People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
Mohamed Kheider University of Biskra
Faculty of Arts and Languages
Department of Foreign Languages
Section of English

Needs Analysis of ESP Students of Science and Technology

Case study of Students of Architecture, Mathematics Departments at Biskra University

A Dissertation submitted to the Department of Foreign Languages as Partial Fulfilment for the requirements of Master Degree in English: Sciences of Language

Submitted by:

Abderraouf Djebbari

Supervised by:

Dr. Mostefa Meddour

Chairman: Aichaoui Theldja	M.A.B	Mohamed Khider University, Biskra
Examiner: Slimani Said	M.A.A	Mohamed Khider University, Biskra
Supervisor: Mostefa Meddour	M.C.B	Mohamed Khider University, Biskra

May 2016

Dedications

This work is dedicated to:

my parents with tons of love

my brothers, specifically Mounir

Acknowledgments

My sincere gratitude goes to my supervisor, Dr. Meddour Mostefa, for his precise and keen criticism and advice for a better accomplishment of this work.

I would like to thank the examiners (Mr. Slimani Said and Miss Aichaoui Theldja) for their sharp review and evaluation of this work.

I would also like to be grateful to the teachers of English at the departments of Mathematics and Architecture (Miss Sellaoui, Miss Jouadi) for being so welcoming and helpful.

My sincere thanks go to all my friends and classmates for their help and support, namely: Temam Badereddine, Mahboub Adel, Ardjani Chaker, and Bouzenna Mohamed.

Finally, my sincere gratitude goes to my fiancée for her infinite support from the beginning until the realization of the final work.

Abstract

The present research investigates the language needs of Science and Technology students at Mohamed Khider University, Biskra. Classroom observation and questionnaires were the major data collection tools of the investigation. More precisely, the questionnaires were distributed to 110 students from the faculty of Science and Technology. The main purpose behind the questionnaires was to define students' language needs and their perceptions towards English language as well as current language teaching materials. Moreover, the sessions in Architecture and Mathematics departments have been observed to validate or reject the results of students' questionnaire. On the one hand, the results of questionnaires revealed that students are enthusiastic towards learning English. Moreover, both students of Architecture and Mathematics tended to struggle with speaking skills. In addition, the most needed skills (reading, writing, listening, and speaking) are revealed from the perspective of students. On the other hand, it has been revealed that the teachers of English in both departments did not conduct Needs Analysis in order to relate the teaching materials to the needs of students. However, the teacher of English in the department of Architecture managed to provide materials that relate to the discipline. It is hoped that the findings of the current work would provide more attention to the situation of ESP in the faculty of Science and Technology and serve as a platform for future investigations and contributions to more suitable ESP programmes that would meet the needs of students.

LIST OF ABBREVIATIONS AND ACRONYMS

DA: **D**eficiency **A**nalysis

EAM: **E**nglish for **A**gribusiness **M**anagement

EAOP: **E**nglish for **A**cademic and **O**ccupational **P**urposes

EAP: **E**nglish for **A**cademic **P**urposes.

