data Analysis and Interpretation

Part two of this chapter tackles the analysis and interpretation of research findings obtained from data collection tools, namely first year electrical and electronic engineering students' questionnaire, teachers' questionnaire, and administration staff structured interview.

The results are shown on tables and figures and interpreted respecting the order of the questions and items occurrence in the questionnaires and the interview.

4.3.1 Students' Questionnaire

The data gathered from students' questionnaire will be analyzed and interpreted. The findings of each question or item in this questionnaire will be demonstrated in tables and figures followed by its analysis and interpretation.

Personal Identification: Gender

It was meant to determine students' gender categories. The findings are represented in the following table:

Gender	Number	Percentage
Male	73	91.25 %
Female	07	08.75 %
Total	80	100 %

Table.4.2: Students' Gender

Students' gender may play decisive roles in the process of learning. For instance, learners' gender can influence the students' objectives, their lacks and needs, and their expectations from the English language syllabus.

As shown in table (4.2), similar to all science and technology related branches, the leading majority of students are males with (91.25 %) , and only (08.75 %) females. It is recommended that gender information should be taken into consideration to better understand the subjects' attitudes and motives.

Question 1: What is your academic field ?

In this question, the respondents were questioned about their academic branch. Two (02) options for the answer were given responding to the number of academic fields available in the institute. The results of this questions are shown in the table below:

	Number	Percentage
Electrical-Related Branches	46	57.50 %
Electronics-Related Branches	34	42.50 %
Total	80	100 %

Table. 4.3: Students' academic fields

The above stated question was included in the questionnaire for the field work study was implemented at the end of the academic year 2017/2018 where students were about to finish their first year common trunk and they need to select a specific academic field.

As the table expounds, more than half of the respondents (57.50 %) chose electrical-related branches whereas (42.50 %) selected electronics-related specialties. It should be noted that in both branches the language of instruction is English, and the lacks, needs, and wants of each subject may vary according to the specific academic field of each student.

Question 2: How many years have you studied English so far ?

The aim of this question was to investigate students' previous experience with English language learning. Students were given choices for the answer. The findings are displayed in the table below:

	Number	Percentage
08 years	67	83.75 %
09 years	10	12.50 %
10 years	02	02.50 %
11 years	01	01.25 %
Total	80	100 %

Table. 4.4: Students' experience with English language learning

The results shown in (table. 4.4) revealed that a great proportion of the respondents (83.75 %) have studied English for eight (08) years while (12.50 %) have studied it for nine (09) years. This indicates that students of the first year at the National Institute of Electricity and Electronics have a sufficient experience in English language learning that allows them to adapt themselves with the traditions of teaching at the institute where the language of instruction is English. Additionally, this allows them to be a part of the syllabus design process where their views and expectations should be taken into account.

Question 3: How would you rate your English proficiency levels in previous years ?

This question is an attempt to assess the subjects English level. It is a part of the present situation level. They are asked to put a tick to indicate their level of English proficiency. The findings are displayed in the table below:

English language level	Number	Percentage
Very good	16	20 %
Good	47	58.75 %
Moderate	14	17.50 %
Poor	03	03.75 %
Very poor	00	00 %
Total	80	100 %

Table. 4.5: Students' English language proficiency level in previous years

This question investigates students English language proficiency level. Five (05) answer options were given: (Very good/ Good/ Moderate/ Poor/ Very Poor).

As presented in the chart above (Table. 4.5), most respondents' answers were distributed among options (very good) with a percentage of (20 %) and (good) with (58.75 %) of the entire sample population. The reasons why most students have acceptable English language proficiency is that most of them are quality students with a minimum general Baccalaureate average equal or more than (14.57/20) during the academic year 2017/2018. Additionally, students should have good marks in English language subject as the language of instruction is English.

Next, (17.50 %) of the students picked as a third choice (Moderate) level English language proficiency while only (03.75 %) selected option (Poor).

In brief, the overall English language proficiency level allows students to decide and participate in designing English language syllabus by consulting them via

taking their academic and professional needs into account while designing the syllabus.

Question 4: How would you describe your attitude towards English language learning at the beginning of your studies ?

This question identifies students' attitudes towards English language learning to assess whether it is favorable or unfavorable from their viewpoints. The results are shown in the table below:

Attitudes towards English language learning	Number	Percentage
Favorable	80	100 %
Unfavorable	00	00 %
Total	80	100 %

Table. 4.6: Students' attitudes towards English language learning

As the table displays, the entire number of the sample of the study (100 %) have favorable attitudes towards English language learning due to many reasons that will be shown in the following question. This supports the institute policy of implementing English as the language of education.

Question 5: Why are you learning English ?

Question five investigates students' motives to learn English. Five (05) options for the answer were given and students were asked to tick the appropriate answer for them. Findings are summarized in the chart below:

The reasons of learning English	Number	Percentage
- Because it is a part of the curriculum and it is compulsory subject.	36	45 %
- Because I will need it in my future job.	17	21.25 %
- Because English is the medium of instruction in my academic branch.	24	30 %
- Because it will enlarge my knowledge.	02	02.50 %
- Because it is an interesting and enjoyable subject.	01	01.25 %
Total	80	100 %

Table. 4.7: Students' motives for learning English

As the table (4.7) displays, the highest percentage (45 %) of the entire number of the subjects were driven to learn English for it is a part of the curriculum and it is compulsory subject. (30 %) of students learn English because it is the medium of instruction in their academic branch while (21.25%) of the respondents were motivated to learn this language owing to its necessity in their future occupational life. However, the lowest percentages (02.50 %) and (01.25 %) were given respectively to the reasons "it will enlarge my vocabulary" and "it is an interesting and enjoyable subject".

Thus, as English language is a part of the curriculum and it is compulsory subject, and the language of instruction in the institute, most students are motivated to learn it.

Question 6: With regard to the syllabus for Science and Technology, how important are the following skills in your academic branch ?

This question investigates the degree of importance of each of the language skills in the academic field of the students. Respondents were asked to tick the appropriate option. The findings are displayed in the following chart:

The skills	Rate of importance							
	Not important		Of some importance		Important		Very important	
	N	P	N	P	N	P	N	P
Listening	11	13.75 %	52	65%	13	16.25%	04	05%
Speaking	00	00%	03	03.75%	24	30%	53	66.25%
Reading	19	23.75%	49	61.25%	10	12.50%	02	02.50%
Writing	01	01.25%	04	05%	21	26.25%	54	67.50%
Grammar	15	18.75%	19	23.75%	32	40%	14	17.50%
Vocabulary	02	02.50%	09	11.25%	41	51.25%	28	35%
Pronunciation	09	11.25%	26	32.50%	29	36.25%	16	20%

Table. 4.8: Skills' rate of importance according to students

The results in table (4.8) shows that the majority of students considered speaking and writing as very important skills with (66.25 %) and (67.50 %) of the answers respectively while listening and reading are of some importance or not

important at all. At the same time, about (51.25 %) and (40 %) of the subjects considered acquiring vocabulary and grammar respectively as important. Meanwhile, (36.25 %) of the respondents believed that accurate pronunciation, as an essential part of speaking skills, is also important in their academic field.

Thus, course and syllabus designers should give much importance and priority to speaking and writing skills by integrating speaking and writing related activities in the syllabus. Additionally, much time and space should be devoted to those skills from the overall week time of the subject.

Question 7: Indicate the degree of difficulty you find in each of the following skills: (Listening/ Speaking/ Reading/ Writing/ Grammar/ Vocabulary/ Pronunciation).

This question is a part of the present situation analysis. It aims at identifying learners' lacks. Participants have been asked to indicate the level of difficulty they encounter in different language skills.

The skills	Rate of difficulty							
	Not difficult		Of some difficulty		Difficult		Very difficult	
	N	P	N	P	N	P	N	P
Listening	24	30%	25	31.25%	16	20%	15	18.75%
Speaking	07	08.75%	09	11.25%	26	32.50%	38	47.50%
Reading	71	88.75%	08	10 %	01	01.25%	00	00%
Writing	08	10%	05	06.25%	48	60%	19	23.75%

Grammar	24	30%	41	51.25%	17	21.25%	08	10%
Vocabulary	21	26.25%	14	17.50%	28	35%	17	21.25%
Pronunciation	05	06.25%	09	11.25%	37	46.25%	29	36.25%

Table. 4.9: The degree of difficulty of certain academic skills in students' academic branch

The findings in (table 4.9) reveal that a great proportion of the participants found that both speaking and writing as difficult or very difficult skills compared with the rest of language skills. Statistics in the table above indicate that (32.50 %) of the respondents considered speaking related skills as difficult while (47.50 %) thought out as very difficult. Similarly, (60 %) of the subjects valued writing as difficult whereas (23.75 %) assessed it as very difficult.

The reverse findings were seen with listening and speaking where the leading percentages associated with the options "not difficult" and "of some difficulty" respectively. (88.75 %) of the participants saw reading as not difficult while (30 %) viewed listening as not difficult and (31.25 %) as of some difficulty.

Additionally, the findings reveal that grammar was classified as of some difficulty or not difficult by the targeted population. Statistics in the table (4.9) indicate that about (51.25 %) of the subjects answered by "of some difficulty" whereas (30 %) considered grammar related course content not difficult.

As far as vocabulary acquisition is concerned, the results show that a balanced statistical answers scattered between the various answer options. However, a considerable number of the respondents between (46.25 %) and (36.25 %) believed that acquiring accurate pronunciation is not an easy matter.

Therefore, the institute administration together with English language teachers should take decisive measures to fill learning gaps represented in terms of academic lacks, mainly speaking, writing, pronunciation, and somehow vocabulary.

Question 8: Rate your current ability in each of the following skills' areas: (Listening/ Speaking/ Reading/ Writing/ Grammar/ Vocabulary/ Pronunciation).

The subjects have been questioned for self-evaluation of their level of proficiency in the four language skills: listening, speaking, reading, and writing in addition to grammar, general vocabulary, EST vocabulary, and English overall. Learners' self-evaluation by determining their own level will permit them to have a clear view about their real needs from the English language syllabus.

The Skills	Students' present abilities					
	Excellent		Very good		Good	
	N	P	N	P	N	P
Listening	17	21.25%	19	23.75%	22	27.50%
Speaking	02	02.50%	17	21.25%	11	13.75%
Reading	23	28.75%	26	32.50%	16	20%
Writing	03	03.75%	07	08.75%	11	13.75%
Grammar	12	15%	14	17.50%	27	33.75%
General vocabulary	11	13.75%	10	12.50%	13	16.25%
EST vocabulary	09	11.25%	07	08.75%	12	15%

English overall	08	10%	11	13.75%	14	17.50%
	Satisfactory		Poor		Very poor	
	N	P	N	P	N	P
Listening	19	23.75%	03	03.75%	00	00%
Speaking	21	26.25%	24	30%	05	06.25%
Reading	15	18.75%	00	00%	00	00%
Writing	17	21.25%	39	48.75%	03	03.75%
Grammar	18	22.50%	07	08.75%	02	02.50%
General vocabulary	18	22.50%	21	26.25%	07	08.75%
EST vocabulary	18	22.50%	23	28.75%	11	13.75%
English overall	28	35%	11	13.75%	08	10%

Table. 4.10: Students' current abilities in certain language skills

The findings in table (4.10) show that the participants assess themselves as "very good" in listening and reading, "good" in grammar, and "poor" in general vocabulary, EST vocabulary, speaking and writing (See the statistics in table 4.10).

Thus, it is obvious that the English syllabus has to concentrate on all the aspects and skills of the language with a special focus on EST vocabulary, speaking, and writing to enhance learners' English language proficiency.

Question 9: What are the reasons behind the difficulties you face in learning English ?

After considering subjects' level in the English language and their weak points, they have been asked to indicate the reasons behind the difficulties they encounter in learning English. The results are displayed in (table 4.11) below.

Reasons behind the difficulties	Number	Percentage
- Poor level in English language.	13	16.25 %
- The inappropriateness of the syllabus to guide ESP/EST teachers.	17	21.25 %
- The inadequacy of the materials provided.	06	07.50 %
- Your English academic needs are not taken into consideration in designing EST syllabus.	21	26.25%
- The insufficient time dedicated to the English course.	12	15 %
- Lack of practice of the target needs of English language.	11	13.75 %
Total	80	100 %

Table. 4.11: The reasons behind the difficulties encountered in learning English

In the answers to this question (see table 4.11), the highest percentage, (26.25 %) of the respondents said that since their English academic needs are not taken into consideration in designing EST syllabus, they face difficulties in some English language aspects and skills. Besides, about (21.25 %) of the participants thought that

the English language proficiency gaps are mainly due to the inappropriateness of the syllabus to guide ESP/EST teachers.

If we go downwards with numbers and percentages, (16.25 %) asserted that their poor level in English language is the key factor of difficulties encountered in English language learning whilst (15 %) believed that the insufficient time dedicated to the English course can be central. Only (13.75 %) of the respondents affirmed that lack of practice of the target needs hinders English language learning.

Question 10: To what extent does the ESP course help you in improving the following skill areas ?

This question is a sort of evaluation to the current ESP course or syllabus implemented in the institute targeting students' points of view towards the bright side and the weak points of the course content in terms of learners' achievements.

The skills	The EST course is...in improving this skill area:							
	Very helpful		Somehow		Not very helpful		Not at all helpful	
	N	P	N	P	N	P	N	P
Listening	23	28.75%	31	38.75%	18	22.50%	08	10%
Speaking	08	10%	11	13.75%	42	52.50%	19	23.75%
Reading	34	42.50%	26	32.50%	13	16.25%	07	08.75%
Writing	09	11.25%	13	16.25%	37	46.25%	21	26.25%
Grammar	28	35%	34	42.50%	13	16.25%	05	06.25%

General vocabulary	17	21.25%	34	42.50%	21	26.25%	08	10%
EST vocabulary	08	10%	16	20%	39	48.75%	17	21.25%
English overall	16	20%	21	26.25%	32	40%	11	13.75%

Table. 4.12: The EST course help in improving students' language skills

The findings in (table 4.12) reveal that a substantial proportion of the subjects (52.50 %) and (46.25 %) said that the EST course is not very helpful in both speaking and writing respectively. In turn, a reasonable statistics (42.50 %) confirmed the fact that the EST course is very helpful whereas (38.75 %) assured that the current EST course is somehow helpful in listening related tasks.

Furthermore, a considerable number of the sample of the study (42.50 %) affirmed that the English course is somehow helpful in augmenting grammar and general vocabulary competencies while (48.75 %) considered it as not very helpful in EST vocabulary mastery.

Question 11: Which of the following English language sub-skills do you want or need to study and develop ? (Look at the scale below and circle the appropriate number accordingly).

1: Very needed	2: Moderately needed	3: Slightly needed	4: Not needed
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The research question number eleven (11) is among the four English language skills (listening, speaking, reading, and writing), four sub-skills for each language

skill are proposed and stated and the learners are asked to indicate how much each of the sub-skills is needed ? In this context one should say that each item (sub-skill) is considered as a potential English language need. Hence, learners have the chance to perceive their English language needs.

11.1 Listening

Listening sub-skills	1	2	3	4
a) – Listening to instructions and explanations during the course.				
Number	21	28	19	12
Percentage	26.25 %	35 %	23.75 %	15 %
b) – Listening to classroom lectures.				
Number	14	12	36	18
Percentage	17.50 %	15 %	45 %	22.50 %
c) – Deducing the meaning of technical, specialized terms.				
Number	32	41	06	01
Percentage	40 %	51.25 %	07.50 %	01.25 %
d) – Listening to class presentations and taking notes.				
Number	23	39	12	06
Percentage	28.75 %	48.75 %	15 %	07.50 %

Table. 4.13: Students' listening sub-skills needs.

The table (4.13) above represents students' wants and needs and the kinds of favorable listening sub-skills. The findings show that (26.25 %) of the participants believed that listening to instructions and explanations during the course is very needed whilst (35 %) of the subjects thought it is moderately needed. However, (45 %) of the respondents considered the ability to listen and comprehend classroom lectures as slightly needed whereas (22.50 %) found it not needed at all.

Furthermore, (51.25 %) demonstrated that deducing the meaning of technical, specialized terms through listening is of top priority need while (51.25 %) viewed it as moderately needed listening sub-skill. Yet, only (28.75 %) thought that listening to class presentations and taking notes as highly needed listening skill whereas (48.75 %) saw it as slightly needed listening competency.

11.2 Speaking

Speaking sub-skills	1	2	3	4
a) – Asking and answering questions in class.				
Number	23	31	21	05
Percentage	28.75 %	38.75 %	26.25 %	06.25 %
b) – Presenting a group project or scientific report.				
Number	27	31	18	04
Percentage	33.75 %	38.75 %	22.50 %	05 %
c) – Producing correct pronunciation, intonation, and stress.				
Number	35	38	05	02
Percentage	43.75 %	47.50 %	06.25 %	02.50 %
d) – Discussing academic specialty' s related topics.				
Number	42	32	06	00
Percentage	52.50 %	40 %	07.50 %	00 %

Table. 4.14: Students' speaking sub-skills needs.

Students of the first year electrical and electronic engineering at the National Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes consider speaking skill and sub-skills as highly needed. That is why a considerable number of respondents considered all the proposed speaking sub-skills as either "very needed" or "moderately needed".

To illustrate, the results in (table 4.14) reveal that (38.75 %) of the participants said that the speaking sub-skill, asking and answering questions in class is moderately needed whereas (28.75 %) of the subjects considered it as highly needed. In turn, presenting a group project or scientific report ranges between moderately needed with a percentage of (38.75 %) and very needed with a statistics of (33.75 %) of the total number of the sample.

Besides, accurate pronunciation is considered as a top priority for the targeted population. In this context, (47.50 %) of the subjects believed that producing correct pronunciation, intonation, and stress as moderately needed whilst (43.75 %) reckoned it as highly needed. Yet, a great proportion of the respondents (52.50 %) considered discussing academic specialty' s related topics as very needed whereas about (47.50 %) confirmed that it is moderately needed to be focused on in the EST/ESP course.

11.3 Reading

Reading sub-skills	1	2	3	4
a) – Reading for note taking.				
Number	23	19	21	17
Percentage	28.75 %	23.75 %	26.25 %	21.25 %
b) – Reading technical manuals and technical articles in journals.				
Number	41	30	08	01
Percentage	51.25 %	37.50 %	10 %	01.25 %

c) – Reading instructions in the areas of science and technology.				
Number	39	36	05	00
Percentage	48.75 %	45 %	06.25 %	00 %
d) – Reading to gain enough science and technology vocabulary.				
Number	38	34	06	02
Percentage	47.50 %	42.50 %	07.50 %	02.50 %

Table. 4.15: Students' reading sub-skills needs.

Reading skill and sub-skills can be considered as subordinate skill(s) from the students' point of view. However, when reading sub-skills are attached with the field of science and technology and students' academic branch, students' perceptions towards reading are totally changed.

The data gathered in table (4.15) show that according to students, reading for note taking is not of that importance in the course of English language teaching. An important statistics (26.25 %) of the respondents said that it is slightly needed together with (21.25 %) asserted that it is not needed at all.

But, reading sub-skills associated with targeted population academic field as reading technical manuals and technical articles in journal, reading instructions in the areas of science and technology, and reading to gain enough science and technology vocabulary are perceived as highly required needs with the highest percentages (51.25 %), (48.75 %), and (47.50 %) of the entire sample population respectively.

11.4 Writing

Writing sub-skills	1	2	3	4
a) – Writing technical reports, projects, and assignments.				
Number	42	35	03	00
Percentage	52.50 %	43.75 %	03.75 %	00 %
b) – Writing captions to describe diagrams, tables, and graphs.				
Number	39	32	06	03
Percentage	48.75 %	40 %	07.50 %	03.75 %
c) – Writing summaries for numerical and graphical data .				
Number	31	36	09	04
Percentage	38.75 %	45 %	11.25 %	05 %
d) – Taking notes in lectures.				
Number	24	27	18	11
Percentage	30 %	33.75 %	22.50 %	13.75 %

Table. 4.16:Students' writing sub-skills needs.