EBE: **E**nglish for **B**usiness and **E**conomics

EFL: **E**nglish as a **F**oreign **L**anguage

EGP: **E**nglish for **G**eneral **P**urposes

ELT: **E**nglish **L**anguage **T**eaching

EOP: **E**nglish for **O**ccupational **P**urposes

ESP: **E**nglish for **S**pecific **P**urposes

ESS: **E**nglish for **S**ocial **S**tudies

EST: **E**nglish for **S**cience and **T**echnology

FLT: **F**oreign **L**anguage **T**eaching

GE: **G**eneral **E**nglish

NA: **N**eeds **A**nalysis

NP: **N**eeds **P**rocessor

PSA: **P**resent **S**ituation **A**nalysis

RA: **R**egister **A**nalysis

TSA: **T**arget **S**ituation **A**nalysis

LIST OF FIGURES AND GRAPHS

List of Tables

Table of Contents

CHAPTER II

INTRODUCTION TO NEEDS ANALYSIS

CHAPTER III

PRESENTATION AND ANALYSIS OF DATA

GENERAL INTRODUCTION

General Introduction

Statement of the Problem

Aims and Significance of the Study

Research Questions

Methodology

Participants

Research Design

Instrumentation

Procedure

Limitation of the Study

GENERAL INTRODUCTION

English for Specific Purposes (ESP) has emerged, after World War Two (WWII), as the United States remained the most powerful country in the world. Over the years, English was no more needed merely for general communication; it has become the language of science and technology. English has become the Lingua Franca. Algeria has included English teaching and learning as a foreign language in its educational system due to the dominance of the language in politics, economy, science, technology, and other fields. In the late sixties (Dakhmouche, 2008, p. 5), Algerian universities have taught English as well in different majors.

The noticeable increase of the demands of learning English led to the raise of what is, nowadays, known as ESP. According to its principals, teachers are required to follow the stages of determining the objectives of the course in relation to the needs analysis which requires the reason(s) why learners of different majors and specialities need English for.

Statement of the Problem

Needs analysis (NA) is an indispensable stage of developing ESP courses; yet a considerable number of ESP teachers take it for granted which led to the lack of interest for ESP learners.

Different departments in faculty of Science and Technology at the University of Biskra include ESP courses due to the undeniable dominance of English in the field of science and technology (EST). Students of Science and Technology tend to be confused as they encounter English learner. The issue raised is that no predetermined objectives are defined in the ESP curriculum and students' needs are apparently not given sufficient attention. As a result, the

students are led to lose interest and enthusiasm to learning English, despite its importance. Consequently, they fail in their attempt to acquire the basic knowledge of both English language and their own discipline.

Aims and Significance of the Study

Recognizing the relationship between the needs of the students and the objectives of ESP course is tremendously helpful for ESP teachers as course-designers. Students of different majors in the faculty of Science and Technology may need English for several reasons; some students may need the language to help them understand the subject matter effectively while others may need English to successfully pass the semester's examination. The needs differ from one student to another. Thus, Needs Analysis, if taken into consideration, brings learners to their field of interest and consequently they make sense of learning.

This research aims to build the attention to one of the keys to developing courses ESP, namely Needs Analysis and to raise the attention of ESP teachers at the faculty of Science and technology on the importance of the aspect of students' present and target needs.

Research Questions

This research aims to answer the following questions:

1. What are the language needs of students in the faculty of science and technology?
2. What are the perceptions of the students towards English learning and teaching?
3. What are the weakness of ESP in the faculty of Science and Technology?

Research Hypothesis

Teachers of ESP at the faculty of science and technology in the University Mohamed Khider of Biskra should take into consideration the students' needs in the development of the ESP course to boost students' interest and enthusiasm towards the course.

Methodology

The research is descriptive because it aims to describe the state of ESP in the faculty of Science and Technology at Biskra University. The qualitative approach is selected as a method to collect data due to the nature of the research; opinions of students, their attitudes, and behaviour during the ESP course is the basis of the data collection. The present research makes use of both questionnaire and classroom observation techniques to figure out the attitudes and opinions of the participants towards ESP course. The participants of the study are students selected randomly from the assigned departments, namely: Mathematics and architecture at the University of Biskra as a case study in order to know how far the lack of Needs Analysis affect the students' interest towards the courses of ESP, and to recognize the attitude of students as it comes to the current English programme. In order to answer the research questions and to confirm or reject the hypothesis the results of data collection data is analysed and interpreted.

Participants

Students of Master one from the departments of Mathematics and architecture in the faculty of Science and Technology, at the University of Biskra are chosen as a case study of the current research because they are adults and tend to be more responsible than other younger

students. A number of sixty students of Mathematics and fifty students of Architecture are selected randomly to participate in the questionnaire.

Research Design

The Descriptive design is conducted in present research, the qualitative method is employed because its results are based on the analysed qualitative data, the research intends to investigate the students' needs and whether or not the analysis of their needs is present in the elaboration of the English programme. The current research is divided into two main parts: the theoretical part and the practical one. On the one hand, the theoretical part reviews the literature review about the two elements of the research, i.e. an overview of ESP as the first element and Needs Analysis. On the other hand, the practical part discusses the analysis of the collected data with the purpose of acquiring the results that confirms or rejects the suggested hypothesis.

Instrumentation

In order to get a valid data for the research, the questionnaire is distributed to the selected sample of students. The questionnaire provides the present research with the necessary data in order to find out to what extend students' needs are taken into consideration in the elaboration of the ESP programme, and to know the attitude of students toward the several areas, namely: Teaching methodology, the curriculum, and other areas. Classroom observation is also used to observe students and most importantly ESP teachers and how they manage the ESP course. Analysing the data accumulated from chosen instruments offers reliable and credible results to for the current research.

Procedure

The research questionnaire is given to students during the ESP course in the amphitheatre and classes. Each student is asked to answer the questionnaire alone in order to have valid results. The answers will be gathered and analysed. The analysis of answers provides statistics about the difficulties encountered by students to figure out whether their needs are met or not; and to see to how extent their needs are given thoughts by the teachers. The classroom observation takes place during the course of English of each department; the researcher plays the role of a passive observer and uses checklist to record the details.

Limitations of the Study

The current research encountered some inconvenient circumstances; therefore, it comprises some limitations that must be addressed. Firstly, the sampling only consisted of Mathematics and Architecture Master one students; thus, the study should not be generalized to all students of the Faculty of Science and Technology. Second, even though the use of different research instruments, e.g. questionnaire and observations classroom, provides more validity to the current research, only three sessions have been observed due to some pedagogical circumstances as: the inconsistent presence of the teachers. Third, only 20% of the sample has answered the distributed questionnaires. Furthermore, several students from the both selected departments have either answered the questions partially or left some questions completely unanswered.

Chapter I

GENERAL OVERVIEW ON ENGLISH FOR SPECIFIC PURPOSES (ESP)

Introduction

1. **The Historical Development of ESP**
2. **Characteristics of ESP Courses**
3. **Types of ESP**
4. **English for Science and Technology (EST)**

Conclusion

Introduction

ESP has become well-known as one of the significant branches of English Language Teaching (ELT). This chapter focuses on four noteworthy parts. It begins with tracing ESP historical development providing a historical background. ESP characteristics and types are discussed thoroughly as an attempt to help in understanding its nature. Moreover, the chapter provides more insights English for Science and Technology (EST) because of its rapid expansion as a branch of ESP.

1. The Historical Development of ESP

As with most developments in human activities, ESP is not a planned or coherent movement, but quite a phenomenon that rose out of a number of converging trends. There are three main common reasons to the emergence of all ESP.

1.1 Origins of ESP

Hutchinson and Waters (1987) state that there are three common reasons to the emergence of ESP: the demands of a brave world, a revolution in linguistics and focus on the learner.

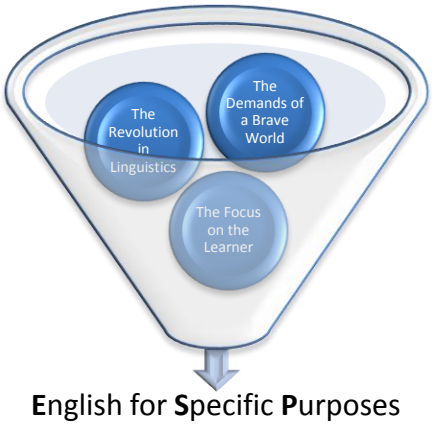


Figure 1. The Common Reasons to the Emergence of ESP

1.1.1 The Demands of a Brave World

Two fundamental factors that vitalized ESP were comprised by Hutchinson and Waters (1987). On one hand, the end of World War Two (WWII) led to "an age of enormous and unprecedented expansion in scientific, technical and economic activity on an international scale. For various reasons, most notably the economic power of the United States in the post war world, the role of international language fell to English" (p. 6).