Writing skill and sub-skills are crucial for the targeted population particularly when they are linked with science and technology fields. Generally, students prefer practicing writing science and technology related written genres at the expense of writing for general purposes.

The results in (table 4.16) reveal that the leading percentages of the respondents considered science and technology writing sub-skills as highly wanted skills. Writing sub-skills as: writing technical reports, projects, and assignments, writing captions to describe diagrams, tables, and graphs were perceived as very needed with (52.50 %) and (48.75 %) of the participants.

However, when it is associated with general English, students' attitudes towards writing have changed dramatically. To exemplify, only (30 %) of the subjects considered writing for taking notes in lectures as highly needed.

Question 12: How would you evaluate the usefulness of the present EST course with regard to your academic English needs ?

This question is an attempt to shed light on students attitudes towards the current ESP/EST course and syllabus implemented in the National Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes. Students were questioned to indicate whether the EST course is useful, moderately useful, slightly useful, or not useful at all.

The usefulness of the EST course	Number	Percentage
Useful	14	17.50 %
Moderately useful	39	48.75 %
Slightly useful	21	26.25 %
Not useful	06	07.50 %
Total	80	100 %

Table. 4.17: The Usefulness of the EST course.

The findings in (table 4.17) show that (48.75 %) of the subjects evaluated the current EST course as moderately useful while only (17.50 %) of the respondents said that it is useful.

In turn, a remarkable percentage of the sample (26.25 %) considered it as slightly useful. Additionally, (07.50 %) of the participants asserted that it is not useful at all.

Accordingly, the interpretation of the question answers indicates that as the course content and methodology are not highly appreciated by the learners, modifications targeting raising students' satisfaction towards the course should be implemented.

Question 13: Which aspects of English language should be focused on in the EST course?

Question 13 is central as it attempts to identify learners academic needs. Each of the English language aspects is a potential need. In this framework, students are asked to indicate English language aspects that should take importance and priority in the English language syllabus.

Aspects of English language	Number	Percentage
- Understanding of grammatical structures related to scientific and technical English.	11	13.75 %
- Read and comprehend technical and scientific books and articles related to your academic branch.	08	10 %
- Mastering the lexical meaning of scientific and technical terms.	21	26.25 %
- Lexical items related to general English.	05	06.25 %
- Understanding of grammatical structures related to	03	03.75 %

general English.		
- Raising proficiency in different genres of scientific written discourse.	25	31.25 %
- Developing pronunciation accuracy	07	08.75 %
Total	80	100 %

Table. 4.18: Important aspects of English language .

The results in table (4.18) show that the potential English language needs perceived by the target population as top priority that should be focused on in the syllabus are much more linked with science and technology field, that is, students' academic branch.

The findings displayed in the table above reveal that (31.25 %) of the informants considered raising proficiency in different genres of scientific written discourse as a crucial academic need followed by mastering the lexical meaning of scientific and technical terms with (26.25 %) .

Furthermore, the English language aspects that should be focused on in the EST course from the view points of students include understanding of grammatical structures related to scientific and technical English with (13.75%) of the respondents. Besides, reading and comprehending technical and scientific books and articles related to learners' academic branch with (10 %) of the informants.

The minor learners' perceived English academic needs are matched with general aspects of English language. For instance, only (06.25 %) considered lexical items related to general English as important component that should be included in English language syllabus while (03.75 %) of the participants believed that

understanding of grammatical structures related to general English should take priority in the EST course/syllabus.

Question 14: Do you prefer to be taught by English teacher or subject specialist ?

At the National Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes where the language of instruction is English, two types of teachers teach the subject of English: English teachers, who are specialized in English language, and subject specialists who are specialized in one of electricity and electronics related branches. Thus, students are asked about their type of teacher preference.

	Number	Percentage
- English teacher	47	58.75 %
- Subject specialist	33	41.25 %
Total	80	100 %

Table. 4.19: Students' type of teacher preference.

As shown in table (4.19) above, a great proportion of the informants (47) subject with a percentage of (58.75 %) preferred to be taught by English teachers while only (33) participants representing (41.25 %) favored subject specialists.

Question 15: Is your EST teacher an English teacher or subject specialist ?

Question 15 is an attempt to find out the type of the teacher teaching the subject of English for Science and Technology to students of the first year at the institute.

	Number	Percentage
- English teacher	29	36.25 %
- Subject specialist	51	63.75 %
Total	80	100 %

Table. 4.20:.The type of the current EST teachers.

As the table (4.20) above illustrates, abundant number of the subjects (63.75 %) said that they were taught by subject specialists whereas only (36.25 %) of the respondents were taught by English language teachers.

The results in table (4.19) and (4.20) indicate that a considerable number of the participants preferred to be taught by English language teachers while in reality most English language teachers are subject specialists. Therefore, the institute administration is invited to give the teaching the subject of EST to English language teachers in order to satisfy students' wants.

Question 16: Do you think the number of EST sessions per week is satisfactory ?

The axis of time is fundamental in any syllabus design. Thus, students were asked whether the time allotted to English language subject is satisfactory to augment learners English language proficiency. It should be noted that the time dedicated to the EST English course is one hour and a half per week.

	Number	Percentage
- Satisfactory	13	16.25 %
- Not satisfactory	67	83.75 %
Total	80	100 %

Table. 4. 21: Students' views towards the number of EST sessions per week.

The table (4.21) depicts that the majority of the participants (83.75 %) believed that the time allotted to the English language is not satisfactory while positive answers represented only (16.25 %) of the subjects.

Hence, learners are aware that within one hour and a half per week and complete absence of the target language outside the classroom cannot raise English language proficiency requested.

Question 17: To what extent do you think the current used teaching materials in the ESP/EST course are relevant to your needs ?

Teaching materials play a crucial role in the teaching learning process. Matching the selection of teaching materials with learners academic and professional needs enhance learners language competencies. Hence, students were questioned whether teaching materials are relevant to their wants and needs.

	Number	Percentage
- Very appropriate	09	11.25 %
- Quite appropriate	37	46.25 %
- Not appropriate at all	34	42.50 %
Total	80	100 %

Table. 4.22: The relevance of ESP/EST teaching materials to the students' academic needs.

As illustrated in the table above, the leading percentage (46.25 %) of the subjects confirmed that ESP/ST teaching materials are quite appropriate and relevant to their academic needs whilst a remarkable percentage (42.50 %) that should be taken into consideration, said that they are not appropriate at all. Yet, a small size of

the research sample, (11.25 %) asserted that teaching materials are very appropriate and highly connected with their academic wants.

Thus, the findings in table (4.22) reveal that both administration staff and ESP/EST teachers should take measures to modify and adapt teaching materials to the learners academic and professional needs.

Question 18: What types of materials do you think the course should include ?

This question is an attempt to identify learners' teaching materials preference. Each type of teaching materials is a potential learners' need. Five (05) types and objectives of teaching materials are proposed.

	Number	Percentage
- Authentic materials associated with your academic branch.	18	22.50 %
- Textbooks, instruction manuals, videotapes and other materials used to train people for their future career.	16	20 %
- Materials from different internet websites associate with your academic branch.	06	07.50 %
- Academic and occupational based materials relevant to your academic and professional needs.	31	38.75 %
- Any teaching material that develops your proficiency in the four English language skills.	09	11.25 %
Total	80	100 %

Table. 4.23: Students' teaching materials preference.

As presented in the table above, the respondents have their own choices that can be categorized as follows:

- (38.75 %) of the participants preferred academic and occupational based materials relevant to their academic and professional needs to be included in the course.
- About (22.50 %) of the subjects believed that authentic materials associated with their academic branch should be integrated in EST syllabus.
- Textbooks, instruction manuals, videotaped and other materials used to train people for their future career are the appropriate teaching materials that correspond to the wants of (20 %) of the informants.
- Others (11.25 %) found it better to implement any teaching material that develop their proficiency in the four English language skills in the EST teaching process.
- Only (07.50 %) of the respondents favored materials from different internet websites associates with their academic branch.

Question 19: Do you think a specific English language course should be developed in terms of designing a syllabus suits your academic and professional needs ?

This question targets students' attitudes towards inserting modifications to the current ESP/EST course in order to suits learners' academic and professional needs.

	Number	Percentage
Yes	71	88.75 %
No	09	11.25 %
Total	80	100 %

Table. 4.24: Students' attitude towards designing a new English needs-based syllabus.

The findings in table (4.24) reveal that a great proportion of the respondents (88.75 %) insisted on developing the current ESP/EST course in terms of designing a needs-based syllabus whereas a minority group representing (11.25 %) of the subjects were satisfied with the current ESP/EST course and refused any adaptation to the English syllabus.

Accordingly, the majority of the students of the first year at the Institute of Electricity and Electronics agreed upon modifying and adjusting the current English language syllabus on the ground of their academic and professional needs.

Question 20: To what extent had the ESP/EST course objectives been achieved ?

The last question in students' questionnaire tries to evaluate the degree of fulfillment of the current EST/ESP course and syllabus objectives. The present EST/ESP syllabus is based on eight (08) objectives to be achieved. These objectives are the axes through which all the syllabus components revolve around. They are centered around the mastery of the four English language skills and the acquisition of language sub-skills associated with science and technology field.

The broad lines of these objectives are: (1) To use scientific and technology terms in the four language skills, (2) To understand and write short science and technology situations using technical terms, (3) To produce good written texts, (4) To apply grammatical rules in both spoken and written English, (5) To speak English fluently and accurately, (6) To understand instructions in English whether spoken or written, (7) To read English faster, with pleasure and comprehend what is read, and (8) to communicate effectively in different learning situations.

Course objectives	Fully achieved	Partially achieved	Not achieved at all
- To use scientific and technology terms in the four language skills.			
Number	06	23	51
Percentage	07.50 %	28.75 %	63.75 %
- To understand and write short science and technology situations using technical terms.			
Number	09	19	52
Percentage	11.25 %	23.75 %	65 %
- To produce good written texts.			
Number	11	17	52
Percentage	13.75 %	21.25 %	65 %
- To apply all grammatical rules in both spoken and written English.			
Number	21	27	32
Percentage	26.25 %	33.75 %	40 %
- To speak English fluently and accurately.			
Number	07	13	60
Percentage	08.75 %	16.25 %	75 %
- To understand instructions in English whether spoken or written.			
Number	19	31	30
Percentage	23.75 %	38.75 %	37.50 %
- To read English faster, with pleasure, and comprehend what is read.			
Number	37	28	15
Percentage	46.25 %	35 %	18.75 %
- To communicate effectively in different learning situations.			
Number	12	21	47
Percentage	15 %	26.25 %	58.75 %

Table. 4.25: The level of ESP/EST course objectives achievement.

The findings in table (4.25) reveal that nearly all the syllabus objectives are either not achieved at all or partially achieved. Thus, the institute administration together with English language teachers should revise the syllabus content, teaching methodology implemented, and the time allotted to the English language syllabus to be compatible with the objectives of the English language syllabus.

The findings derived from (question 20) can be summarized in the following brief conclusions:

- The objective of using scientific and technology terms in the four language skills is not achieved at all with (63.75 %) of the reported answers while only (07.50 %) of the subjects said that it is fully achieved.
- Sixty-five percent (65 %) of the participants confirmed that the objective of understanding and writing short science and technology situations using technical terms is not achieved at all whereas (11.25 %) of the subjects believed that it is fully achieved.
- The objective of producing good written texts is not achieved at all with (65 %) of the respondents whilst (21.25 %) said that it is partially achieved; however, only (13.75 %) of the participants asserted that it is fully achieved.
- Forty-percent (40 %) of the participants believed that the aim of applying grammatical rules in both spoken and written English is not achieved at all, (33.75 %) said it is partially achieved, while (26.25 %) emphasized that it is fully achieved.
- A considerable majority of the subjects (75 %) affirmed that speaking English fluently and accurately is not achieved at all whilst (16.25 %) confirmed that it is partially achieved; yet, only (08.75 %) said that it is fully achieved.

- The objective of understanding instructions in English whether spoken or written is partially achieved according to the view points of (38.75 %) of the informants, (37.50 %) of the respondents said that it is not achieved at all whereas (23.75 %) asserted that it is fully achieved.
- The reverse findings are noticed with the objective of reading English faster, with pleasure, and comprehend what is read where more than half of the respondents (46.25 %) affirmed that it is fully achieved, (35 %) said that it is partially achieved, whilst a minority group (18.75 %) asserted that it is not achieved at all.
- Communicating effectively in different learning situations is one of the key objectives of the English language syllabus. This objective is not achieved at all according to the view points of (58.75 %) of the participants, (26.25 %) said that it is partially achieved while (15 %) of the respondents affirmed that it is fully achieved.

4.3.2 Summary of the Students' Questionnaire Main Findings and Interpretation

The data gathered from the students' questionnaire reveal that the students of the first year at the Institute of Electricity and Electronics at M' hamed Bougara University in Bumerdes assess themselves as lacking much proficiency in the four English language skills. However, their level at reading and listening skills are the highest when compared with writing and speaking skills. Students also report that speaking and writing are of top priority for the ESP English course.

Based on the findings of the students' questionnaire and the statistical information presented, the students prefer the English language skills to be related to their academic discipline. That is why they confirm that the aspects of English related

to general English to be the least importance when compared with the aspects related to science and technology or the academic branch of the students.

It is also noticed that targeted the students of the first year at the Institute of Electricity and Electronics want to improve their proficiency in the four English language skills, mainly speaking and writing.

4.3.3 Teachers' Questionnaire

The second data gathering tool is a questionnaire designed for English language teachers working at the National Institute of Electricity and Electronics at M' hamed Bougara University, Boumerdes during the academic year 2017/2018 (See appendix B). The findings of this questionnaire are intended to provide information about the teachers, their opinions about the learners' needs, the current English syllabus content, the degree of importance of particular language skills, the teaching methodology implemented, and their suggestions.

Teachers' questionnaire data analysis would aid in creating a clear idea about the current English language syllabus administered to the targeted students since the practitioners' views are equally important in determining the content the learners' may need.

The findings obtained from teachers' questionnaire will be analyzed and interpreted. The data of each question or item in this questionnaire will be displayed in tables and figures followed by its analysis and interpretation.

Question 1:Subjects' gender.

The aim of this question is to determine students' gender categories. The findings are represented in the following table:

Gender	Number	Percentage
Male	16	80 %
Female	04	20 %
Total	20	100 %

Table.4.26: Teachers' Gender

As the table (4.26) above displays, the number of male teachers exceeds the one of females. It is clear that, males represent the bulk of EST teachers in the institute in comparison with females in view of the fact that most teachers in science and technology related fields are male teachers as the case with students.

Question 2: What qualifications do you have ?

This question aims at identifying teachers' academic degrees. Teachers' qualifications is one of the key factors that may influence EST teaching strategies and planning.

Teachers' qualifications	Number	Percentage
BA degree	00	00 %
Master degree	01	05 %
Magister degree	13	65 %
Doctorate degree	06	30 %
Total	20	100 %

Table. 4. 27: Teachers' qualifications.

The results displayed in the above table show that a great proportion of the teachers questioned (65 %) have a magister degree while (30 %) of them have doctorate qualification. Yet, only (05 %) of the participants have master degree.

Question 3: How long have you been teaching English so far ?

The present question asks about teachers general teaching experience including their teaching experience outside the Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes. In the overall framework of this study, determining how long have the targeted teachers been working in teaching may aid in establishing a link between their actual experience and the requirements of teaching specialized languages.

Teachers' teaching experience	Number	Percentage
01 to 05 years	04	20 %
06 to 10 years	07	35 %
11 to 15 years	05	25 %
More than 15years	04	20 %
Total	20	100 %

Table. 4. 28: Teachers' teaching experience.

In fact, (35 %) of the targeted population have a general experience of teaching ranges between (6 to 10 years), (25%) of the respondents have a teaching experience between (11 to 15 years), (20%) have experienced teaching for (01 to 05years), while only (20 %) of the teachers have a considerable teaching experience extends to more than 15 years.

Question 4: How long have you been teaching English at the institute ?

Teaching English for general purposes (EGP) is totally different from that of teaching English for Specific Purposes (ESP). That is why teachers are asked about their teaching experience at the Institute of Electricity and Electronics in Boumerdes where an ESP syllabus is supposed to be implemented and adopted in teaching English. Thus, teaching English in the institute is a new experience for teachers who taught English elsewhere. Again, determining how long have been these teachers been working with electricity and electronics students may help in establishing a connection between their actual experience with specialized subjects and the suitability of these specialized matters with the real academic and professional needs of those learners.

Teachers' teaching experience at the institute	Number	Percentage
01 to 05 years	09	45 %
06 to 10 years	08	40 %
11 to 15 years	02	10 %
More than 15 years	01	05 %
Total	20	100 %

Table. 4. 29: Teachers' teaching experience at the institute.

The results demonstrated in table (4.29) above show that only one teacher spent long period (more than 15 years) and two teachers passed between 11 to 15 years in EST teaching at the institute. However, nine of the respondents have had between 01 to 05 years involvement in the same field. While eight remaining subjects

have integrated in ESP teaching with 06 to 10 years service in the Institute of Electricity and Electronics at M' hamed Bougara University, Boumerdes.

Question 5: What is your professional status ?

In most Algerian higher educational institutions, particularly science and technology faculties and institutes the subject of English language is given to part time teachers. However, as the results demonstrated in table (4.30), the situation is reversed in the Institute of Electricity and Electronics where (95 %) of the teachers who experienced teaching English were permanent teachers and only (05 %) of them "were part time teachers.

Teachers' professional status	Number	Percentage
Permanent teacher	19	95 %
Part time teacher	01	05 %
Total	20	100 %

Table. 4. 30: Teachers' professional status.

As the language of instruction in the institute is English, the institute administration gives much importance to the subject of English. Thus, EST was assigned to permanent teachers.

Question 6: Have you done any training in ESP teaching ?

In question six, teachers have been asked whether they had benefited from any kind of training in ESP teaching before they start teaching at the institute. Eighteen (18) of them did not get accustomed to teaching ESP before they apply for the job while only two (02) teachers answered by "yes" to the researcher inquiry.

	Number	Percentage
Yes	02	10 %
No	18	90 %
Total	20	100 %

Table. 4. 31: Training in ESP teaching.

In brief, teaching EGP is totally different from ESP teaching. Teachers of English language in non-English departments as the case of the Institute of Electricity and Electronics need a sort of professional development, collaboration with subjects specialists, as well as training in ESP teaching to cope with the specialized academic and professional needs of the targeted students.

Question 7: Is your teaching based on an official syllabus ?

In science and technology higher education faculties, institutes, and departments English is considered as a secondary subject. The English course or syllabus content is designed and implemented by the teachers themselves. Yet, in the Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes the broad lines of an official English syllabus is ready made that needs to be followed by English practitioners.

	Number	Percentage
Yes	20	100 %
No	00	00 %
Total	20	100 %

Table. 4. 32: The basics of English language syllabus.

Thus, the findings displayed in (table 4.32) above show that all the participants (100 %) said that their teaching is based on an official syllabus.

[Since all the respondents answered question seven by "Yes", answering question eight that says "If no, what type of syllabus do you follow ?" is needless.]

Question 9: Did you or the institute' s administration analyze students' academic and professional needs before implementing the syllabus ?

Needs analysis is an essential first step for designing appropriate language courses and syllabi in order to help students master knowledge in their academic studies. Students' reasons for learning English, if it is taken into account in designing English language syllabus, will enhance learners' motivation and raise positive feeling about the target language. Hence, the respondents are asked whether the official English language syllabus was based on analyzing learners' academic and professional needs.

	Number	Percentage
Yes	03	15 %
No	17	85 %
Total	20	100 %

Table. 4. 33: Analyzing students' academic and professional needs prior implementing English language syllabus.

The answers of the above question reveal that nearly all the subjects (85 %) said that the current official English language syllabus is not based on analyzing students' academic and professional needs. Yet, only three(03) teachers, (15 %) of the

participants confirmed that they took into consideration learners' academic and professional needs to adapt and modify some of the English language syllabus content.

It is obvious that the current ESP syllabus implemented in the Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes is not a needs-based syllabus according to the view points of the teachers.

Question 10: Which teaching method do you follow ?

As far as English teaching methodologies are concerned, the researcher provides explanations to the qualities of each teaching methodology. Then, the respondents were asked to determine the teaching methodology followed.

All the subjects answers divided between two (02) types of teaching methods: Competency-Based Approach and Communicative Language Teaching.

Teaching methods	Number	Percentage
Competency-Based Approach	12	60 %
Communicative Language Teaching	08	40 %
Total	20	100 %

Table. 4. 34: The current teaching methodology.

The results in table (4.35) above reveal that twelve (12) teachers, (60 %) of the subjects adopted Competency-Based Approach (CBA) in ESP teaching while eight (08) teachers, (40 %) of the participants implemented Communicative Language Teaching.

The reasons why most of the respondents used Competency-Based Approach is that the current traditions in English language teaching at all educational levels: primary, secondary, and tertiary education insisted on implementing (CBA) as a phase of educational reforms of 2003.

Question 11: What kind of teaching materials do you use ?

Teaching materials are a crucial component in any syllabus. Since there is an official English syllabus, kinds of teaching materials are well-determined. However, teachers' answers reveal that each teacher implement a certain kind of teaching materials indicating that teaching materials are not well-precised and unified.

Kinds of teaching materials	Number	Percentage
- Authentic materials associated with learners' academic branch.	04	20 %
- Materials from different internet websites associated with students' academic branch.	06	30 %
- Academic and occupational based materials relevant to learners' academic and professional needs.	04	20 %
- Any teaching material that develops students' proficiency in the four English language skills.	06	30 %
Total	20	100 %

Table. 4. 35: Kinds of teaching materials used by teachers.

As to the table above (4.35), teachers' have their own choices of teaching materials that can be categorized and listed as follows:

- Thirty-percent (30 %) of the participants said that they used materials from different internet websites associates with students' academic branch.
- Thirty-percent (30 %) of the subjects adopted any teaching material that develops students' proficiency in the four English language skills.
- Twenty-percent (20%) of the entire population implemented authentic materials associated with learners' academic branch academic and occupational based materials
- Twenty-percent (20 %) of the respondents integrated relevant to learners' academic and professional needs.

The findings reveal that teachers' selection of teaching materials are not based on both the guideline of the official syllabus and learners' academic and professional needs. Therefore, there should be a sort of revision to the basics of ESP teaching materials that should be centered around students' needs and wants.

Question 12: On what basis were teaching materials selected ?

This question concerns the basics of teachers' selection to teaching materials. Four (04) basics options were provided and teachers were asked to select the right option for them.

The basics of Teaching materials selection	Number	Percentage
- Analyzing students' academic and professional needs.	02	10 %
- Designed by teachers, depending on teaching situations.	09	45 %
- Imposed by the official syllabus of the course.	06	30 %
- Designed in collaboration with subject specialists.	03	15 %
Total	20	100 %

Table. 4.36: The basics of teaching materials selection.

As displayed above (table 4.36), teachers' teaching materials are neither based on analyzing students' academic and professional needs as only two (02) teachers selected this answer option, nor designed in collaboration with subject specialists since only three (03) teachers ticked this answer choice.

However, nearly half of the subjects, representing (45 %) said that teaching materials were designed by teachers themselves, depending on teaching situations, while (30 %) of the participants asserted that teaching materials were imposed by the official syllabus of the course.

Question 13: How would you rate the degree of importance of the following skills for your students' academic and professional linguistic development ?

Basically, in any English course, skills receive a full coverage but the primacy of one over another is patent indeed. Hence, the present question is targeting teachers' classification, based on the degree of importance, to certain language skills, precisely: listening, speaking, reading, writing, grammar, EST vocabulary, and pronunciation to the targeted students.

The skills	Rate of importance							
	Not important		Of some importance		Important		Very important	
	N	P	N	P	N	P	N	P
Listening	01	05 %	08	40 %	06	30 %	05	25 %
Speaking	02	10 %	04	20 %	08	40 %	06	30 %
Reading	02	10 %	07	35 %	10	50 %	01	05 %
Writing	03	15 %	03	15 %	09	45 %	05	25 %
Grammar	03	15 %	05	25 %	07	35 %	05	25 %
EST vocabulary	00	00 %	04	20 %	10	50 %	06	30 %
Pronunciation	04	20 %	09	45 %	06	30 %	01	05 %

Table. 4.37: Skills' rate of importance according to teachers.

As far as skills' primacy and importance is concerned, the results displayed in table (4.37) show that speaking, reading, writing, and EST vocabulary are reckoned as important with the highest answer percentages. For instance, (40 %) of the respondents said that speaking is important for the targeted students while (30 %) affirmed that it is very important. Additionally, writing is important according to (40 %) of the participants and very important for (25 %) of the entire population. Moreover, half of the teachers asserted that reading and EST vocabulary are important for first year students at the Institute of Electricity and Electronics.

In turn, listening and pronunciation are labeled as of some importance by (40 %) and (45 %) of the participants respectively whereas grammar is deemed as important by (35 %) and very important and of some importance with (25 %) of the participants .

Question 14: How would you rate your students current abilities in the following skills ?

Teachers are questioned about their students' current abilities in English focusing on some English skills, precisely: listening, speaking, reading, writing, grammar, and EST vocabulary. Teachers' evaluation to students by determining their current English level will allow them to have a clear vision about the learners real needs from the English language syllabus.

The Skills	Students' current abilities					
	Excellent		Very good		Good	
	N	P	N	P	N	P
Listening	02	10 %	02	10 %	04	20 %
Speaking	01	05 %	02	10 %	03	15 %
Reading	05	25 %	06	30 %	05	25 %
Writing	00	00 %	02	10 %	03	15 %
Grammar	03	15 %	06	30 %	07	35 %
EST vocabulary	01	05 %	01	05 %	03	15 %
	Moderate		Poor		Very poor	
	N	P	N	P	N	P
Listening	05	25 %	05	25 %	02	10 %
Speaking	02	10 %	07	35 %	05	25 %
Reading	02	10 %	02	10 %	00	00 %
Writing	03	15 %	07	35 %	05	25 %
Grammar	02	10 %	01	05 %	00	00 %
EST vocabulary	06	30 %	07	35 %	02	10 %

Table. 4.38: Teachers' evaluation to students' current abilities.

As to the table (4.38) above, teachers assess their students current abilities as moderate to poor in listening with (25 %) of the respondents for each. Yet, (35 %) of the subjects assess their students' current abilities as poor in speaking and writing while (25 %) evaluated them as very poor.

In turn, (30 %) of the participants evaluate learners as very good in both reading and grammar whereas (25 %) and (35 %) of the informants confirmed that they were good in reading and grammar respectively. (See the statistics in table 4.38).

Moreover, teachers' evaluation to students' current abilities ranges between poor by (35 %) and moderate with (30 %) of the entire sample population.

Thus, it is obvious that the English syllabus should focus on all the aspects and skills of the language with a special focus on students' weak points.

Question 15: Do you collaborate with subject specialists in your ESP teaching ?

Collaboration between English teachers and subject specialists is essential for ESP practitioners. Before teaching English, ESP practitioners should be experts-like in learners' academic branch. This can be achieved only through collaboration between both sides.

	Number	Percentage
Yes	07	35 %
No	13	65 %
Total	20	100 %

Table. 4. 39: English teachers collaboration with subject specialists.

As demonstrated in the table (4.39) above, a substantial proportion (65 %) confirmed the absence of collaboration with subject specialists whereas only (35 %) said that they collaborated with subject specialists.

Question 16: How far do you agree with adopting these ideas in teaching ESP/EST course ?

In this question, a potential guidelines for an a needs-based syllabus are introduced together with some items associated with the norms and current traditions in EST teaching at the Institute of Electricity and Electronics for the sake of evaluation. Teachers are asked to express either agreement or disagreement with implementing of the items listed in the table (4.40) below.

Ideas in ESP/EST teaching	Strongly agree	Agree	Disagree
- English instruction should focus on general English.			
Number	02	04	14
Percentage	10 %	20 %	70 %
- Teaching should be centered around science and technology English associated with the academic branch of students.			
Number	07	09	04
Percentage	35 %	45 %	20 %
- Learners' academic and professional needs should be taken into consideration in the process of designing ESP/EST syllabus.			

Number	06	11	03
Percentage	30 %	55 %	15 %
- Collaboration between ESP/EST teachers and subject specialists could enhance the process of ESP/EST teaching.			
Number	03	07	10
Percentage	15 %	35 %	50 %
- More time should be dedicated to English language teaching subjects.			
Number	09	11	00
Percentage	45 %	55 %	00 %
- The assessment procedures used in ESP/EST course are appropriate and acceptable.			
Number	04	05	11
Percentage	20 %	25 %	55 %
- Learners are given the chance to work in pairs and groups in English classes.			
Number	05	07	08
Percentage	25 %	35 %	40 %
- Additional supportive educational materials as(ICTs and new technologies) should be adopted and used in English classes.			
Number	09	08	03
Percentage	45 %	40 %	15 %

Table. 4. 40: Teachers views towards integrating ideas in teaching ESP/EST course.

As the table (4.40) displays, the results of the above demonstrate that teachers' views towards the items introduced vary between agreement and disagreement. Hence, the subjects have their own answer choices that can be classified as follows:

- A substantial proportion (70 %) disagree with focusing on general English in EST teaching while (30 %) expressed their agreement.
- An overwhelming proportion that equals (80 %) stands for those who agree with the fact that teaching should be centered around science and technology English associated with the academic branch of students whereas (20 %) expressed their disagreement.
- Eighty-five percent (85 %) of the respondents agreed that collaboration between ESP/EST teachers and subject specialists could enhance the process of ESP/EST teaching while only (15 %) expressed their disagreement.
- All teachers questioned agreed that more time should be dedicated to English language teaching subjects.
- Eleven (11) teachers disagreed that the assessment procedures used in ESP/EST course are appropriate and acceptable whereas ten (10) of them expressed their agreement.
- Twelve (12) teachers agreed with the fact that learners should be given the chance to work in pairs or in groups while eleven (11) expressed their disagreement.
- Additional supportive educational materials as (ICTs and new technologies) should be adopted and used in English classes is appreciated with (85 %) of the subjects whereas (15 %) disagreed with the integration of those materials.

Question 17: To what extent do you think the following educational objectives are achieved ?

This question is an attempt to assess the level of achievement of the present EST/ESP syllabus aims. The current ESP/EST syllabus is based on eight (08) well-determined objectives. These objectives are the guidelines through which all the syllabus components revolve around. They are centered around the mastery of the four English language skills and the acquisition of language sub-skills associated with science and technology field.

The broad lines of the current English syllabus objectives are: (1) students will be able to use scientific and technology terms in the four language skills, (2) Learners will be able to understand and write short science and technology situations using technical terms, (3) Students will be able to produce good written texts, (4) Learners will be able to apply grammatical rules in both spoken and written English, (5) Students will be able speak English fluently and accurately, (6) Learners will be able to understand instructions in English whether spoken or written, (7) Students will be able to read English faster, with pleasure and comprehend what is read, and (8) The ability to communicate effectively in different learning situations.

Course objectives	Fully achieved	Partially achieved	Not achieved at all
- Students will be able to use science and technology terms in English four skills.			
Number	03	09	08
Percentage	15 %	45 %	40 %
- Students will be able to understand and write short science and technology situations using technical terms.			
Number	02	08	10

Percentage	10 %	40 %	50 %
- Learners will be able to produce good written texts.			
Number	04	07	09
Percentage	20 %	35 %	45 %
- Students will be able to apply all grammatical rules in both spoken and written English.			
Number	06	09	05
Percentage	30 %	45 %	25 %
- Learners will be able to speak English with fluency and accuracy of pronunciation.			
Number	01	05	14
Percentage	05 %	25 %	70 %
- Students will be able to understand instructions in English whether spoken or written.			
Number	04	12	04
Percentage	20 %	60 %	20 %
- Students will be able to read English faster, with pleasure, and comprehend what they read.			
Number	12	07	01
Percentage	60 %	35 %	05 %
- The ability to communicate effectively in different learning situations.			
Number	05	06	09
Percentage	25 %	30 %	45 %

Table. 4.41: Teachers evaluation to the level of the course objectives' achievement.

As demonstrated in the table (4.41) above, the results show that approximately all the syllabus objectives are either not achieved at all or partially achieved.

Therefore, the current English syllabus should be revised and modified at different aspects, such as: syllabus content, teaching methodology implemented, and the time allotted to the English language syllabus to be compatible with the objectives of the English language syllabus.

The results collected to the above question (question 20), can be summarized in the following brief notes:

- According to (45 %) of the teachers the objective of the students' ability to use science and technology terms in English four skills is partially achieved while (40 %) confirmed that it is not achieved at all, and only (15 %) said that it is fully achieved.
- Half of the respondents (50 %) believed that the syllabus objective "learners ability to produce good written texts" is not achieved all, and (40 %) asserted that it is partially achieved while only a minor proportion representing (10 %) said that it is fully achieved.
- Forty-five percent (45 %) of the subjects affirmed that the aim of applying grammatical rules in both spoken and written English is partially achieved , (30 %) said it is fully achieved, while (25 %) emphasized that it is not achieved at all.
- An overwhelming percentage of the respondents representing (70 %) thought that the English syllabus objective, learners' ability to speak English with fluency and accuracy of pronunciation is not accomplished whereas (25 %) said that it is partially achieved, and only (05 %) asserted that it is fully achieved.
- Students' ability to understand instructions in English whether spoken or written is partially achieved according to (60 %) of the teachers whereas equal percentage

representing (20 %) of participants said that it is fully achieved and not achieved at all.

- The reverse findings are noticed with the syllabus objective, learners' ability to read English faster, with pleasure, and comprehend what they read, where a considerable proportion of the subjects (60 %) said that it is fully achieved, (35 %) of them thought it is partially achieved, and only (05 %) believed that it is not achieved at all.

- Learners' ability to communicate effectively in different learning situations is perceived as not achieved at all by (45 %) of the participants while (30 %) said that it is partially achieved, and the remaining (25 %) of the subjects thought that it is fully achieved.

Question 18: According to your point of view and your present teaching practices, what kind of tasks should learners perform with respect to the four language skills ?

Most ESP syllabi focus on language skills but they should be based on learners' academic and professional needs. English skills are translated in terms of learning tasks covering some language sub-skills. It should be noted here that learning tasks vary according to the selection of each ESP practitioner.

Correspondingly, a number of potential tasks that can be covered in the ESP syllabus were introduced (See table 4.42). Teachers were asked to select more than one option if applicable.

Kinds of tasks	Number	Percentage
- Listening comprehension activities.	06	30 %
- Reading comprehension tasks.	12	60 %
- Oral presentations of pieces of research attached to the learners' academic field.	09	45 %
- Written expression activities: writing paragraphs, essays, scientific reports, etc.	07	35 %
- Intensive reading for details.	11	55 %
- Interactive conversations.	05	25 %
- Grammar points, passive voice, parts of speech, types of sentences, and sentence combinations.	13	65 %
- Describing electrical and electronic devices and machines.	17	85 %

Table. 4.42: Kind of tasks that should be included in ESP/EST syllabus.

The results displayed in table (4.42) above indicate that (85 %) of the respondents insisted on integrating describing electrical and electronic devices and machines in the English syllabus. As for grammar points, passive voice, parts of speech, types of sentences, and sentence combinations with (65 %) of the participants.

Also, (60 %) of the informants emphasized on including reading comprehension tasks, (50 %) of them preferred the inclusion of intensive reading for

details, while (35 %) asserted the centrality of written expression activities: writing paragraphs, essays, scientific reports, etc in the English syllabus.

As far as listening and speaking skills related tasks are concerned, six (06) teachers said that listening comprehension activities should be central in the ESP syllabus, five (05) favored interactive conversations, whereas nine (09) preferred oral presentations of pieces of research attached to the learners' academic field.

Question 19: Do you think the current ESP/EST syllabus is relevant to your students' needs ?

As most of the current syllabus objectives are not accomplished (the findings of question 17), the current ESP/EST syllabus is irrelevant to the learners academic and professional needs. This irrelevance is clearly expressed by a substantial number of the teachers.

	Number	Percentage
Relevant	04	20 %
Irrelevant	16	80 %
Total	20	100 %

Table. 4.43: Teachers point of view towards the current English syllabus relevance to learners' needs.

The findings demonstrated in table (4.43) show clearly that most English teachers, (80 %) of the respondents said that there is a sort of mismatches between learners academic and professional needs and the current English syllabus content

whereas only (20 %) of them asserted that students' needs are taken into account in the current English syllabus design.

Question 20: What suggestions would you like to make for the improvement of the ESP/EST syllabus in order to make it more effective and relevant to the learners needs ?

The last question of teachers' questionnaire is an open-ended question asking them to provide suggestions in order to improve the current English syllabus.

The most frequent suggestions made by the teachers :

(1) conducting a needs-analysis targeting learners' academic and professional needs. Then, the current English syllabus should be revised and modified on the basis of the students academic and professional needs.

(2) Needs analysis surveys should be conducted each ten (10) years as the students' needs and wants are affected by the factors of time and the type of population.

(3) Returning back to the traditions of teaching in the INELEC via signing contracts with the American higher education institutions targeting preparing and designing syllabi, teaching materials, and professionals' exchanges.

(4) Strengthening the position of English as the sole language of instruction through banning the use of French in teaching specialty subjects.

(5) Raising the level of collaboration between English teachers and subject specialists.

(6) Dedicating much time to the English subject since the language of instruction in the institute is English.

4.3.4 Summary of the Teachers' Questionnaire Main Findings and Interpretation

The findings of teachers' questionnaire show that the ESP English syllabus presented to the students of the first year at the Institute of Electricity and Electronics is highly removed from the students' language needs. In other words, a great proportion of the subjects voiced negative views to the usefulness of the ESP English course. That is why, most of the English syllabus objectives are not accomplished and the teaching materials are not well-determined.

Based on the results of the teachers' questionnaire and the statistical information presented, teachers report that speaking and writing are of top priority in the ESP English syllabus designed for the first year students at the institute of Electricity and Electronics at the University M' hamed Bougara, Boumerdes. However, the ESP course focuses on reading skills and grammar rules.

Teachers agreed that teaching should be centered around science and technology English associated with the academic branch of students. They also shared the idea that more time should be devoted to the English course. Additionally, an overwhelming proportion of the teachers confirmed that collaboration between ESP/EST teachers and subject specialists could enhance the effectiveness of the ESP course.

4.3.5 Administration Staff Structured Interview

The interview was conducted at the Institute of Electrical and Electronics at M' hamed Bougara University in Boumerdes. This survey attempts to investigate the basics of designing the current ESP/EST syllabus implemented in the institute, and

whether the targeted students specific academic and professional needs are taken into account in designing this syllabus.

All the data collected from Administration staff structured interview is converted into statistical data to facilitate the interpretation of the findings. Based on the recordings of the interview, each administration staff member' response to interview questions was condensed into a standardized-format summary and further expectations were made for the design of a needs-based syllabus.

Question 1: Where applicable, please put a tick (✓) in a box from the options given or provide your answer.

a) – Gender

The results in table (4.44) show that in the Institute of Electricity and Electronics, there were one (01) female and six (06) males administration staff members. Actually, this paucity of females is only confined to the sample under scrutiny. The findings can be explained by the fact that in most science and technology faculties, institutes, and departments males outnumber females at the level of students, teachers, and administration staff.

Gender	Number	Percentage
Male	06	85.71 %
Female	01	14.29 %
Total	07	100 %

Table. 4. 44: Administration staff members' gender.

b) – Age

As the table demonstrates, the highest percentage that stands for the 46 – 55 age bracket (57.14 %) equals two (02) times the percentage of the administration staff members in "more than 55" age bracket representing (28.57 %) of the informants. Hence, though it is relatively low in percentage terms, (14.29 %) represents those in the 36 – 45 age range.