On the other hand, the western finance and knowledge was flowing into the oil-rich countries due to the oil crisis in the early 1970's; as a result, English became the language of this knowledge. The major effect of the development was to emphasis on the language teaching profession to opt for the required goods to be delivered. English, however, had already decided its own fate; it is seen as the subject to the needs and demands of learners other than language teachers (Hutchinson and Waters, 1987, p. 7).

1.1.2 The Revolution of Linguistics

The second reason which has an impact on the emergence of ESP was the revolution of linguistics. Revolutionary pioneers commenced to drive the attention on the ways in which language is used in authentic communication whereas traditional linguists embarked on describing the features of language. Hutchinson and Waters (ibid) indicated that one important finding was in the ways forms of communication (spoken and written) vary. That is to say, the use of English differs and changes according to the context.

1.1.3 The Focus on the Learner

The third and the final reason was focus on the learner. This has to do more with psychology than linguistics. The attention was paid to the ways in which learners acquire the

language rather than focusing on the methodology of language instruction. Learners were seen to be enthused by different needs and interests, and to use different learning strategies. Consequently, leaner's needs became equally principal as the methods used to distribute linguistic knowledge.

1.2 Development of ESP

According to Hutchinson and Waters, several trends have characterized the development of ESP: Registr Analysis, discourse analysis, target-situation analysis, analysis of the study skills, and Learning-centered analysis.

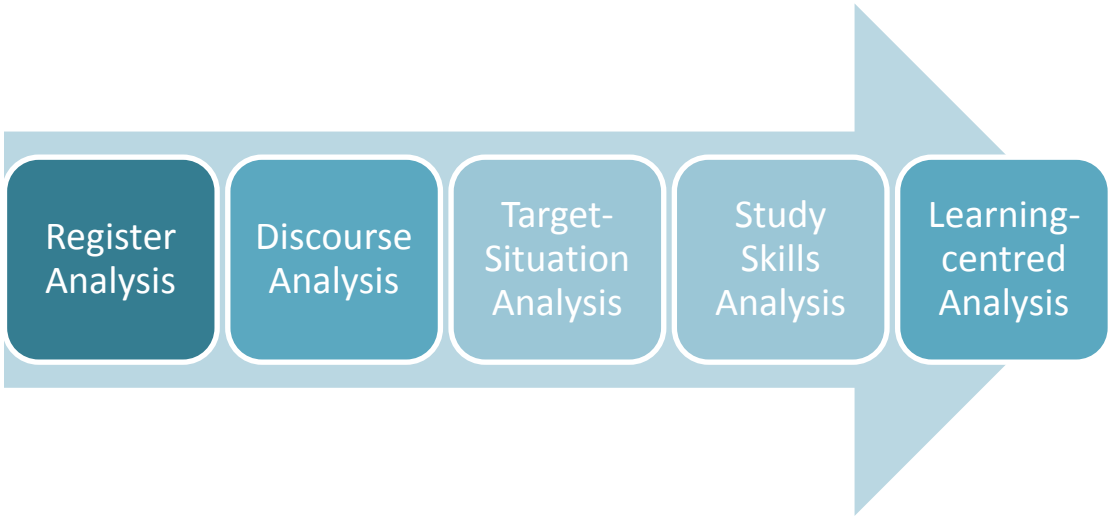


Figure 2. The Major Historical Development of ESP

1.2.1 Registr Analysis (RA)

Based on research, in between the 1960's and 1970's, conducted by Peter Strevens (Halliday, McIntosh, Strevens, 1964), Jack Ewert (Ewert and Latorre, 1969) and John Swales (1971), the trend of ESP moved towards investigating Registry Analysis.

This trend presumes that English for Science and Technology (EST), for instance, make use of specific grammatical and lexical forms more often than other forms. Registry Analysis

essentially deals with scientific and technical English grammar and vocabulary. It is based on the idea that, for instance, the language of Computing Sciences is quite different from that of Architecture. Thus, the analysis of a certain discourse involves identifying the grammatical and lexical features of each different register. The goal of doing such analysis was to create a more relevant ESP course to the learners' needs, more precisely linguistic needs.