Age/ Years	Number	Percentage
25 – 35	00	00 %
36 -45	01	14.29 %
46 – 55	04	57.14 %
More than 55	02	28.57 %
Total	07	100

Table. 4. 45: Administration staff members' age.

c) – Academic degree

From the data collected from the administration staff interview (table 4.46), the leading majority of the respondents, four (04) administration members, are doctors, one (01) professor, while two (02) members have the magister degree.

Academic degree	Number	Percentage
Magister	02	28.57 %
Doctor	04	57.14 %
Professor	01	14.29 %
Total	07	100 %

Table. 4.46: Administration staff members' academic degree.

d) – Teaching duties

The findings in table (4.47) below show that all the administration staff members have teaching duties, including the director of the institute himself. This means that all the administration members are permanent teachers specialized in electricy and electronics-related branches.

Thus, their teaching duties will give them a clear vision on the current English syllabus, its deficiencies, as well as learners' lacks and wants.

Teaching duties	Number	Percentage
Yes	07	100 %
No	00	00 %
Total	07	100 %

Table. 4.47: Administration staff members' additional duties.

e) – Teaching work experience

As the table expounds, most administration staff members have a sufficient experience in teaching. What is more, some of them (04 teachers) experienced teaching ESP for the students of the first year. Thus, this teaching experience will enable them to respond positively as teachers and decision makers to the students' academic and professional needs.

Table (4.48) results show that two (02) administration staff members have more than 25 years teaching work experience. The same size of subjects have teaching experience ranges between 6 and 10 years while the number of those who have the experience of 11 to 15 years is only one (01) participant.

Teaching work experience/ years	Number	Percentage
1 – 5	00	00 %
6 – 10	02	28.57 %
11 – 15	01	14.29 %
16 – 20	02	28.57 %
20 – 25	00	00 %
More than 25	02	28.57 %
Total	07	100 %

Table. 4.48: Administration staff members' teaching experience.

f) – Actual position

As shown in the sampling, the actual position of the targeted population of this structured interview in the period between May 06th and May 10th, 2018 when the field work study was performed are: the director of the institute, two (02) vice directors of the institute: Vice Director of the Institute in Charge of Studies and Issues Related to Students and Vice Director of the Institute in Charge of Post-Graduation, Scientific Research, and Foreign Relations. The Secretary General of the Institute, and three (03) heads of departments: the Head of the Department of Fundamental Studies, the Head of the Department of Electronics, and the Head of the Department of Electronics and Automatics

Actual position	Number	Percentage
Director of the institute	01	14.29 %
Vice director of the institute	02	42.85 %
Secretary general	01	14.29 %
Head of department	03	42.85 %
Total	07	100 %

Table. 4. 49: Administration staff members' actual position.

g) – Administrative work experience

The results in table (4.50) show that a substantial percentage of respondents lack experience in administration. As to the table below, two (02) of the subjects have administrative work experience equals 01 to 05 years. Similarly, two (02) of the participants work in administration for a period of 11 to 15 years. The remaining three (03) administration staff members scattered equally (one for each) between the administrative work experience [6 - 10], [16 - 20],and [21 - 25] years.

Administrative work experience/ years	Number	Percentage
1 – 5	02	28.57 %
6 – 10	01	14.28 %
11 – 15	02	28.57 %
16 – 20	01	14.28 %
21 – 25	01	14.28 %
Total	07	100 %

Table. 4. 50: Administration staff members' administrative work experience.

Question 2: How would you evaluate the overall current students' level in English language ?

In this question, administration staff members have been asked to evaluate the learners level in the English language proficiency as all the subjects have experience in teaching and most of them (four teachers) experienced English teaching. This may

help in determining the students current level and allow them to have a clear vision about the learners' lacks, expectations, needs and wants.

The findings demonstrated in table (4. 51) below show that three (03) participants believe that the learners are at the medium stage and a moderate capacity in the English language proficiency. Two (02) other subjects are not satisfied with the present level of the students and evaluate it as poor while two (02) of the sample express their satisfaction with their learners in the English language proficiency and indicate that they have a good level.

Students' current level	Number	Percentage
Very poor	00	00 %
Poor	02	28.57 %
Moderate	03	42.85 %
Good	02	28.57 %
Very good	00	00 %
Total	07	100 %

Table. 4. 51: Administration staff members evaluation to the students' current level in English.

Question 3: Do English language teachers follow an official syllabus ?

In science and technology higher education faculties, institutes, and departments English is considered as a secondary subject. Thus, the English course or syllabus content is designed and implemented by the teachers themselves. However,

in the Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes the English syllabus has already been designed. This ready-made syllabus should be respected and followed by ESP teachers.

Hence, the results displayed in (table 4.52) above reveal that all the administration staff members (100 %) said that ESP teaching is based on an official syllabus.

	Number	Percentage
Yes	07	100 %
No	00	00 %
Total	07	100 %

Table. 4. 52: The existence or non-existence of an official syllabus.

Question 4: If yes, what is the type of the implemented English syllabus ?

As far as the type of the ESP syllabus is concerned, the researcher provides explanations to the qualities of each syllabus. Then, the participants were questioned to indicate the type of the syllabus implemented in ESP teaching.

As displayed in table (4.53) below, the findings show that a considerable majority of the subjects representing five (05) administration staff members said that the current ESP syllabus is purely a skill-based syllabus as the key objective of the syllabus is raising learners proficiency in the four English language skills while only two (02) participants labeled the current syllabus as task-based syllabus since the learners are requested to learn English through performing different tasks aiming at enhancing their English level.

The remarkable finding of this question is that the present English syllabus is not based on the learners academic and professional needs; that is, it is not a needs-based syllabus.

Types of syllabus	Number	Percentage
Structural syllabus	00	00 %
Skill-based syllabus	05	71.42 %
Task-based syllabus	02	28.57 %
Needs-based syllabus	00	00 %
Total	07	100 %

Table. 4. 53: The type of the English syllabus.

Question 5: What are the basics of the English syllabus ?

In this question, the informants are questioned about the basics of the English language syllabus design. Six (06) options are given and the respondents are asked to tick (✓) more than one option if applicable.

The findings presented in table (4. 54) below demonstrate that the current ESP syllabus is skill-based since the basics of the syllable are mostly associated with academic content related to the four English language skills. In this framework, six (06) of the informants said that the present ESP syllabus content is based on activities that develop listening and reading skills, and four (04) of the subjects confirmed that the corner stone of the syllabus are activities that develop speaking and writing skills.

As displayed in the table below (4. 54), a reasonable number of the administration staff members representing five (05) subjects asserted that the fundamental guidelines of the English syllabus are activities that develop students' communicative proficiency whereas four (04) participants affirmed that authentic materials associated with students' academic field are the backbone of the current ESP syllabus.

In turn, three (03) of the respondents believed that collaboration between the administration staff, English teachers, and subject specialists are crucial in designing the syllabus whilst only two (02) said that students' academic and professional needs are taken into consideration in designing the syllabus.

The basics of the English syllabus	Number	Percentage
- Collaboration between the administrative staff, English teachers, and subject specialists in designing the syllabus.	03	42.85 %
- Authentic materials associated with students' academic field.	04	57.14 %
- Students' academic and professional needs.	02	28.57 %
- Activities that develop listening and reading skills.	06	85.71 %
- Activities that develop speaking and writing skills.	04	57.14 %
- Activities that develop students' communicative proficiency.	05	71.42 %

Table. 4. 54: The basics of the English syllabus.

Question 6: What are the objectives of the current English syllabus ?

This question is an attempt to assess whether the administration staff members are aware of the English syllabus objectives. Six (06) objectives were introduced and the respondents were asked to select the most urgent objectives that should be accomplished.

As demonstrated in the table (4. 55) below, all the administration staff said that the key objective of the ESP syllabus should be enabling students to understand spoken and written instructions in English language while six (06) asserted that the syllabus objectives should include equipping students with science and technology related terms, and developing learners' level in English as it is the language of instruction in the institute.

The findings also reveal that three (03) members believed that the English syllabus should guaranty preparing students for their future careers whereas only two (02) of them said that it should enable to communicate effectively in different teaching/ learning situations.

The objectives of the English syllabus	Number	Percentage
- To equip students with science and technology related terms.	06	85.71 %
- To enable students to communicate effectively in different teaching/learning situations.	02	28.57 %
- To develop students' level in English as it is the language of instruction in the institute.	06	85.71 %
- To prepare students for their future careers.	03	42.85 %
- To enable students to understand spoken and written instructions in English language.	07	100 %

Table. 4. 55: The objectives of the current syllabus according to the administration staff.

Question 7: Are students' academic and professional needs taken into account in designing the current ESP syllabus ?

In contrast with students' and teachers' point of view where all the respondents said that the current ESP course did not take into account learners' academic and professional needs, the findings in table (4.56) show that nearly half of the administration staff members representing three (03) of the participants believed that one of the central basics of the English syllabus design is learners' academic and professional needs while four (04) asserted that students' academic and professional needs are excluded in the process of designing the syllabus.

	Number	Percentage
Yes	03	42.85 %
No	04	57.14 %
Total	07	100 %

Table. 4. 56: The relevance of students' academic and professional needs to the ESP syllabus.

Question 8: Do you prefer giving the English subject(s) to English teachers or subject specialists ?

The findings in the table (4. 57) below demonstrate that five (05) of the institute administration staff affirmed that they favored assigning English teachers for the subject ESP whereas the two (02) remaining participants preferred subject specialists.

It should be noted that the findings of the above question (question 8) contradicts with one of the learners' needs, that is, learners' prefer to be taught by subject specialists rather than by English teachers (See the findings of question 14 of students' questionnaire).

	Number	Percentage
English teacher	05	71.42 %
Subject specialist	02	28.57 %
Total	07	100 %

Table. 4. 57: Administration staff type of teacher preference.

Question 9: What are the reasons of this selection ?

Most administration staff members (05 members) preferred assigning English teachers for the subject of ESP at the expense of subject specialists due to two (02) key reasons:

- English teachers are experts in the subject of ESP whereas subject specialists are not highly qualified in English language.
- Subject specialists are much more needed to cover the teaching of specialty subjects.

In this context, administration staff members were informed about the students' preference to the type of the teacher of the subject of ESP.

Question 10: Do you support collaboration between English language teachers and subject specialists ?

As the table (4.58) below illustrates, abundant number of the subjects (85.71 %) said that they are fully engaged in strengthening collaboration between English teachers and subject specialists in order to equip the English teachers with a specialized knowledge about the academic branch of the learners, meanwhile to raise the English language proficiency of the subject specialists. In turn, one (01) member of the administration staff did not support collaboration between both sides as it is senseless from his point of view.

	Number	Percentage
Yes	06	85.71 %
No	01	14.28 %
Total	07	100 %

Table. 4. 58: Administration staff support to collaboration between English teachers and subject specialists: Existence or non-existence.

Question 11: Do you agree that the English curriculum should be extended to other semesters ?

In the Institute of Electricity and Electronics at M' hamed Bougara University, Boumerdes, English subject is taught only during the first semester of the first year. As English is the language of instruction in the institute, a considerable number of teachers and students believed that the English syllabus should be extended to other semesters to enhance learners' mastery of the language.

However, the answers of the administration staff displayed in the table (4.59) show that four (04) participants supported the extension of the English syllabus to other semesters while three (03) subjects believed that the syllabus should not be extended to other semesters.

	Number	Percentage
Yes	04	57.14 %
No	03	42.85 %
Total	07	100 %

Table. 4. 59: The extension of the English syllabus to other semesters.

Question 12: Do you think that the number of EST sessions per week satisfactory?

The factor of time is crucial in any syllabus design. Therefore, administration staff members were questioned if the time dedicated to the English language subject is satisfactory to develop learners English language proficiency. In this framework, the time allotted to the ESP English course is one hour and a half per week.

The results in the table (4.60) depict that the majority of the participants, representing six (06) administration staff members, believed that the time dedicated to the English language subject is not satisfactory while only one (01) said that the current time devoted to the English subject is satisfactory.

Thus, the administration staff are aware that one hour and a half per week cannot be satisfactory to raise learners English language proficiency.

	Number	Percentage
Yes	01	14.28 %
No	06	85.71 %
Total	07	100 %

Table. 4. 60: The satisfaction or non-satisfaction of the number EST sessions per-week.

Question 13: According to your point of view, what are the aspects of the syllabus that need adaptation and modifications ?

The respondents answer to this question shows that the members of the administration are ready to make changes to the English syllabus.

In this question, six (06) aspects of the English syllabus that may need adaptation and modifications were introduced. The participants were given the possibility to answer by more than one option.

As displayed below, all the participants agreed that the priorities of teaching language skills: reading, listening, speaking, and writing should be modified. Additionally, six (06) of them insisted on the need for the adaptation and revision of the types of activities and materials implemented. Furthermore, four (04) subjects urged the adjustment of planning and resources for different teaching contexts, and the time dedicated to the English language teaching whereas three (03) participants highlighted the amendment of procedures of testing and assessment together with types of learners and teachers, and the teaching/learning experience.

The aspects of the syllabus that need adaptation and modifications	Number	Percentage
- Types of learners and teachers and the teaching learning experience.	03	42.85 %
- Modifying the priorities of teaching language skills: reading, listening, speaking, and writing.	07	100 %
- Planning and resources for different teaching contexts.	04	57.14 %
- Time dedicated to English language teaching.	04	57.14 %
- Types of activities and materials implemented.	06	85.71 %
- Procedures of testing and assessment.	03	42.85 %

Table. 4. 61: The aspects of the syllabus that need adaptation and modifications.

4.3.6 Summary of the Administration Staff Interview Main Findings and Interpretation

The findings gathered from the administration staff structured interview revealed the following general conclusions:

All the administration staff members have teaching duties, including the director of the institute himself. This means that all the administration members are permanent teachers specialized in electricity and electronics-related branches. Thus, their teaching duties will give them a clear vision on the current English syllabus, its deficiencies, as well as learners' lacks and wants.

The results also show that the administration staff members believed that the learners are at the medium stage and a moderate capacity in the English language proficiency.

The results displayed reveal that all the administration staff members confirmed that ESP teaching is based on an official syllabus. The remarkable finding is that the present English syllabus is not based on the learners academic and professional needs; that is, it is not a needs-based syllabus. The findings presented demonstrate that the current ESP syllabus is skill-based since the basics of the syllable are mostly linked with academic content related to the four English language skills. The present ESP syllabus design is based on activities that develop listening, speaking, reading, and writing skills. Here again, students' academic and professional needs are excluded in the process of designing the syllabus.

The findings of the interview demonstrate that the institute administration staff affirmed that they favored assigning English teachers for the subject of ESP because according to their point of view English teachers are experts in the subject of ESP whereas subject specialists are not highly qualified in English language. Additionally, subject specialists are much more needed to cover the teaching of specialty subjects. In this context, the institute administration is fully engaged in strengthening collaboration between English teachers and subject specialists.

The interview results demonstrate that the institute administration members are aware that one hour and a half per week cannot be satisfactory to develop learners English language proficiency. Correspondingly, as far as the current ESP syllabus adaptation and amendment is concerned, all the participants agreed that the priorities of teaching language skills: reading, listening, speaking, and writing should be

amended. They also emphasized on the need for the modification of the types of activities and materials implemented. In addition, the participants urged the adaptation of planning and resources for different teaching contexts, and the time allotted to the English language teaching. Furthermore, the subjects highlighted the amendment of procedures of testing and assessment.

4.4 Conclusion

This chapter has provided detailed information regarding the methods and procedures that were used to conduct the study. The instrumentation used to gather data in students' questionnaire, teachers' questionnaire, and the administration staff structured interview were presented, and the steps involved in the data analysis were discussed.

The results of this study were analyzed and interpreted. They represent a judgment made by the researcher to the current ESP syllabus highlighting the syllabus deficiencies and raising awareness towards including learners' academic and professional needs as a crucial basis for the current syllabus amendment and modification.

It is worth mentioning that the data analysis and interpretation has enormously contributed in the administration and conduction of the final version of the treatment through students', teachers', and administration staff members feedback and suggestions.

**Chapter five: Discussion Recommendations,
Pedagogical Implications, and Instructional Practices**

Chapter five: Discussion of the Research Findings, Recommendations, Pedagogical Implications, and Instructional Practices

5.1 Introduction

In this chapter, suggestions and recommendations based on the results are presented and put in the hands of the institute administration and teachers. It recommends a number of procedures that should be taken to better the English syllabus based on the students' needs, and reflects both teachers and administration expectations. Moreover, a broad-lines scenario for a needs-based syllabus is suggested to be a model for EST teaching and learning in the EST settings across the country' s universities.

5.2 Discussion of the Research Findings

The present study attempts to test the following hypothesis: there was a discrepancy between the objectives and outcomes of the existing English language syllabus at the Institute of Electricity and Electronics at the University of M' hamed Bougara University, Boumerdes, and the English language needs of the ESP students as proved by the academic environment and situations occurring in students' everyday life, as well as the requirements of the labor market. In other words, if students of electricity and electronics at INELEC Boumerdes learn specialized English through an appropriate and well designed needs-based syllabus, they would gain high communicative proficiency needed in their academic and professional life.

The results prove this hypothesis as surveying the existing English syllabus reveals that this document to some extent fails to supply the necessary information. It is assessed, mainly by teachers, as general, lacking details essential for course

planning, leaving both teachers and course designers without a clear direction. As this is the case, one may expect to find a lack of cohesion in materials and examinations used within the system.

One cannot deny the fact that some parts of the syllabus should reflect the philosophical and educational approach that guided the decisions of the institute and the university administration. Such an approach may be unsuitable for the learners' present academic and professional needs. Furthermore, the current syllabus objectives and the course goals are realistic, but ESP practitioners' teaching do not translate these objectives into a real practice.

In surveying the existing teaching materials, the results show that the current English syllabus are not compatible with the learners' needs. There are mismatches noticed between the teaching materials and the learners' specific academic field. Additionally, the procedures, techniques, and presentation of teaching materials should be in harmony with the specifications given in the syllabus, and this is not the case with the existing syllabus. Thus, a new syllabus translating learners' needs as a guide for materials design is the best evaluation to the existing teaching materials.

The institute administration and syllabus designers can be realistic and effective only if they take into account some limitations hindering the teaching/learning process. One of these factors is time. Time available for the subject of English, one hour and a half per week for only one semester, is not satisfactory to raise learners' English proficiency. Both teachers and students urged the institute administration to insert a sort of modification to the current syllabus targeting the factor of time by extending the subject of English to the second semester, and adding additional English session per week. Any syllabus planning responding to both

teachers' and students' needs and wants takes into consideration the available hours per week, weeks in the academic year, and even years for the course. The objectives and the ways in which they can be achieved are dependent on the amount of time available and how it is distributed.

When syllabus designers choose to focus on specific skills at the expense of others, this may harm learners' proficiency in linguistic forms. The existing syllabus focuses on reading and listening skills though the targeted learners' needs as perceived from the students' questionnaire are purely developing communicative competence associated mainly with speaking and writing skills. Skill specification should be based on a careful survey and evaluation of the needs of the targeted student population in terms of present and future expectations. If the immediate needs of the student population are to communicate orally with native speakers of the target language, then the outcomes of the course would focus on oral communication skills with this objective stated as specific types of interaction, for instance, to be able to communicate in an oral job interview.

The results of the current research work show that the targeted the students of the first year at the Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes evaluate themselves as lacking much proficiency in almost all the four language skills. However, their level at reading skills is the highest followed by listening, meanwhile they face learning difficulties in speaking and writing considering them as a priority skills that should be mastered. Similarly, teachers report that speaking and writing are of top priority for the ESP English course for the students of science and technology in general though the current ESP English focuses on reading skills, and grammar.

Based on the results of the study and the statistical information presented in the previous chapter (Methodology and Data Analysis and Interpretation), the learners insist on giving much attention to the English skills associated with their academic discipline. Besides, they asserted that their academic needs are much more related to developing speaking and writing skills, in addition to acquiring specialized vocabulary. Thus, the English course at the Institute of Electricity and Electronics does not meet the learners' English needs. This course must be designed on the basis of the students' target needs. This research work results and the discussion of the findings can be useful for course and syllabus designers to design an effective needs-based syllabus..

5.3 Recommendations and Pedagogical Implications

On the ground of the research results, the researcher attempts to propose some remedial suggestions and recommendations that will inspire researchers and support the institute administration as well as ESP practitioners in designing effective English syllabus based on the learners' needs aiming at improving the teaching of ESP.

Accordingly, the investigator tries to provide theoretical recommendations associated with the necessity of teacher training in ESP and of collaboration between ESP practitioners and subject specialists, the role of the ESP practitioner, the role of the learner, and the subject specificity in ESP.

5.3.1 Teacher Training in ESP

ESP practitioners have a lot in common with teachers of English for general purposes. However, the needs to understand the requirements of other professions and willingness to adapt these requirements is what differentiate ESP practitioners from

general English teachers. ESP teaching presumes teaching of English regarding specific subject, profession or purpose.

Through training and professional development, ESP practitioners will be equipped with the necessary knowledge and tools to deal with students specific academic fields. It should be noted that ESP practitioners are not specialists in the field. They provide support for students who know their subject matter than their teachers do, develop important skills in understanding, using, and presenting authentic information in their academic branch.

A qualified and professional ESP practitioner should be able to move smoothly from one academic or professional field to another without being obliged to spend a long time on getting started. She/he should bring the necessary tools, frameworks and principles of course and syllabus design to apply them to a new material.

The research data gathered demonstrated that ESP teachers spend more time teaching students and less time in professional learning opportunities with their peers. Thus, theorists and applied linguists highlight some strategies that are already put into practice elsewhere to remedy this problematic issue.

Since ESP as a branch started under the form of English for Science and Technology (EST), the early training programs were exclusively meant to train English teachers in engineering and technological institutions. In this framework, William Lynch spoke about the problems encountered by English teachers in engineering colleges in his article, "Freshman English Responsibilities in Engineering Colleges". Yet, the article excluded the training needs of teachers (Santosh 2011: 02).

It is worth mentioning that the first formal training program was initiated by J. R. Ewer in Chile in the mid 1970s. Even today, most educators and trainers would agree with Ewer that a training program for EST teachers should "at least reduce the teachers' difficulties to manageable in-service proportions and lead to a substantial improvement in the efficiency of EST courses" (Ewer, 1976). Ewer training program comprises four key areas:

(1) The first area is concerned with "filling in the students' conceptual vacuum" by making teachers think and understand the basic concepts about science and technology texts.

(2) In the second stage, an examination and analysis of actual science and technology texts and selected materials from EST textbooks and locally produced materials is given to the trainees.

(3) The following stage concerns methodology of teaching EST in which micro-teaching and practice teaching form parts.

(4) The last part of the training program is devoted to a brief consideration of how to organize and administer an EST program.

After the publication of John Munby's 'Communicative Syllabus Design' in 1978, program designers started considering learners' needs, learning styles, and preferences while finalizing components for training subjects. Munby's needs analysis had its immediate impact on ESP research. Correspondingly, Kennedy (1979) proposed a communicative approach to training advocating that ESP teacher training should consider factors as level, experience and motivation of the teacher trainee; the situation for which she/ he is being trained; imbuing confidence in trainees; teaching

them to follow a communicative approach to teach with reference to students' subject areas; provide practice in designing and using materials; and training them to use suitable methodology for ESP and text-base activities (Santosh 2011: 03).

Raising a question over subject specific materials, Hutchinson and Waters (1987) emphasized on exploring the common ground between the ESP curriculum and general English. It implies that they wanted ESP teacher training programs to focus on sensitizing teachers towards the needs of their learners. However, the marginalization of professionally and academically relevant materials does not seem to go with their suggestion of sensitizing ESP teachers towards the needs of their students in training programs.

After analyzing Ewer' s program at Chile, Pauline Robinson (1981) asserted that ESP teacher training programs should focus on changing the attitude of teachers towards science and some of the other subject specialism. She mentioned that it should be mandatory for teachers to be trained in producing language materials from a subject specialist text and understanding specialist text. Her idea about orientation courses may be effective even for training present generation of prospective ESP teachers with general academic background in materials writing and ESP teaching.

Later on, the focus shifted from teacher training to training course design. In this vein, Hutchinson and Waters (1987), based on the training course program adopted at King Mongkut' s Institute of Technology, Thonburi, Thailand, emphasized on the idea that training program should include the following key steps:

- Linguistic description and EST.
- Teaching techniques in EST.

- Language and study skills.
- Psychology and language learning.
- Research methods in EST.
- Scientific and technical information.
- Teaching and evaluation in EST.
- Courses and materials design.
- Classroom language.
- EST teaching development.
- Computer application in EST.

According to Bojovic (2006), most teacher training courses, including ESP practitioners, should include four (04) basic elements:

(1) Selection, initial and terminal, is necessary because not every human being would become an adequate language teacher. Each teacher has continuing responsibility throughout a career which can last for thirty years or longer. This responsibility makes it essential that potentially ineffective individuals should be discouraged from entering the profession by adequate pre-training or post-training selection procedures.

(2) Continuing personal education. Teachers should be well-educated people. Minimum standards accepted for teachers vary from country to another country. There are variations in how the trainee's personal education is improved – either simultaneously with his/ her professional training; or consecutively where first two or three years of study with no elements of training as a teacher are followed by the

fourth year containing methodology of foreign language teaching or no-year post graduate course of teacher training, or by in-service courses. Either way, the assumption is that graduates' level of education is to be regarded as insufficient.

(3) General professional training as an educator and teacher. This element involves what all teachers need to know regardless of which subject they teach – the components are as follows: (a) educational psychology, the study of child development, social psychology, and the principles of educational thought. This component is intended to lead the trainee to understand the nature of education; (2) an outline of the organization of education in a particular country – the teacher should be aware of the different kinds of schools, of normal and usual pathways through educational network of responsibility, control and finance, of sources to reform and change, of the main features of history of education in the country where she/ he will teach; (c) an awareness of the moral and rhetorical function of the teacher: the building of standards, character, enthusiasm; (d) knowledge of class management, discipline and handling of various groups of students; (e) knowledge of basic instructional techniques, and understanding teacher-learner interaction; (f) acceptance of the fundamental need for the preparation of lessons; (g) understanding the role of curriculum, syllabus, and teaching materials; (h) a teacher should be committed to keeping in touch with the teaching profession.

(4) Special training as a teacher of a foreign or second language. The complexity of this training that constitutes the core of most teacher training courses can be made easier if the distinction is to be made between three (03) aspects: the skills, information, and the theory component.

(a) The skills component includes three (03) different skills required by the teacher: command of the language of teaching, teaching techniques and classroom activities, and the management of learning. The skills component should be based on practical training in performing the skills themselves. This comprises a great range of activities as: the observation of specially-devised demonstrations of specific techniques and of complete lessons, the observation of the actual class, practice in the preparation of the lesson plans, peer group teaching as a form of exercise, teaching real classes under supervision, discussion of the trainee's teaching, and post-training, in service courses of various kind of ESP courses.

(b) The information component. Information that covers the following three (03) parts: information about education – about the different approaches to the task of teaching language, information about the syllabus and materials used, and information about language.

(c) The theory component. The language teaching profession makes connection with theoretical studies in several disciplines as linguistics, psychology, psycholinguistics, sociolinguistics, social theory, and education. The theoretical studies are likely to find a place when the trainee has attained a sufficient level of personal education and when she/ he is preparing to teach high levels learners.

"The workshop approach" is one of the most known programs set up to invest in teachers' knowledge and skills. In this approach, the educational institution brings in an outside consultant or expert on a staff-development day to give teachers a training seminar on a variety of pedagogic or subject-area topics. This approach is very appropriate to the Algerian context and can easily put into practice (Allouche, 2012: 145).

"Professional learning communities" is another strategy for professional development. It is also known as "inquiry teams" or "learning teams". It consists of gathering teachers many times a week or a month to debate the problems and difficulties faced. In its most complicated phase, teachers set common educational goals, teach lessons in their individual classrooms, administer assessments to determine levels of students' mastery, and then regroup as a team to analyze the data together. Finally, they pinpoint areas of success, identify areas for improvement, and set goals for future teaching (Allouche, 2012: 145)

In essence, the administration of the Institute of Electricity and Electronics at M' hamed Bougara University, Boumerdes should take decisive measures to raise teachers' awareness towards the necessity and importance of training programs to enhance the outcome of English teaching and learning. Besides, it should adopt one of the professional development approaches or strategies that respond to the teachers desires and the teaching/ learning context of the institute.

5.3.2 The Necessity of Collaboration between ESP Practitioners and Subject Specialists

The cooperation between ESP practitioner and subject specialist is crucial in developing effective ESP materials. This means that ESP programs are highly beneficial if English teachers and subject specialists negotiate with each other.

There have been always many controversial opinions about the most effective methodologies in ESP programs and the role of language and subject teachers. A considerable number of studies indicated that language-teaching programs cannot be separated from other academic programs (Bacha, 2003; Bhatia and Candlin, 2000; Swales, 1990).

Swales (1988) emphasized the importance of interdisciplinary approach to ESP programs. He developed a framework and categorized the interdisciplinary activities into three (03) groups of cooperation, collaboration, and team-teaching based on useful insight from Dudley-Evans and St. John' s (2006) frameworks.

Based on Swales' framework, cooperative activities are concerned with a low level of cooperation between English teachers and subject specialists in which ESP practitioners consult subject specialists about different aspects of academic fields. In collaborative activities, ESP practitioners and subject specialists work together to devise appropriate negotiated syllabuses as well as teaching/learning activities. Finally, in team-teaching activities, both ESP practitioners and subject specialists work together in the same ESP classroom to teach the material simultaneously (Ghafournia and Shokoofeh, 2014: 04).

From the previous considerations, it can be inferred that those who are dedicated to teaching English for Specific Purposes should not misconceive their role: to match learning needs with target needs. In order to translate what is theory to practice, collaboration between ESP practitioners and subject specialists is needed regarding specific aspects. In this respect, Kohn (1988: 77) states:"[...] it is worth repeating that we are communication skills lecturers, and not subject teachers whose job is to further the students' knowledge of the subject". It should be noted also that the effectiveness of cooperation, collaboration, and team-teaching between the ESP practitioner and subject specialists depends on the former' s interest in the field of specialization of students, as well as on the latter's positive perception of the crucial role of English for the students, for instance, in the field of science and technology, as well as of the subject specialist's proficiency in English. The ESP teacher' s role is to define students' learning needs and assume the role of language consultant, while the

subject specialist is the provider or carrier content, as well as of professional skills consultant in different situations (Esteban and Vallejo, 2002: 18 – 19).

5.3.3 Subject Specificity in ESP

One of the critical features of ESP is that its course should involve language specialists, especially when dealing with related terms, terminologies, and contents. That is, the success of ESP has given rise to the fact that ESP practitioners must be experts in the target discipline or at least know the subject material as well as the learners. This assumption has largely been an outcome from teachers assuming that ESP is a product-based approach. In which teaching focuses on the observable features of target texts (the products), as such, vocabulary usage, grammar and discourse structure, and the positioning of information. However, today it is unconceivable that ESP practitioners would adopt the same approach in preparing an ESP course, especially considering the factor of time constraints they have, and many ESP courses are, including the one administered to the students of the first year at the Institute of Electricity and Electronics, the University M' hamed Bougara, Boumereds, composed of a heterogeneous group of learners from multiple disciplines or professions (Laurence, 2011: 02).

The justification for these subject specific classes is that students have problems in adapting to the demands made on them by their departments. Within a specific discipline there may also be particular features that distinguish it from other, even closely related disciplines. Herrington (1985) in a study of the writing requirements in a Department of Chemical Engineering showed that even within one discipline there may be variation in the discourse patterns in the different subject courses that make up the discipline (Dudley-Evans, 1993: 02).

However, Hutchinson and Waters have in a number of influential articles and their book *English for Specific Purposes* (1987) argued that a narrow angle ESP is demotivating and irrelevant. They suggest a "common-core" ESP approach for students of any discipline using texts, topics, and situations from a variety of subject areas. "Common-core" approach can be accepted up to a certain point. There are a number of features for English for Academic Purposes that do not differ across the range of disciplines and it is clearly more efficient to produce materials that can be utilized with students from different academic branches. Classes can be organized on a collaborative basis involving the preparation of materials outside the classroom or can be a team-taught by a language teacher and a subject specialist (Henderson and Skehan 1980; Dudley-Evans and St. John, 1988).

5.4 Instructional Practices

The current study findings showed that ESP practitioners at the Institute of Electricity and Electronics resorted to some teaching malpractices that may affect negatively learners' language proficiency. These teaching deficiencies are the outcome of the exclusion or partly marginalization of the learners' needs and wants. Therefore, there should be a revision to the procedures of learners assessment and testing, the teaching methodology, and the basics of teaching materials selection.

5.4.1 Assessment and Testing in ESP

ESP teaching requires "a distinctive approach reflected in different types of material, together with particular modifications or compensations in teaching methodology" (Mountford, 1988: 76). Basically, an ESP course is "set up in order to enable particular learners to do particular things with language" (Hutchinson and Waters, 1987: 145).

Basically, an ESP course is built on an assessment of purposes, needs, and functions for which English is required. The ESP focal point is that English is not taught as a subject separated from the students' real world, instead it is integrated into a subject matter area important to the learners. Therefore, ESP combines subject matter and English language teaching. Such a combination is highly motivating because students are able to apply what they learn in their English classes to their main field of study. Being able to use the vocabulary and structures that they learn in a meaningful context reinforces what is taught and increases their motivation.

ESP evaluates needs and integrates motivation, subject matter and content for the teaching of relevant skills. The teacher is a resource that helps learners identify their language learning problems and find solutions to them, find out the skills they need to focus on, and take responsibility for making choices that determine what and how to learn. Teachers will serve as a source of information to the students about how they are progressing in their language learning.

The assessment of students is a serious and often hard task. Assessment is centered around getting to know the students and the quality of their learning. There have been several purposes for ESP assessment that can be stated as follows: judging mastery of essential skills and knowledge, measuring improvement over time, diagnosing students difficulties, evaluating teaching methods, evaluating the effectiveness of the course, and motivating students to study.

However, students seem to view assessment quite negatively, as a "conservative restraint on development" (Alderson, 1988: 87). Hence, teachers as well as educational institutions should make every possible effort to make the students realize that a test is a worthwhile goal for them since "a test which sets out to

measure students' performances as fairly as possible without in any way setting traps for them can be effectively used to motivate them" (Heaton, 1988: 07). That is, such assessments must be free of threat, as the aim is to get the students reveal their strengths and weaknesses rather than to disguise them.

Correspondingly, the assessment on which decisions about the learners' future are to be made (summative assessment) should be kept separate from assessments which are for the benefit of the students in terms of guiding their further study (formative assessment). In summative assessment, every effort should be made to ensure that all assessments are fair and based on appropriate criteria. It should be noted that learners must be informed of these criteria, on the assessment methods to be employed, and on the measurements to be given for each component. These information should be given to the students when a course begins. On the other hand, formative assessment must be free of threat and the opportunities to obtain feedback on knowledge or performance, in this type of assessment, are always appreciated by the learners and can lead to positive feelings about the department and the staff concerned. The aim of formative assessments is to provide feedback to students as they progress towards a goal. If this feedback is of a high quality, improvement in students' performance is achieved. Summative processes have more of a gate-keeping function. That is, students application to a college or an institute are evaluated using a summative evaluation, and students are either accepted or rejected according to this process (Stoica , 2006: 327).

Thus, ESP tests are primarily concerned with facilitating learners to perform particular communicative tasks, providing feedback on learning, confirming what students have acquired and highlighting those skills that need further attention in the syllabus or the course, encouraging learning, and monitoring progress. In essence,

ESP tests can be classified as a performance tests assessing the skills needed to perform in the language successfully. They are linked in content, themes, and topics to a particular discipline and involve a high degree of language specificity. Special lexical, semantic and syntactic characteristics of technical language, in addition to its communicative function enable students in a particular academic, professional or vocational field to convey the meaning more specifically. Precision in language is a unique concept in ESP tests. The ESP testing assesses a specific group of learners would entail samples of communication activities, communication purposes, linguistic features, functions, descriptions of content areas, and language skills (Trantik, 2008: 05).

In devising an ESP test, ESP practitioners should aim at create good and dependable measures of language ability which need to:

- Be as authentic as possible;
 - provide accurate and reliable measures of language ability;
 - have beneficial effects;
 - be practical and economical in terms of administration, time, money, and personnel.
- (Tratnik, 2008: 07).

Assessment and testing is a central part in any syllabus design. The reasons for testing could shape the test components. Tests may be used as a means to:

- Give the teacher information about where the students are at the moment, to help to decide what to teach next;

- give the students information about what they know, so that they also have an awareness of what they need to learn or review;
- motivate students to learn or review specific material;
- get a noisy class to keep quiet and concentrate;
- provide a clear indication that the class has reached a "station" in learning, such as the end of a unit, thus contributing to a sense of structure in the course as a whole;
- get students to make an effort (in doing the test itself), which is likely lead to better results and a feeling of satisfaction;
- give the students tasks, which themselves may actually provide useful review or practice, as well as testing;
- provide students with a sense of achievement and progress in their learning.

(Penny, 2005:09)

In designing the test, it is important that ESP practitioners list in writing all the material they want their test to cover: they can then refer back to the list during and after the test writing to see if they have included all they intended.

The following guidelines for test preparation could be useful and practical for the ESP practitioners at the Institute of Electricity and Electronics:

- Validity: check that the test items really do test what they are meant to.
- Clarity: make sure the instructions for each item are clear.
- Do-ability: the test should be quite do-able: not too difficult, with no trick questions.

- Marking: decide exactly how each section of the test will be assessed, and how much weighting (percentage of the total grade) that will be given. Make the marking system as simple as possible, and inform the testees what it is: write in the number of points allotted after the instructions for each question.
- Interest: try to go for interesting content and tasks in order to make the test more motivating for the learners.
- Heterogeneity: the test should be such that lower-level students can feel that they are able to do a substantial part of the test, while the higher-level ones have a chance to show what they know. So, include both easy and difficult items, and make one or more of the difficult ones optional. (Penny, 2005: 14)

The following test scenario could be a model for testing at the institute. This test model covers all language skills:

- (1) Questions and answers: asking simple questions, very often following reading, or as a part of an interview associated with the students' academic branch, may require short or long answers.
- (2) True/ false: a statement is given which is to be marked true or false.
- (3) Multiple choice: the question consists of a stem and a number of options (usually four), from which the testee has to select the right one.
- (4) Gap-filling and completion: the learner has to complete a sentence by filling a gap or adding something. A gap may or may not be signaled by a blank or dash; the word to be inserted may or may not be given or hinted at.

(5) Matching: the students is faced with two groups of words, phrases or sentences; each item in the first group has to be linked to a different item in the second (usually synonyms, opposites, or definitions).

(6) Dictation: the instructor dictates a passage or set of words, students write them down.

(7) Cloze passage: words are omitted from a passage at regular intervals. Usually the first two or three lines are given with no gaps. The words may or may not be given.

(8) Transformation: a sentence is given; students have to change it according to some given instruction (passive voice, reported speech, etc).

(9) Rewriting: a sentence is given; the student rewrites it, incorporating a given change of expression, but preserving the basic meaning (passive voice, reported speech, expressing cause/ effect, expressing concession, etc).

(10) Translation: the learners are asked to translate expressions, sentences, or entire passages to or from the target language.

(11) Paragraph writing or essay: students are given a topic and are asked to write a paragraph or an essay of a specific length.

It is worth mentioned that the test content in all its phases: the selection of the text, questions content, grammatical structures, the topic of writing should be closely attached to the learners academic discipline.

5.4.2 ESP Teaching Methodology

The selection of a suitable methodology or methodologies is a crucial integral element in ESP teaching process. Research has offered deep insights into the fact that

no single teaching methodology can be sufficient to address diverse and peculiar needs of ESP learners, and ESP practitioners should choose from a host of teaching methodologies to run an effective ESP course (Hutchinson and Waters 1987).