Perren (1969 as cited in Choudhary, 2013) stated that it is of a tremendous help to identify the variety of registers being used in the different fields of specialization. Lee (1976 as cited in Ouarniki, 2012) contemplated two aspects during the study of register. The first aspect was the lexical analysis of the language i.e. to focus on the lexis being repeated and frequently present in the language used for a specific purpose. The second aspect was the syntactic analysis of the language. Robinson (1980) recommended that ESP is required to special language or special register; defining register as a term used to mean vocabulary or language use i.e. collocations.

The aim of Register Analysis was to emphasis language forms that learners would be demanded to use in the field of specialty and neglect the other forms that are not frequently used. Hutchinson and Waters (1987) state, "The aim was to produce a syllabus which gave high priority to the language forms students would meet in their science studies and in turn would give low priority to forms they wouldn't meet" (p. 10). However, other scholars had another word to declare about Register Analysis. The criticism that comes from Spencer (as cited in de Grève, 1972) is that register studies were text-oriented and proposed a change to the use of the role of activities where communicative purposes can be achieved. Widdowson (1979) believes that a shift should be made from register and lexis to the learners' communicative competence.

The disadvantages of Register Analysis approach breathed life into another major trend in ESP development, namely: Discourse Analysis.

1.2.2 Discourse Analysis (DA)

Since Register Analysis functioned only at the surface levels of the language i.e. words and sentences, the attention was shifted to a deeper level which is the way words and sentences link together in a form of a meaningful discourse (Hutchinson & Waters, 1987). Discourse Analysis is defined by Jordan (1997, as cited in Meddour, 2015) as:

> Discourse Analysis is concerned with describing the language and its structures that is used in speech or text that is longer than the sentence, e.g. conversations, paragraphs, complete texts. It examines the communicative context that affect language use...It looks at how, for example, the choice of verb tenses or other grammatical features affect the structure of the discourse. The analysis also looks at the relationships between utterances, for example, aspects of cohesion, and the discourse markers or cohesive devices that are employed (p. 229)

During the 1970's, the work of pioneers such as Widdowson (1979), Bates and Dudley Evans (1976), McCarthy (1991), Nunan (1993), and McCarthy and Carter (1999) altered the attention from language form to language use. Thus, discourse analysis became a major movement in ESP. According to this approach, (Allen & Widdowson, 1974 as cited in Hutchinson & Waters, 1987) expressed that:

> We take the view that the difficulties which the students encounter arise not so much from a defective knowledge of the system of English, but from an unfamiliarity with English use, and that consequently their needs cannot be met by a course which simply provides further practice in the composition of sentences, but only by one which develops a knowledge of how sentences are used in the performance of different communicative acts. (pp. 10-11)

The syllabus of ESP course, from a Discourse Analysis approach, should be beyond the structure, it should be formed from the organizing patterns of the language and the linguistic means by which these patterns are signaled.

Discourse Analysis brought to light some weaknesses despite its growth during the 1970's and 1980's. Dudley-Evans and St John (1998, p. 23) reveal that Discourse Analysis course concentrates on teaching the language based on the functional/notional syllabus and neglects other perspectives of language teaching. The drawbacks of this approach paved the way to another approach of analysis.

1.2.3 Target-Situation Analysis (TSA)

ESP altered the attention to target situations due to the shift to a more communicative approach to Foreign Language Teaching. Target situation, as stated by Hutchinson (1987), is where learners use the specific language they are learning. He added that in order to analyze the common linguistic features in the target situations, the focus of ESP curricula was in ascertaining those situations.

Target Situation Analysis paves the way to situational analysis. Communicative Syllabus Design (1978) developed by John Munby is one of the well-known examples of a Situation Analysis. Munby (1978) considered the following criteria as he analyzed the learners' needs: communication goals, the setting in which specific language would be used, means of oral and written communication, language skills possessed by learners, function, and structures.

Linguistic Competence was included to Target Situation due to the emphasis on the latter as a mode of Needs Analysis. Linguistic Competence is generally referred to as the ability to produce accurate, proficient and fluent sequences of utterances; moreover, it is seen as made of sub-competencies, such as: grammatical, pragmatical, sociological, and strategic. Thus,

Linguistic Competence is related to the meaning of language ability in accordance to the context of specific language use.

Douglas (2002) asserts that language performances differ due to the different directions i.e. specializations that science and humanities have taken. He added that learner's language performance differs from one target situation to another. For that reason, one learner may be well-versed about computer science; another may have good deal of knowledge about a different discipline such as architecture, biology and/or others.

ESP teachers, as curricula developers, would have an effective starting point for establishing an appropriate ESP curriculum by understanding the differences and plainly defining the learners' specialization. However, Target Situation Analysis revealed some disadvantages. It stressed the use of language in a target situation "learning-centered" and gave less importance to the needs of learners "learner-centered" which would greatly influence the ESP curriculum (West, 1984).

1.2.4 Analysis of Study Skills

The concept of study skills refer to the strategies and techniques being used during the course activities e.g. speaking, listening, writing, or reading (Richards, Schmidt, Kendricks, & Kim, 2002, p. 521).The main principle of Study Skills is to associate language use processes with teaching language forms in order to improve the performance of the task (Dudley-Evans & St. John 1998).

As stated by Hutchinson and Waters (1987), the foremost idea is that there are reasoning and interpreting processes underlying all types of language use. Furthermore, such processes enable people to extract and handle meaning from discourse. Therefore, language teaching

should be deeper than dealing with the surface i.e. forms; more focus should be driven to the strategies and techniques used by learners to extract the meaning from different language forms.

Despite the fact that an ESP course is built according to what learners would do with the language, Hutchinson and Waters (1987) believe that there has to be a clear understanding to the processes of language in order to have a more valid approach to ESP course.

1.2.5 Learning-centered Analysis

Learning-centered analysis focuses on the significance of understanding the process of language learning (Hutchinson & Waters, 1987). This approach to ESP, thus, differs from the analysis of the study skills which only focuses on language use. Learning-centered analysis look into how language is learned from different perspectives e.g. behaviorism, cognitivism, humanism and even neuropsychology. The reason why it considers different angles is to achieve the supreme goals of learners, for instance, the learning process, learners' motivation, and learners' needs (Meddour, 2015). Dudley-Evans and St John (1998, p. 26, as cited in Meddour, 201, p. 25) is a valid exemplification of learning-centered analysis:

> Even though students may only need to read textbooks and articles in their field, it may be that oral practice will help them reach that end. Similarly, in reading a passage it may help students understand the text if the teacher reads aloud to them while they follow..., but the process of following a text read aloud clearly by a native speaker often helps students understand the main ideas

As a result, ESP curricula ought to involve the learners from the beginning to ascertain their learning needs and learning styles so that they might be able to efficiently utilize strategies to achieve their learning objectives.

2. Characteristics of ESP Courses

Carter (1983) proposes the characteristics of ESP courses by identifying three common features: 1) authentic material, 2) purpose-related orientation, and 3) self-direction (Carter, 1983 as cited in Gatehouse, 2001). Many researchers such as Strevens (1988), Dudley-Evans (1997), Gatehouse (2001), Bojovic (2006) have talked over and supported the characteristics proposed by Carter (1983). The following figure sums up these characteristics.