Robinson (1991) argues that English language teaching methodology and that of ESP has a little difference. He identifies two (02) characteristics of ESP methodology: ESP methodology can be based on activities centered around students' academic branch, and ESP activities can have a truly authentic purpose derived from students' target needs. In the same vein, Dudley-Evans and St. John (1998) maintain that what characterizes ESP methodology is the use of tasks and activities reflecting the students' academic field.

The findings obtained from the teachers' questionnaire and administration staff structured interview revealed that the structural approach related teaching techniques are still present in English language teaching at the Institute of Electricity and Electronics at M' hamed Bougara University in Boumerdes. Yet, there is slight existence of communicative language teaching despite the fact that learners' needs analysis demonstrated that the targeted students dedicate a special attention to develop communicative skills using English.

Based on the study results, ESP practitioners at the Institute of Electricity and Electronics are urged to take into account learners' academic and professional needs as they are associated with developing oral and written communicative skills. Hence, communicative language teaching that proves its effectiveness worldwide should be adopted in ESP teaching. This teaching methodology fosters learners' interaction with teaching materials in a motivated way where the students feel that their learning objectives can be achieved.

Communicative language teaching is compatible with the norms of ESP teaching and learning in terms of the roles of teachers, learners, materials selection, and the course or syllabus objectives. The communicative approach implementation requires respecting the following key teaching steps:

- The assessment of students' needs, wants, and desires, that provides the most effective basis for materials design and development;
- mechanical teacher drilling disappears as accuracy will not be focused on for its own sake;
- the teacher assumes various roles to encourage learners' participation;
- a shift of focus from form to meaning through appropriate stimulating cognitive tasks;
- fluency is a priority for communication rather than formal accuracy;
- a flexible and enlightened attitude towards learners' errors as an evidence that learning is taking place;
- an authenticity of material and classroom activities that is assumed will enhance attempts to create the real-life language (Allouche, 2012: 149 - 150).

Thus, the present study emphasizes the shift from teacher-centeredness towards learner-centeredness through implementing communicative language teaching as a method of teaching at the National Institute of Electricity and Electronics at M' hamed Bougara University in Bouverdes.

5.4.3 The Basics of the Selection of Teaching Materials

The results of the current study demonstrated that ESP practitioners at the Institute of Electricity and Electronics adopted random selection of teaching materials for the students of the first year. Owing to this confusion in the selection of teaching materials, this study suggested ideas to aid teachers enhance their role as ESP materials designer and provider.

Designing and providing teaching materials is a very helpful means to support students to enhance their English proficiency in the four skills. Essentially, "teaching materials are tools that can be figuratively cut up into component pieces and then rearranged to suit the needs, abilities, and interests of the students in the course" (Graves, 1996: 27). ESP teaching materials may take different forms, such as, textbooks, Internet websites, videos, texts, and so forth.

The selection of teaching materials should be based on learners' academic and professional needs, and should be attached to the students' academic branch. Additionally, authenticity and simplicity are two (02) key features of ESP teaching materials. "Authentic material is any kind of material taken from the real world and not specifically created for the purpose of language teaching" (Ellis and Johnson 1994,: 157). Using authentic materials is very helpful to both learners and teachers since they have positive impact on learners' motivation, satisfy learners' needs, and supply authentic cultural information and exposure to real language. But, these authentic materials should not go beyond students' educational level and current abilities. Hence, teachers should use simplified teaching materials that use comprehensible language, provide clear objectives, and focus on specific items of the

syllabus content. In turn, Wallace (1992) recommends the following criteria of ESP materials selection:

- Adequacy: the selected materials should contain appropriate language and information about the course.
- Motivation: they should present interesting content in order to help students be active and work hard in order to raise the level of comprehension and make the learners more effective..
- Sequence: it is essential to have materials that are related to the course content. There must be a relation to previous texts, activities, and topics.
- Diversity: the selected materials should lead to a range of classroom activities, be a vehicle for teaching specific language structure and vocabulary, and promote strategies.
- Acceptability: they should contain acceptable cultural customs and language.

In general, ESP teaching materials are either designed by teachers or chosen from a large body of published ESP textbooks that are available in the market. However, most of the readily available ESP books are not written considering specific academic and occupational context, nor they are based on learners' academic and occupational needs.

Hence, in order to successfully choose from what is available, ESP practitioners should track down useful ESP instructional materials. In this framework, Gatehouse (2001: 09) explains:

Familiarizing one's self with useful instructional materials is part of growing as a teacher, regardless of the nature of purpose of learning. Given that ESP is an approach and not a subject to be taught, curricular materials will unavoidably be pieced together, some borrowed and others designed specially. Resources will include authentic materials, ESL materials, ESP materials, and teacher-generated materials.

It is important to note that at the Institute of Electricity and Electronics at Mohamed Bougara University in Boumerdes, ESP practitioners mostly rely on and implement textbooks and use additional materials from books and online sources. But, the use of non-printed materials as videos, and Information and Communication Technologies (ICTs) are totally excluded owing to the unequipped classrooms.

5.5 Towards an Intervention: The Broad lines of a Needs-Based Syllabus

This section is devoted to the interpretation of the raw data about the learning needs in order to produce an integrated series of teaching-learning experiences, whose ultimate aim is to lead the learners to a particular state of knowledge. This entails the use of the theoretical and empirical information available to produce the syllabus, to select, adapt and write materials associated with the syllabus, to develop a methodology for teaching those materials and to establish evaluation procedures by which progress towards the specified goals based on the learners needs will be measured.

Hence, after investigating the learners academic needs, wants, and expectations, and reviewing the theoretical models of learning and language available, the broad-lines of a needs-based syllabus are introduced based on inserting a sort of revision and modifications to some of the current ESP syllabus content on the ground of the students needs.

5.5.1 The Syllabus Goals and Objectives

The data gathered from the students' questionnaire, teachers' questionnaire, and the administration-staff structured interview should be used by a policy-making authority whose job is to prepare guidelines for new courses. At the national level, the authority might be a curriculum advisory committee, while at the local level it could be a teachers' committee assigned the task of preparing a new program. In either case, the process requires translating learners' needs and expectations into operational and attainable goals and objectives. In the case of the teachers' committee, as in the case of this study, it would prepare both the specifications of the goals and the course syllabus with its more specific objectives (Fraida and Elite, 1986: 24).

Based on the results of the study, the respondents agreed upon the point that the syllabus objectives should emphasize on the communicative aspect of language learning, in other words, on the learners' ability to use the target language for communicative purposes. Also, they asserted the emphasis should be on the learners' needs and wants that should be taken into account in determining the syllabus goals and objectives. For this reason, their academic needs might be defined in terms of language skills associated with their academic branch.

The researcher recommends the following syllabus objectives to be the guidelines of the overall syllabus design. It should be noted that the syllabus goals are compatible with the students' needs and based on the teachers' and the institute administration staff points of view.

- The student finishing this program will be able to communicate effectively in the target language in various topics of interest.

- Students will be able to read authentic materials for academic and professional needs.
- The ability to understand lectures in English, taking notes, and responding to different oral and written questions.
- Students will be able to use science and technology terms in the four language skills. (This objective has already existed in the current English syllabus).
- Students will be able to apply all grammatical rules in both spoken and written English. (This objective has already existed in the current English syllabus).
- Learners will be able to produce good writing texts . (This objective has already existed in the current English syllabus).

Based on the above listed syllabus objectives, the syllabus content in terms of tasks and activities could be well-determined and designed, and the teaching materials could be easily selected. Correspondingly, an attempt to design the syllabus content is proposed to both the institute administration and English teachers. The syllabus content covers the four language skills and procedures for learners' assessment and testing.

5.5.2 Teaching Listening and Speaking Skills

A very simple analysis of listening would give it four headings: understanding a speaker' s accent of pronunciation, understanding his/ her grammar, recognizing his/ her vocabulary, and being able to grasp the meaning of what he/ she says. Hence, ESP practitioners may then construct exercises to practice each of these aspects of listening one by one. Yet, effective comprehension relies on the ability to do everything at once and so the learner should also have some chance of natural listening practice that is

not directed towards any particular aspect of listening skill but involves them all (Allen and Corder, 1979: 93).

The teaching aim of extensive listening practice is to give the learner plenty of opportunity to develop and exercise his/ her listening skills in as natural way as possible. Extensive listening need not be tested in any detail, but will be done for its sake. The learner will be following the meaning of the listening passage, because he/ she is interested in the information it contains, or simply because he/ she is enjoying it. However, intensive listening exercises can be divided into two types:

- (1) Exercises to train a detailed comprehension of meaning, and
- (2) exercises which get the learner to listen to particular features of language, such as vocabulary, grammar or pronunciation (Allen and Corder, 1979: 95-98).

Technically speaking, most listening texts should be based on discourse that is either genuine improvised, spontaneous speech, or at least a fair imitation of it. A typical authentic written text that is read aloud as a basis for classroom listening activity will provide the learners with no practice, in understanding the most common form of spoken discourse. The listening text should be highly linked to the themes of the learners' academic field, it can be a text read by the teacher or one of the learners, recorded text or interview, a part of video, etc.

Listening tasks based on the listening texts should include the following features:

- (1) Learners should have in advance some idea about the kind of text they are going to hear.

(2) Likewise, a listening purpose should be provided by the definition of pre-set task, which should involve some kind of clear visible and audible response.

(3) Finally, the task should usually involve intermittent responses during the listening; learners should be encouraged to respond to the information they are looking for as they hear it, not to wait to the end.

Listening activities answers may include short responses (ticking off items, true/false, filling gaps, guessing definitions, etc), long responses (answering questions demanding full responses, learners take brief notes from the listening text, summarizing the content), and/or extended responses (problem-solving, interpretation of parts of the listening context ideas). The selected listening text should be connected with learners academic field.

A sample of listening activity:

Instruction: Listen to the following recorded text, and then answer the questions below:

First you turn it on, here' s the switch at the side. Then you will see some words and numbers on the screen, and finally a capital C and a sort of V sideways on. OK, now take your disk, this one, and put it in the slot – it' s called a "drive" – and lock it in, you have to close this little handle here. Now type in 'A' and press the key with the sort of bent arrow at the side.

(1) Listen to the recording of someone giving instructions. What are they talking about ?

(2) Look at the words below. Use a dictionary to check of any you are not sure about.

Nouns: switch, slot, disk, handle, key, arrow, screen.

Verbs: lock, type.

Adjectives: bent, capital.

(3) Listen to the recording again, and use the words to complete these notes:

Turn it on, here is the ----- at the side. Then, you will see some words and numbers on the ----- and finally a ----- C.

Take your ----- and put it in the ----- , and ----- it in; you have to close this ----- . Now ----- in 'A' and press the ----- with the sort of ----- ----- at the side. (Adapted from Penny, 2005: 45).

The language laboratory is the most suitable place where learners can develop their listening comprehension but the institute does not include such equipments. The language laboratory is not so suitable for speaking practice as it is for listening practice. Thus, listening in the language lab can be a real language experience, whereas talking in the lab is only a rehearsal for real conversation. However, there are some teaching techniques using language lab can be adopted by the ESP practitioners at the institute if the University of M' hamed Bougara University, and the institute administration create a language lab. The outstanding technique is the imitation of native speech models. Dialogue exchanges can be recorded to practice the pronunciation of particular sounds, stress and rhythm patterns, as well as intonation. The learner can repeat these models in the lab as many times as he/she wants.

As the results of the study showed that developing speaking proficiency is of top priority to the targeted students, ESP practitioners at the institute should vary speaking teaching techniques for the sake of rising learners' motivation and speaking

tasks and activities. Instructors can use role play, simulations, and plays targeting authentic debatable topics associated with the learners specialty. The goal of any speaking activity should be making social interaction comfortable and non-threatening and to communicate good will, in addition to discussing specialized information.

5.5.3 Teaching Reading and Writing Skills

Based on the learners' academic needs gathered from teachers' and students' questionnaires, the respondents considered reading as non-important skill to be developed while the reverse situation is noted with writing skills. Therefore, much attention, time, and activities should be dedicated to writing at the expense of reading related tasks.

The way in which people handle written language, whether receptively in reading or productively in writing , is complex and as yet little understood. It is a commonplace these days that reading is an activity made up of a large number of skills of both a motor and a cognitive kind.

In dealing with the skill of reading, instructors must synthesize various elements: (1) theories about the nature of reading itself, specifically models of mature reading; (2) the characteristics of reading selections, or textual analysis; and (3) the specific characteristics and needs of the learners. When concerned with the skill of reading, the reading materials' designer functions as a mediator between the text and the learner-reader; this mediating process brings the learner in touch with strategies for successful reading which are used by efficient, mature native-readers. Hence, the materials preparer 's task is to synthesize three (03) elements: (1) reading strategies, or a reconstruction of what an efficient native reader does unconsciously, (2) textual

analysis, or an examination of a text for the organizational and stylistic effects put there by the writer, and (3) learners' characteristics. Teachers attempt to help the learner-reader actually experience what has been described for successful reading as "a kind of accomplishment whereby a discourse is created in the mind by means of a process of reasoning" (Widdowson, 1979: 63).

The reading materials' designer as synthesizer pays attention to the following:

- (1) Workouts that bring about interaction with the text.
- (2) Providing a variety of materials to read.
- (3) Selecting texts appropriate for the targeted learners level and academic specialty.

(Fraida and Elite, 1986: 149-150).

Technically, the basic design of an educational unit incorporates a number of skill-getting devices for reading. Employing a modified version of the study skills formula SQ3R (Survey, Question, Read, Review, Recite), the directions call for two readings of the passage. Warming up or preparation questions to look for during the first reading, questions that cover the text's main themes. Besides, students are not allowed to use dictionaries during the first reading in order to activate the skimming skill for the texts' main ideas rather than focusing on the meaning of lexical items and relying on word-by-word reading. During the second reading, students are guided into using the organization of the written text as a means for understanding the supporting details. Then, students are given the chance to reinforce the comprehension of the ideas of the reading selection through partner discussions and in small groups. This section begins by asking questions directly linked to the reading material, then they move to areas outside the reading text, but serve other language

skills, as such the exploration of specialized vocabulary meaning and grammar points (Fraida and Elite, 1986: 152).

In performing reading related tasks, ESP practitioners should make sure that the following efficient reading requirements are taken into consideration:

- The language of the text is comprehensible to the learners.
- The content of the text is accessible to the learners: they know enough about it to be able to apply their own background knowledge.
- The reading progresses fairly fast.
- The reader concentrates on the significant bits, and skims the rest; may even skip parts he/she knows to be significant.
- The reader takes incomprehensible vocabulary in his or her stride: guesses its meaning from the surrounding text without using dictionaries.
- The reader thinks ahead, hypothesizes, predicts.
- The reader has and uses background information to help understand the text.
- The reader is motivated to read by interesting content highly attached to the learners' academic branch and challenging tasks.
- The reader is aware of a clear purpose in reading, for example to find out something.

(Penny, 2005: 62-63)

Any reading task may include the following key steps and instructions:

- A preparatory stage, that is pre-reading stage that includes a warming up questions giving the reader an idea about the topic of the text and its main ideas.

- A reading text highly associated with the learners' academic specialty.
- The reading text should be followed by information about the source of the text and his/her author.
- The instructor reads the text in front of the learners, and the learner-readers should be asked to read the text silently aiming at identifying the text main ideas and supporting details.
- Comprehension questions: a variety types comprehension questions (wh+ how questions, yes-no questions, true/false ideas, choice questions, matching elements, completing ideas with information from the reading passage, etc) that cover all the text paragraphs and ideas in purpose of understanding the text content.
- Text exploration related activities in terms of translation of the texts' key terms and specialized vocabulary, and driving learners' attention to the overwhelming syntactic and textual features of the reading passage prior to moving to teach grammar based on the content of the reading text.

As far as teaching writing is concerned, it has often been remarked that writing is the most difficult of the language abilities to acquire as it is perceived by the present study targeted population.

First year electricity and electronic students are supposed to write technical English related to their academic discipline. Schneider Stephen (2005) defines technical writing as a specific type of writing which is above all subject to strict formats and mechanics and the use of field-specific terminology. Thus, it is a discipline and a set of practices, concerned to some extent with what it means to communicate within an evolving technical and professional context.

In any attempt to determine the elements that should be covered, ESP practitioners should consider such components as accuracy (maintains consistent grammatical control of simple and complex language), fluency, interaction, coherence (coherent and cohesive discourse, appropriate use of a variety of organizational patterns and a wide range of connectors and other cohesive devices). The requirements needed for the formation of appropriate skills in technical writing, the following objectives should be achieved:

- (1) Organize paragraphs in technical communication, make headings and sub-headings;
- (2) interpret, compare and contrast tables, charts and diagrams;
- (3) make outline and other ideas logically;
- (4) use logical connectors for linking sentences and paragraphs;
- (5) proof-read and revise of technical documentation;
- (6) use grammatical structures needed to express appropriate functions and terms flexibly, and produce technical texts in the academic and professional areas;
- (7) use language forms appropriate to academic and professional registers;
- (8) have a good range of relevant vocabulary (terminology and abbreviations) needed in academic and professional areas. (Lubianova, 2015: 37)

In administering any writing activity, instructors should pay attention to the following criteria:

- (1) Would the learners find the writing activity motivating, stimulating and interesting to do ?

(2) Is it of an appropriate level for them ? Or would they find it too easy, difficult, sophisticated ?

(3) Is the kind of writing relevant to their needs ?

(4) Would the teacher needs to do some preliminary teaching in preparation for this activity ?

(5) Are the topics of writing activities relevant to the learners' academic branch ?

Giving corrective feedback on writing is of great importance. When a student submits a piece of original writing, the most important about it is its content, whether the ideas or details that are written about are significant and interesting. Next, there is the organization and the presentation, whether the ideas are arranged in a way that is easy to follow and pleasing to read. Finally, there is the issue of language forms, whether the grammar, vocabulary, spelling are of an acceptable standard of accuracy.

Additionally, when teachers receive written work, they should normally correct and comment on it and give it back. They should also insist on the students rewriting the paragraphs or the compositions incorporating suggestions given for improvements. Rewriting on the part of the learners is very important as it reinforces learning and it is an integral part of the writing process as a whole. However, some instructors may find correcting written works as a time-consuming, especially if they have large classes. An effective way to solve this problem is to let students correct and edit each other' s writing. In general, peer correction can be a time-saving and useful technique, also critical reading for style, content, and language accuracy is a valuable exercise in itself (Penny, 2005: 73-75).

Teaching reading and writing skills are interrelated. Reading texts can be models for writing tasks. Through reading, learners may develop their writing proficiency, excessive readers are usually proficient writers. Hence, teachers can administer mixed activities targeting developing both learners' reading and writing skills.

5.5.4 Teaching Grammar

It is certain that grammar has important roles in some aspects of ESP teaching and learning. Grammar can be defined as a set of rules that define how words or parts of words are combined or changed to form acceptable units of meaning within a language. The institute ESP instructors should know that the process of grammar teaching could be more successful when it deals with grammatical points that can be used for communication (Nunan, 1989). This means that grammatical structures are learned and used effectively when they are presented in contexts to serve communicative purposes.

There are two different approaches that can be adopted by instructors to teach grammar as noted by Harmer (2002: 49), "there are basically two ways in which a learner can achieve understanding of a rule, the deductive path and the inductive path. The deductive way is based on teaching grammar from rules. Students are asked to retain the definitions, the grammatical rules, examples about them, and the exceptions. This approach to teaching grammar is very helpful to students to gain more time in practicing exercises. But, based on this research work results, it is preferable to adopt inductive approach in which grammar is taught and learned within a context as a part of specialized texts' exploration. In its broad sense, inductive approach is based on teaching grammar from examples and students are asked to

discover the organizational principles and formulate a set of rules by themselves. Inductive teaching and learning is an effective means of teaching grammar. This approach is very helpful in making learners more active by giving more chance to interaction and discussion when giving them the opportunity to extract rules from given examples (Cagri, 2013:125-126). In addition, another kind of approach to teaching and learning grammar is explicit inductive approach suggested by Vicenta (2002) who thinks that grammar explanations are provided to learners for consultation throughout the instructional activities once they have opportunities to discover the rule. Explicit knowledge may contribute to the development of implicit knowledge by helping learners to process input and intake (Ellis, 2005: 57, in Zhaojun, 2016: 618).

The traditions of teaching grammar in English classes at the institute are based on presenting grammar in isolated sentences. However, this will not allow learners to see how grammatical structures function in sentences. Grammar should not be taught in isolation from content. A careful planned integration of language and content hold a considerable promise. In this context, "if learners are going to be able to make sense of grammar, they will need to be exposed to it in its context of use, and at the very least, this means in texts" (Thornbury, 1999: 72).

In genuine communication beyond the classroom, the appropriate grammatical choices can only be made with reference to the context and purpose of the communication. In this framework, using dialogues can be an effective of teaching grammar since the use of dialogues generally matches learners' expectations of how language is used in the real world, people use language primarily to talk to each other (Thornbury, 1999: 76). Also, as far as the context of the present study is concerned, instructors can use authentic texts in both listening and reading activities and drive learners' attention towards grammatical rules used to build sentences and paragraphs

in the targeted texts. Furthermore, in writing tasks, a part of the assessment should be centered around providing corrective feedback associated with obeying grammar rules and syntactic structures.

Grammar points that can be inserted in the English syllabus for the students of electricity and electronics at the University of M' hamed Bougara University, Boumerdes may include the following:

- Parts of speech, the main parts of speech are: nouns, verbs, adjectives, adverbs, pronouns, auxiliary verbs, modal verbs, determiners, prepositions.
- English times and tenses.
- Conjunctions: cause/ effect, concession, condition, time, purpose, etc.
- Conditional sentences, focusing on type 0 and type 1.
- Passive voice.
- Reported speech.

5.5.5 Teaching Specialized Vocabulary

Vocabulary teaching and learning is very important in learning specialized English. Both institute teachers and students indicate that specialized vocabulary associated with learners' academic branch is of paramount importance in any syllabus or course design.

It is believed that reading is the major source of vocabulary acquisition. Students who read a variety of texts may realize substantial gains in their vocabulary without direct instruction. However, teachers should neither ignore nor rely solely upon incidental acquisition. They should seek to enhance its effectiveness with

vocabulary logs, word walls and other techniques. Words occur in written texts in four different categories distinguished by Nation (2001):

(1) High frequency words including many content words related to learners' academic specialty.

(2) Academic words include many words that are common in various kinds of academic texts.

(3) Technical words closely related to the topic and subject area (words from the field of electricity and electronics).

(In Brikena, 2010: 224)

In various versions and views of ESP syllabus design, vocabulary teaching program is needed to expand students' potential in extracting the meaning and to develop the knowledge of the jargon of the genre. As EST course is largely consisted mainly of electrical and electronic terminology and abbreviations, incorporating specialized terms is an indispensable part of ESP course plans for students of electricity and electronics at the Institute of Electricity and Electronics at the University of M' hamed Bougara University, Boumerdes. It should be noted that students can benefit from vocabulary instruction particularly if it is conducted according to their academic and professional needs (Parisa, 2012: 1258).

Targeted learners perceptions reveal that students prefer to be taught technical vocabulary of their specific academic discipline. Technical vocabulary is a type of specialized vocabulary and its occurrence is affected by factors that influence the use of all vocabulary. In this context, instructors should prepare their students to deal with large numbers of technical words that occur in specialized texts. ESP practitioners

should be familiar with the core vocabulary of the field of study and design of a syllabus that integrate both content area and English language (Brikena, 2010: 235).

Technically speaking, ESP syllabus based on learners needs allow instructors to use various ways of presenting new vocabulary matched to the learners' academic branch. These include:

- Concise definitions of key technical terms explored in reading and listening texts.
- Detailed description of the qualities and parts of electrical and electronic instruments and machines.
- Examples (hyponyms).
- Illustrations (pictures, objects).
- synonyms and opposites of key specialized vocabulary.
- Translation of technical terms into learners' mother tongue.

Based on the syllabus objective to raise learners' mastery of technical and specialized terms related to the learners academic specialty, vocabulary testing techniques may include, but not limited, the following instructions:

- Choose the letter of the item which is closest in meaning to the following words or match words with their synonyms.
- Choose the letter of the definition which comes closest in meaning to the following terms or match words with their definitions.
- Choose the letter of the item which is opposite in meaning to the following terms or match words with their opposites.

- Which of the prefixes in column A can combine with which of the words in column B ? Write out the complete words.
- Fill in the gaps using the words from the list / Complete the passage using the words from the list.
- Students are given sentences or passages in the target language and are asked to translate it into the mother language.

(Penny, 2005: 28 – 29).

5.6 A Sample of a Unit Plan

The present unit plan is a part of the overall English syllabus. A few modifications were inserted on the current English syllabus aiming at integrating learners' academic needs in terms of matching teaching materials to the students' academic branch and giving much priority to speaking and writing skills at the expense of the other language skills and aspects.

The Title of the Unit: DC Motor

General Aims:

- Extracting meaning from a context.
- Describing positions.
- Defining parts.

Section one: Listening and Speaking

Listen to the following passage then do the activities that follows.

The Listening Passage:

A simple transformer consists of two coils, a primary and secondary, wound on a former which is mounted on a soft-iron core. The coils are made up of a number of turns of insulated wire. The core is composed of thin laminations. Either E- and I- or U- and T- shaped laminations are used. The former is mounted on the centre limb of the E or T.

(Eric, 1987: 29)

- 1 What are the different parts of a simple transformer ?
- 2 What is each part composed of ?
- 3 Based on your listening, draw the diagram of the components of the transformer .
- 4 In a brief oral presentation, present your own description of a transformer using the diagram.

Section two: Reading and Writing

Read the following text carefully then do the activities that follows.

The Reading Passage:

An electric motor is a machine for converting electrical energy into mechanical energy. Motors can be designed to turn on direct (dc) or alternating current (ac). Its most important parts are the rotor, the stator and the brushgear.

The rotor is the moving part. It contains an armature, which is a set of wire loops wound on a steel core. When current is fed to the armature, these windings produce a magnetic field. The armature and core are mounted on a shaft which runs on bearings. It provides a means of transmitting power from the motor.

The rotor also contains a commutator. This consists of a number of copper segments insulated from one another. The armature windings are connected to these segments. Carbon brushes are held in contact with the commutator by springs. These brushes allow current to pass to the armature windings. As the rotor turns, the commutator acts as a switch making the current in the armature alternate.

The stator does not move. It consists of magnetic and electrical conductors. The magnetic circuit is made up of the frame and the poles. Wound round the poles are the field coils. These form of stator' s electrical circuit. When current is fed to them, a magnetic field is set up in the stator.

The motor operates on the principle that when a current- carrying conductor is placed in a magnetic field, a force is produced on the conductor. The interaction of the forces are produced by the magnetic field of the rotor and the stator makes the rotor spin.

(Eric, 1987: 28)

1 Answer the following questions according to the text.

- a) – What is an electric motor ?
- b) – What are the key parts of an electric motor ?
- c) – How does the motor operate ?

2 Are the following statement True or False according to the reading passage ?

Write T or F next to the sentence letter.

- a) – The rotor is the stagnant part in an electric motor.
- b) – The rotor contains an armature and a commutator.

c) – The armature windings are disconnected to segments.

3 Vocabulary Building: Select the word from the three alternatives given which is most similar in meaning to the word in italics as it is used in the passage.

a) *provides* (§) b) *segments* (§) c) alternate (§) d) interaction

- produces - sections - reverse - acting together

-supplies - pieces - change - operation

- allows - wires - flow - result

4 Describe where the following component are located using the information in the passage.

a) – The armature windings.

b) – The core.

c) – The field coils.

d) – The poles.

Post Reading : Exploring the Text

In this part, the overwhelming language points represented in the reading passage should be presented in a form of independent language lessons. This may include, vocabulary points, grammar points, or pronunciation.

1 Present Simple Passive

The teacher drives learners' attention towards the use of the present simple passive in the passage. One of the examples is extracted and learners are asked to pick

out the grammatical rule. Then, based on the explanation of this grammatical rule, students are asked to do the following task:

Rewrite sentence (b) so that it means the same as (a)

1 a) Carbon brushes **are held** in contact with the commutator by springs.

b) Springs

2 a) The rotor **provides** a means of transmitting power from the motor

b)

3 a) The interaction of the forces **are produced** by the magnetic field of the rotor.

b)

2 Cause/ Effect Relationship

Based on the reading passage example: "**As** the rotor turns, the commutator acts as a switch making the current in the armature alternate", students learn how to write complex sentences expressing cause or effect using cause/effect connectors.

3 Conditional Sentences: Type 0

On the ground of the reading text example: " **When** current **is fed** to them, a magnetic field **is set up** in the stator", learners extract the rule of building and structuring conditional sentence type 0.

Written expression:

Using the notes below write an essay in which you state the effects of an electric current.

Useful notes:

- The effects of an electric current are thermal, luminous, chemical, and magnetic.
- The passage of a current may produce light.
- An electric current can separate a chemical compound into its components.
- A current flowing through a conductor creates a magnetic field around it.

5.7 Conclusion

In this chapter, the researcher has presented a set of suggestions and recommendations based on the learners' academic needs. Types of instructional practices have been given to both ESP practitioners and the institute administration. The broad lines of a needs-based syllabus have been designed and types of teaching materials responding to the four language basic skills have been prepared on the basis of learners' needs and wants.

General Conclusion

General Conclusion

This research work was an attempt to identify and analyze first year electricity and electronic students' needs and their teachers' as well as the administration staff attitudes towards the ESP course and learners' needs in regard to the English course. In order to achieve that aim, the researcher administered two questionnaires to both students and their English teachers, and conducted a structured interview with the institute administration staff.

In surveying the existing English syllabus for the students of the first year electricity and electronics , the findings reveal that the current teaching materials are not designed on the basis of learners' needs. There are mismatches observed between the teaching materials and the learners' specific academic field. Besides, the procedures, techniques, and presentation of teaching materials are not in harmony with the specifications given in the syllabus. Therefore, a new syllabus designed on the basis of learners' needs as a guide for materials design is the best evaluation to the existing teaching materials.

Based on the study results, the participants perceive that the ESP syllabus should be subjected to a planned modifications and adaptations by inserting learners' academic and professional needs' components. The findings revealed that students prefer the English language skills to be related to their academic discipline. That is why they confirm that there should be a special focus on the language aspects related to science and technology or their academic branch. Besides, they asserted that their academic needs are centered around improving their proficiency in the four English language skills, mainly speaking and writing. In turn, the findings of teachers' questionnaire demonstrated that the ESP English syllabus presented to the students of the first year at the Institute of Electricity and Electronics is not based on the learners'

academic and professional needs. That is, a considerable number of the subjects voiced negative views to the usefulness of the ESP English syllabus. That is why, most of the English syllabus objectives are not achieved and the teaching materials are not well-prepared and utilized. Furthermore, teachers considered speaking and writing of top priority in the ESP English syllabus and much space should be devoted to practicing these key skills aiming at developing learners' communicative competence. They also stressed the point that more time should be devoted to the English course and insisted on the necessity of training in ESP and collaboration between ESP practitioners and subject specialists in order to enhance the effectiveness of the ESP course. The institute administration staff expressed their readiness to adapt and modify the current ESP syllabus by adopting learners' academic and professional needs and teachers' instructional views .

The findings of the current study should be used as a reference for a needs-based syllabus design, materials design and development and course evaluation. Program evaluation being an on-going process and needs analysis, as an essential component of this process, cannot be considered as a one-time procedure. Needs of the students will change over time, depending on the constantly changing qualities of target population and situation. The findings of this study can be quite a useful reference to other needs analysis studies at the institute where the study was conducted and the other science and technology faculties and departments at Boumerdes University, at which the students are offered ESP courses.

Correspondingly, after reviewing the current English syllabus, analyzing learners' academic and professional needs, and taking into consideration both teachers' and the institute administration attitudes and views towards integrating learners' needs in the syllabus design, the broad lines of a needs-based syllabus are designed and

suggested to be the road-map of ESP teaching and learning at the Institute. The objectives of the syllabus are clearly formulated, recommendations about the types of activities and tasks are given, and procedures of assessment and testing are provided.

This study is limited in several aspects. First, its subjects are drawn from the same university, M' hammed Bougara University in Boumerdes, and therefore its results may not be generalized to other educational settings or other population with different backgrounds. Future research involving a large sample across the country would help validate the findings of this study. Another limitation of this study concerns its methodological design where only a questionnaire survey and interview are adopted to collect research data. Other additional types of survey instruments should be included in further studies to obtain more in-depth information. Finally, the list of items and questions in both the questionnaire and the interview of this study are adequate and complete but subject to further confirmation and modification in future researches related to this study.

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Appendices

Appendix A

Students' Questionnaire

This questionnaire constitutes an essential part in my doctoral thesis. It is designed to collect data regarding a need-based syllabus design for the students of English at the National Institute of Electrical and Electronic Engineering at M' hamed Bougara University, Boumerdes. This survey attempts to investigate the specific needs electricity' and electronics' students have in learning English with respect to the ESP syllabus they are studying.

The researcher assures that any information given will be confidential and will be used for research purposes only. You are kindly invited to fill it out with the hope that you will seriously consider taking part in this study.

Where applicable, please put a tick (✓) in a box from the options given.

Personal-identification

Gender: ☐ Male ☐ Female

1. What is your academic field ?

☐ Electricity and electrical-related branches ☐ Electronics and electronic-related branches

2. How many years have you studied English so far ?

☐ 07 years ☐ 08 years ☐ 09 years ☐ 10 years ☐ 11 years ☐ 12 years Other:

3. How would you rate your English proficiency levels in previous years ?

☐ Very good ☐ Good ☐ Moderate ☐ Poor ☐ Very poor

4. How would you describe your attitude towards English language learning at the beginning of your studies ? ☐ Favorable ☐ Unfavorable

5. Why are you learning English ? Tick (✓) more than one option if applicable.

☐ because it is a part of the curriculum and it is a compulsory subject.

☐ because I will need it in my future job.

☐ because English is the medium of instruction in my academic branch.

☐ because it will enlarge my knowledge.

☐ because it is an interesting and enjoyable subject.

6. With regard to the syllabus of English for Science and Technology, **how** important are the following skills in your academic branch? (Please put a tick (✓) in the box that best expresses your opinion).

The skills	Rate of importance			
	Not important	Of some importance	Important	Very important
Listening				
Speaking				
Reading				
Writing				
Grammar				
Vocabulary				
Pronunciation				

7. Indicate the degree of difficulty you find in each of the following skills: (Please put a tick (✓) in the box that best expresses your opinion).

The skills	Rate of difficulty			
	Not difficult	Of some difficulty	Difficult	Very difficult
Listening				
Speaking				
Reading				
Writing				
Grammar				
Vocabulary				
Pronunciation				

8. Rate your current ability in each of the following skills' areas. (Please put a tick (✓) in the box that best expresses your opinion).

The skills	My present ability in this skill area is:					
	Excellent	Very good	Good	Satisfactory	Poor	Very poor
Listening						
Speaking						
Reading						
Writing						
Grammar						

General vocabulary						
EST vocabulary						
English overall						

9. What are the reasons behind the difficulties you face in learning English ? (Tick (√) more than one option if applicable).

- ☐ Poor level in English language.
- ☐ The inappropriateness of the syllabus to guide ESP / EST teachers.
- ☐ The inadequacy of the materials provided.
- ☐ Your English academic needs are not taken into consideration in designing EST syllabus.
- ☐ The insufficient time dedicated to the English course.
- ☐ Lack of practice of the target needs of English language.

Others, (Please specify):

10. To what extent does the EST course help you in improving the following skill areas ? (Please put a tick (√) in the box that best expresses your opinion).

The skills	The EST course is ...in improving this skill area:			
	Very helpful	Somehow	Not very helpful	Not at all helpful
Listening				
Speaking				
Reading				

Writing				
Grammar				
General vocabulary				
EST vocabulary				
English overall				

11. Which of the following English language sub-skills do you want or need to study and develop ? (Look at the scale below and circle the appropriate number accordingly).

1: Very needed	2: Moderately needed	3: Slightly needed	4: Not needed
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11.1. Listening:

a) – Listening to instructions and explanations during the course.	1 2 3 4
b) – Listening to classroom lectures.	1 2 3 4
c) – Deducing the meaning of technical, specialized terms	1 2 3 4
d) – Listening to class presentations and taking notes.	1 2 3 4

11.2. Speaking:

a) – Asking and answering questions in class.	1 2 3 4
b) – Presenting a group project or scientific report.	1 2 3 4
c) – Producing correct pronunciation, intonation, and stress.	1 2 3 4

d) – Discussing academic specialty' s related topics.	1 2 3 4
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11.3. Reading:

a) – Reading for note taking.	1 2 3 4
b) – Reading technical manuals and technical articles in journals.	1 2 3 4
c) – Reading instructions in the areas of science and technology.	1 2 3 4
d) – Reading to gain enough science and technology vocabulary.	1 2 3 4

11.4. Writing:

a) – Writing technical reports, projects and assignments.	1 2 3 4
b) – Writing captions to describe diagrams, tables, and graphs.	1 2 3 4
c) – Writing summaries for numerical and graphical data.	1 2 3 4
d) – Taking notes in lectures.	1 2 3 4

12. How would you evaluate the usefulness of the present EST course with regard to your academic English needs ? (Please put a tick (✓) in the box that best expresses your opinion).

☐ Useful ☐ Moderately useful ☐ Slightly useful ☐ Not useful

13. Which aspects of English language should be focused on in the EST course ? (Tick (✓) more than one option if applicable).

☐ Understanding of grammatical structures related to scientific and technical English.

- ☐ Read and comprehend technical and scientific books and articles related to your branch.
- ☐ Mastering the lexical meaning of scientific and technical terms.
- ☐ Lexical items related to general English.
- ☐ Understanding of grammatical structures related to general English.
- ☐ Raising proficiency in different genres of scientific written discourse.
- ☐ Developing pronunciation accuracy.

Others, (Please specify):

14. Do you prefer to be taught by English teacher or subject specialist ?

- ☐ English teacher ☐ Subject specialist

15. Is your EST teacher an English teacher or subject specialist ?

- ☐ English teacher ☐ Subject specialist

16. Do you think that the number of EST sessions per week is satisfactory ?

- ☐ Satisfactory ☐ Not satisfactory

17. To what extent do you think the current used teaching materials in the ESP/ EST course are relevant to your needs ? (Please put a tick (✓) in the box that best expresses your opinion).

Very appropriate	Quite appropriate	Not appropriate at all
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18. What types of materials do you think the course should include ? ? (Tick (✓) more than one option if applicable).

- ☐ Authentic materials deeply associated with your academic branch.
- ☐ Textbooks, instruction manuals, videotapes and other materials used to train people for their future career.
- ☐ Materials from different internet websites associated with your academic branch.
- ☐ Academic and occupational based materials relevant to your academic and professional needs.
- ☐ Any teaching material that develops your proficiency in the four English language skills.

19. Do you think a specific English language course should be developed in terms of designing a syllabus suits your academic and professional needs ?

- ☐ Yes ☐ No

20. To what extent had the ESP / EST course objectives been achieved ? (Please put a tick (✓) in the box that best expresses your opinion).

Course Objectives	This objective was.....		
	Fully achieved	Partially achieved	Not achieved at all
- To use science and technology terms in the four skills of language.			
- To understand and write short science and technology situations using technical terms.			

- To produce good writing texts .			
- To apply all grammatical rules in both spoken and written English.			
- To speak English fluently and accurately.			
- To understand instructions in English whether spoken or written.			
- To read English faster, with pleasure, and comprehend what is read.			
- To communicate effectively in different learning situations.			

- End of Questionnaire –

Thank you very much for your help and collaboration

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Appendix B

Teachers' Questionnaire

This questionnaire constitutes an essential part in my doctoral thesis entitled: Needs-Based Syllabus Design for the Students of English at the National Institute of Electrical and Electronic Engineering at M' hamed Bougara University, Boumerdes. Its main aim is to investigate whether English language teachers at the National Institute of Electrical and Electronic Engineering are aware of the necessity of needs analysis in enhancing learners' mastery of the language and to identify teachers' perceptions and evaluation to the current English language syllabus. So, you are requested to answer the following questions. You are assured that your responses to the questions will be used only for research purposes and will be kept confidential.

.....

1. Gender: ☐ Male Female ☐

2. What qualifications do you have ? (Please put a tick (√) in the box that best expresses your answer).

☐ BA degree ☐ Master degree ☐ Magister degree ☐ Doctorate degree

3. How long have you been teaching English so far ?years.

4. How long have you been teaching English at the Institute ?years.

5. What is your professional status ? ☐ Permanent teacher ☐ Part time teacher

6. Have you done any special training in ESP teaching ?

☐ Yes ☐ No

7. Is your teaching based on an official syllabus ?

☐ Yes ☐ No

8. If no, what type of syllabus do you follow ?

9. Did you or the institute's administration analyze students' academic and professional needs before implementing the syllabus ?

Yes ☐ ☐ No

10. Which teaching method do you follow ?

11. What kind of teaching materials do you use ?

12. On what basis were teaching materials selected ? (Please put a tick (✓) in the box that best expresses your answer).

☐ **a)** - On the basis of analyzing students' academic and professional needs.

☐ **b)** - Teaching materials were selected by you depending on the teaching situation.

☐ **c)** - Teaching materials were imposed by the official syllabus of the course.

☐ **d)** - Teaching materials were designed in collaboration with subject specialists.

Others (Please specify).....

13. How would you rate the degree of importance of the following skills for your students' academic and professional linguistic development ? (Please put a tick (✓) in the box that best expresses your opinion).

The skills	Rate of importance			
	Not important	Of some importance	Important	Very important
Listening				
Speaking				
Reading				
Writing				
Grammar				
Science and technology vocabulary				
Pronunciation				

14. How would you evaluate your students current abilities in the following skills ?

(Please put a tick (✓) in the box that best expresses your opinion).

The skills	Students' current abilities				
	Very good	Good	moderate	Poor	Very poor
Listening					
Speaking					
Reading					
Writing					
Grammar					
Science and technology					

vocabulary					
Pronunciation					

15. Do you collaborate with subject specialists in you ESP/ EST teaching ?

☐ Yes ☐ No

16. How far do you agree with adopting these ideas in teaching ESP/ EST course ?

(Please put a tick (✓) in the box that best expresses your opinion).

Ideas in teaching ESP/ EST course	The degree of agreement or disagreement		
	Strongly agree	Agree	Disagree
a)- English instruction should focus on general English.			
b)- Teaching should be centered around science and technology English associated with the academic branch of students.			
c)- Learners' academic and professional needs should be taken into consideration in the process of designing ESP/ EST syllabus.			
d)- Collaboration between ESP/ EST teachers and subject specialists could enhance the process of ESP/ EST teaching and learning.			
e)- More time should be dedicated to English language teaching subjects.			
f)- The assessment procedures used in ESP/ EST course are appropriate and acceptable.			
g)- Learners should be given the chance to work in pairs and groups in English classes.			
h)- Additional supportive educational materials as (ICTs and new technologies) should be adopted and used in English classes.			

17. To what extent do you think the following educational objectives are achieved ?

(Please put a tick (✓) in the box that best expresses your opinion).

Course Objectives	This objective was.....		
	Fully achieved	Partially achieved	Not achieved at all
a) - Students will be able to use science and technology terms in the four skills of language.			
b) - Students will be able to understand and write short science and technology situations using technical terms.			
c) - Learners will be able to produce good written texts .			
d) - Students will be able to apply all grammatical rules in both spoken and written English.			
e) - Learners will be able to speak English with fluency and accuracy of pronunciation.			
f) - Students will be able to understand instructions in English whether spoken or written.			
g) - Students will be able to read English faster, with pleasure, and comprehend what they read.			
h) - The ability to communicate effectively in different learning situations.			

18. According to your point view and your present teaching practices, what kind of tasks should learners perform with respect to the four language skills ? (Tick (✓) more than one option if applicable).

☐ **a)** – Listening comprehension activities.

- ☐ **b)** – Reading comprehension tasks.
- ☐ **c)** – Oral presentations of pieces of research attached to the learners' academic field.
- ☐ **d)** – Written expression activities: writing paragraphs, essays, scientific reports, etc.
- ☐ **e)** – Intensive reading for details.
- ☐ **f)** – Interactive conversations.
- ☐ **g)** – Grammar points, passive voice, parts of speech, types of sentences and sentence combinations.
- ☐ **h)** – Describing electrical and electronic devices and machines.

Others (Please specify).....

.....

19. Do you think that current ESP / EST syllabus is relevant to your students' needs ?

- ☐ Relevant ☐ Irrelevant

20. What suggestions would you like to make for the improvement of the ESP/ EST syllabus in order to make it more effective and relevant to the learners' needs ?

.....

.....

.....

- End of Questionnaire –

Thank you very much for your help and collaboration

Appendix C

Administration - Staff Structured Interview

The present structured interview constitutes an essential part in my doctoral thesis. It is designed to collect data regarding a need-based syllabus design for the students of English at the National Institute of Electrical and Electronic Engineering at M' hamed Bougara University, Boumerdes. This survey attempts to investigate the basics of designing EST/ ESP syllabus implemented in the institute, and whether the specific academic and professional students' needs are taken into account in designing the ESP / EST syllabus.

Your cooperation in responding to the interview' s questions has a great impact as it will contribute in the success of the overall study. Your valuable and precious time in answering the interview' s questionnaire is highly appreciated. It should be noted that the anonymity and confidentiality of the information given in addition to their strict use for the sake of this research purposes only are guaranteed.

1. Where applicable, please put a tick (✓) in a box from the options given or provide your answer.

a) - Gender	☐ male ☐ female
b) - Age	☐ 25-35 ☐ 36-45 ☐ 46-55 ☐ more than 55
c) – Academic degree	☐ Magister ☐ Doctor ☐ Professor
d) – Teaching duties	☐ Yes ☐ No
e) – Teaching work experience	☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ More than 25

f) – Actual position	Please specify:.....
g) – Administrative work experience	[] 1-5 [] 5-10 [] 10-15 [] 15-20 [] 21-25

2. How would you evaluate the overall current students' level in English language ?

(Please put a tick (✓) in the box that expresses your answer).

☐ Very poor ☐ Poor ☐ Moderate ☐ Good ☐ Very good

3. Do English language teachers follow an official syllabus ?

☐ Yes ☐ No

4. If Yes (in question three), What is the type of the implemented English syllabus ?

(Please put a tick (✓) in the box that expresses your answer).

☐ Structural Syllabus ☐ Skill-Based Syllabus ☐ The Task-Based Syllabus ☐ Needs-Based Syllabus

- Any other (Please specify)

5. What are the basics of the English syllabus ? (Tick (✓) more than one option if applicable).

☐ Collaboration between the administrative staff, English teachers, and subject specialists in designing the syllabus.

☐ Authentic materials associated with students' academic field.

☐ Students' academic and professional needs.

- ☐ Activities that develop listening and reading skills.
- ☐ Activities that develop speaking and writing skills.
- ☐ Activities that develop students' communicative proficiency.

Any other (Please specify).....

6. What are the objectives of the current English language syllabus ? (Tick (√) more than one option if applicable).

- ☐ To equip students with science and technology related terms.
- ☐ To enable students to communicate effectively in different teaching/learning situations.
- ☐ To develop students' level in English as it is the language of instruction in the institute.
- ☐ To prepare students for their future careers.
- ☐ To enable students to understand spoken and written instructions in English language.

Any other (Please specify).....

7. Are students' academic and professional needs taken into account in designing the current ESP/ EST syllabus ?

- ☐ Yes ☐ No

8. Do you prefer giving the English subjects(s) to English teachers or subject specialists ?

- ☐ English teachers ☐ Subject specialist

9. What are the reasons of this selection ? (Please specify)

-

-

10. Do you support collaboration between English language teachers and subject specialists ?

- ☐ Yes ☐ No

11. Do you agree that the English curriculum should be extended to other semesters ?

- ☐ Yes ☐ No

12. Do you think that the number of EST sessions per week satisfactory ?

- ☐ Satisfactory ☐ Not satisfactory

13. According to your point of view, what are the aspects of the syllabus that need adaptation and modifications ? (Tick (√) more than one option if applicable).

- ☐ Types of learners and teachers, and the teaching and learning context.
- ☐ Modifying the priorities of teaching language skills: reading, listening, speaking and writing.
- ☐ Planning and resources for different teaching contexts.
- ☐ Time dedicated to English language teaching.
- ☐ Types of activities and tasks implemented.

☐ Procedures of testing and assessment.

Any other (Please specify).....

- End of the Interview Questions –

Thank you very much for your help and collaboration

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Appendix D

The Overall INELEC Curriculum

Semestre I:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coeff.	Crédits	Mode d'évaluation	
	14- 16 sem.	C	TD	TP	Autres			Continu	Examen
UEF11 Sciences Fondamentales I	157.5	6	4.5	0		9	15		
Mathematics I (Calculus I)	52.5	2	1.5	0		3	5	40%	60%
Chemistry I	52.5	2	1.5	0		3	5	40%	60%
Physics I	52.5	2	1.5	0		3	5	40%	60%
UEM11 TP et Sciences Fondamentales I	18	0	0	1.5		1	1		
Physics I Lab	18	0	0	1.5		1	1	100%	0%
UET11 Anglais et Bureautique	195	11.5	0	1.5		9	14		
English I	150	10	0	0		8	12	40%	60%
Office Suite (Bureautique)	45	1.5	0	1.5		1	2	40%	60%
Total Semestre I	370.5	17.5	4.5	3		19	30		

Table. 1: The overall description of the first semester

Semestre II:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coeff.	Crédits	Mode d'évaluation	
	14- 16 sem.	C	TD	TP	Autres			Continu	Examen
UEF21 Sciences Fondamentales II	225	9	6	0		10	20		
Mathematics II (Calculus II)	45	1.5	1.5	0		2	4	40%	60%
Mathematics III (Linear Algebra)	67.5	3	1.5	0		3	6	40%	60%
Chemistry II	45	1.5	1.5	0		2	4	40%	60%
Physics II	67.5	3	1.5	0		3	6	40%	60%
UEM21 Programmation et TP de Physique	58.5	1.5	0	3		3	4		
Introduction to C programming	40.5	1.5	0	1.5		2	3	40%	60%
Physics II Lab	18	0	0	1.5		1	1	100%	0%
UET21 Anglais Avancé	60	4	0	0		2	3		
English II	60	4	0	0		2	3	40%	60%
UED21 Electricité	40.5	1.5	0	1.5		2	3		
Electrical Engineering I	40.5	1.5	0	1.5		2	3	40%	60%

Total Semestre II	384	16	6	4.5		17	30		
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Table. 2: The overall description of the second semester

Semestre III:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coeff.	Crédits	Mode d'évaluation	
	14-16 sem.	C	TD	TP	Autres			Continu	Examen
UEF31 Sciences Fondamentales III	90	4.5	1.5	0		5	8		
Mathematics IV (Ordinary Differential Equations)	45	1.5	1.5	0		2	4	40%	60%
Physics III	45	3	0	0		3	4	40%	60%
UEF32 Electronique I	180	9	3	0		9	16		
Active Devices I	67.5	3	1.5	0		3	6	40%	60%
Digital Systems I with VHDL	45	3	0	0		3	4	40%	60%
Electrical Engineering II	67.5	3	1.5	0		3	6	40%	60%
UEM31 TP Electronique I	90	0	0	4.5		3	5		
Active Devices I Lab	18	0	0	1.5		1	1	100%	0%
Digital Systems I Lab	36	0	0	3		1	2	100%	0%

Electrical Engineering II Lab	36	0	0	3		1	2	100%	0%
UED31 Economie	22.5	1.5	0	0		1	1		
Introduction to Engineering Economics	22.5	1.5	0	0		1	1	40%	60%
Total Semestre III	382.5	15	4.5	4.5		18	30		

Table.3: The overall description of the third semester

Semestre IV:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coeff.	Crédits	Mode d'évaluation	
	14-16 sem.	C	TD	TP	Autres			Continu	Examen
UEF41 Sciences Appliquées	135	6	3	0		6	12		
Electromagnetic Theory	67.5	3	1.5	0		3	6	40%	60%
Linear systems I	67.5	3	1.5	0		3	6	40%	60%
UEF42 Electronique II et Machines	157.5	9	1.5	0		9	14		
Active Devices II	67.5	3	1.5	0		3	6	40%	60%
Digital Systems II with VHDL	45	3	0	0		3	4	40%	60%
Electrical Machines	45	3	0	0		3	4	40%	60%

UEM41 TP Electronique II et Machines	72	0	0	6		3	4		
Active Devices II Lab	18	0	0	1.5		1	1	100%	0%
Digital Systems II Lab	36	0	0	3		1	2	100%	0%
Electrical Machines Lab	18	0	0	1.5		1	1	100%	0%
Total Semestre IV	364.5	15	4.5	6		18	30		

Table. 4: The overall description of the fourth semester

Semestre V:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coeff.	Crédits	Mode d'évaluation	
	14- 16 sem.	C	TD	TP	Autres			Continu	Examen
UEF51 Electronique III	135	9	0	0		9	12		
Computer Architecture	45	3	0	0		3	4	40%	60%
Communications Principles	45	3	0	0		3	4	40%	60%
Microprocessor Systems Design	45	3	0	0		3	4	40%	60%
UEF52 Electronique IV	157.5	9	1.5	0		9	14		
Power Electronics	45	3	0	0		3	4	40%	60%
Linear Systems II	67.5	3	1.5	0		3	6	40%	60%

Process Control and Instrumentation	45	3	0	0		3	4	40%	60%
UEM51 TP Electronique III	72	0	0	6		3	4		
Communications Principles Lab	18	0	0	1.5		1	1	100%	0%
Power Electronics Lab	18	0	0	1.5		1	1	100%	0%
Microprocessor Sys. Design Lab	36	0	0	3		1	2	100%	0%
Total Semestre V	364.5	18	1.5	6		21	30		

Table. 5: The overall description of the fifth semester.

Semestre VI:

Unité d'Enseignement	VH S	V.H hebdomadaire				Coeff .	Crédits	Mode d'évaluation	
	14-16 sem.	C	T D	T P	Autres			Continu	Examen
UEF61 Electronique V	135	9	0	0		9	12		
Communications Circuits	45	3	0	0		3	4	40%	60%
Energy Systems	45	3	0	0		3	4	40%	60%
Linear Control Systems	45	3	0	0		3	4	40%	60%
UEM61 Méthodologique	54	0	0	4.5		2	3		
Communications Circuits Lab	36	0	0	3		1	2	100%	0%

Linear Control Systems Lab	18	0	0	1.5		1	1	100%	0%
UEM62 Projet	0	0	0	0		4	12		
Project	0	0	0	0	Travail Personne 1	4	12	100%	0%
UED61 Gestion	45	3	0	0		2	3		
Engineering Management	45	3	0	0		2	3	40%	60%
Total Semestre VI	234	12	0	4.5		17	30		

Table. 6: The overall description of the sixth semester

RESUME

Le but de ce travail de recherche est de décrire la phase initiale d'un projet d'analyse des besoins développé dans le cadre de l'Institut National de l'Electricité et de l'Electronique de l'Université M hamed Bougara à Boumerdes avec l'objectif d'identifier les besoins d'un groupe cible des apprenants et introduire une conception de programme basée sur les besoins. Il tente également de fournir à l'Institut national algérien de l'électricité et de l'électronique une solide base théorique et pratique pour l'enseignement / apprentissage des TER en termes de programme axé sur les besoins. Il est connu que l'analyse des besoins est une première étape essentielle pour concevoir un programme de langue approprié pour aider les élèves à acquérir des connaissances dans leurs études universitaires. Pour déterminer ce que les étudiants doivent atteindre au moyen de l'anglais, il est impératif de procéder à une analyse des besoins. L'analyse des besoins est définie comme le processus de détermination des besoins pour lesquels un apprenant ou un groupe d'apprenants a besoin d'une langue et l'organisation des besoins en fonction des priorités. C'est l'absence de procédures formelles d'analyse des besoins dans la conception du programme ESP qui pousse le chercheur à revoir et à réviser le programme d'anglais actuel et à apporter des modifications en fonction des besoins des apprenants. Les données sont recueillies en utilisant le questionnaire des étudiants qui comprend des questions fermées et ouvertes et est administré à quatre-vingts (80) étudiants de première année. En outre, un autre questionnaire est administré à vingt (20) professeurs d'anglais et des entrevues structurées pour le personnel de l'administration dans le but d'obtenir des idées et des conclusions plus significatives sur la situation de l'enseignement et de l'apprentissage de l'anglais. Les résultats de cette étude ont révélé la nécessité de développer un programme d'anglais pour la science et la technologie (EST) hautement

spécifique, axé sur la discipline cible, le génie électrique et électronique. Il y avait aussi un appel pour la formation en anglais pour des objectifs spécifiques (ESP) qui répond aux besoins immédiats des apprenants en tant qu'étudiants et à leurs besoins à long terme en tant que professionnels dans le domaine de la science et de la technologie.

ملخص

يهدف هذا العمل البحثي إلى وصف المرحلة الأولية لمشروع تحليل الاحتياجات الذي تم تنفيذه على مستوى المعهد الوطني للكهرباء والالكترونيات بجامعة محمد بوقرة بيومرداس بهدف تحديد احتياجات الفئة المستهدفة من المتعلمين ومحاولة تصميم منهج تعليمي للغة الانجليزية قائم على احتياجات المتعلمين وفقا لذلك.

كما يحاول هذا البحث تزويد المعهد الوطني للكهرباء والالكترونيات بيومرداس بقاعدة نظرية وعملية صلبة لتدريس وتعليم اللغة الانجليزية في العلوم والتكنولوجيا من خلال منهج تعليمي أساسه الاحتياجات الأكاديمية للمتعلمين.

من المعروف أن تحليل الاحتياجات هو خطوة أولى أساسية لتصميم منهاج لغوي مناسب لمساعدة الطلبة على اكتساب المعرفة المتصلة بتخصصاتهم الأكاديمية. ولتحديد ما يحتاج الطلبة لتحقيقه من خلال اللغة الانجليزية، يتوجب إجراء عملية تحقق من احتياجاتهم التعليمية، ويعرف تحليل الاحتياجات بأنه عملية تحديد الاحتياجات التي يحتاج إليها متعلم أو مجموعة من المتعلمين في لغة معينة وترتيب هذه الاحتياجات وفقا للأولويات.

إن غياب إجراء تحليل الاحتياجات في المنهاج المعتمد للانجليزية لأغراض خاصة على مستوى المعهد هو ما دفع الباحث إلى إجراء عملية مراجعة للمنهاج وإجراء تعديلات عليه بناء على احتياجات المتعلمين.

وقد تم جمع البيانات المتصلة بإشكالية البحث من خلال استخدام استبيان للطلبة يتضمن أسئلة مغلقة ومفتوحة يستهدف ثمانين (80) طالبا في السنة الأولى، بالإضافة إلى ذلك تم اعتماد استبيان آخر يستهدف عشرين (20) أستاذا ممن درسوا اللغة الانجليزية بالمعهد ومقابلة نظمت مع الطاقم الإداري للمعهد في محاولة لاكتساب المزيد من الأفكار والنتائج المفيدة في وضع تعليم وتعلم اللغة الانجليزية.

وقد كشفت النتائج التي توصلت إليها هذه الدراسة إلى الحاجة الملحة لتطوير منهاج اللغة الانجليزية للعلوم والتكنولوجيا على أن يتم التركيز على التخصص الأكاديمي للطلبة، الهندسة الكهربائية والالكترونية. كما هناك دعوة لتوفير التدريب في حقل الانجليزية لأغراض خاصة التي تتناول الاحتياجات الفورية للمتعلمين كطلبة، واحتياجاتهم طويلة الأجل كنوي حرف ومهن في حقل العلوم والتكنولوجيا.