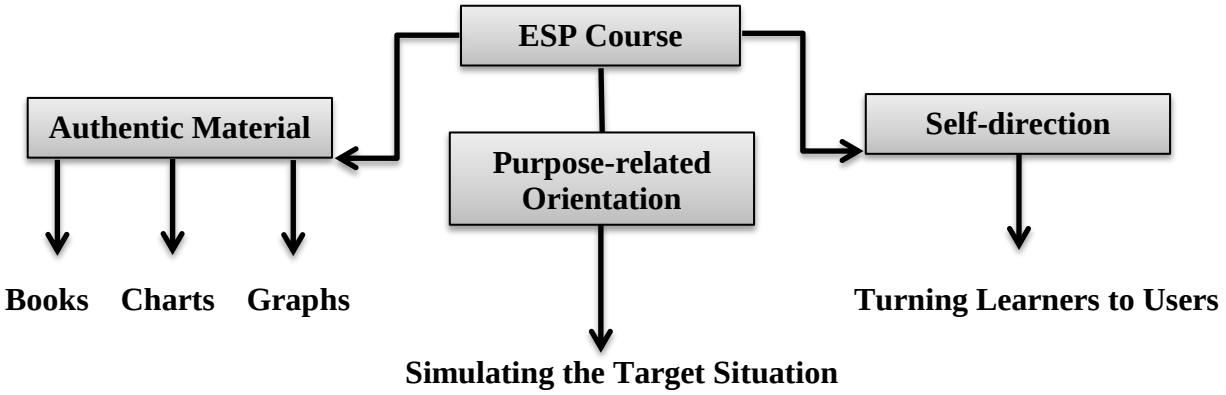


Figure 3. Carter's Characteristics of ESP Course (1983)

2.1 Authentic Material

Authentic material is referred to as the use of materials that are developed from the main area of the study and/or occupation of the learners (Choudhary, 2013, p. 147). It may include books, charts, graphs and other different forms which may be exploited in modified or unmodified forms depending on the requirement of the teaching circumstances. According to Gatehouse (2001), the use of authentic material would be an appropriate choice for intermediate or advanced adult learners since it particularly require self-directed study and research tasks such as independent study assignments and use of various resources.

2.2 Purpose-Related Orientation

Purpose-related orientation is identified by Gatehouse (2001) as: "the simulation of communicative tasks required of the target setting". In other words, learners are prepared through simulation so they would be able to cope with the target situation by using the appropriate communicative tasks. A noteworthy example of purpose-related orientation is English for Agribusiness Management (EAM) in the faculty of Agronomy in Cacak, Serbia led by (Bojovic, 2006 as cited in Choudhary, 2013, p.147) in which the course involved students undertaking different tasks that are related to their field of study e.g. presenting a particular agricultural product, logo creation, negotiating with the clients (suppliers and buyers), telephone conversation, etc.

2.3 Self-Direction

In order for self-direction to occur, as Gatehouse (2001) states, learners need to have a level of freedom with the purpose of allowing them to decide what, when, and how they will study. The ultimate purpose behind self-direction is "that ESP is concerned with turning learners into users" (Carter, 1983, p. 134, as cited in Gatehouse, 2001).

3. Types of ESP

In order to have a clear thought about the nature of ESP and how it functions, one must know its types. Many researchers have numerous studies about the types of ESP; on one hand, most of them have split ESP into two fundamental types: **E**nglish for **O**ccupational **P**urposes (EOP) and **E**nglish for **A**cademic **P**urposes (EAP) (Hutchinson and Waters, 1987). On the other hand, Carter (1983) has classified ESP into three main types: 1) English as a restricted language, 2) **E**nglish for **A**cademic and **O**ccupational **P**urposes (EAOP), 3) English with specific topics.

Figure 4. Carter's Classification of ESP Types

3.1 English as a Restricted Language

The first type Carter (1983) mentioned is clearly illustrated by Mackay and Mountford (1978 as cited in Gatehouse, 2001) as follows:

> [...] the language of international air-traffic control could be regarded as 'special', in the sense that the repertoire required by the controller is strictly limited and can be accurately determined situationally, as might be the linguistic needs of a dining-room waiter or air-hostess. However, such restricted repertoires are not languages, just as a tourist phrase book is not grammar. Knowing a restricted 'language' would not allow the speaker to communicate effectively in novel situation, or in contexts outside the vocational environment (pp. 4-5).

The premise of this type is that learners learn the language in an incredibly restricted way. Thus, learners are expected to use what they have been trained for, restricted language, in a specifically precise situation. As mentioned by Mackay and Mountford (1978) above, the language of international air-traffic control is example to what "English as a restricted language" is. Among several other examples, it is worth mentioning the language used by waiters in a restaurant; they are expected to use a limited language with the customers.

3.2 English for Academic and Occupational Purposes (EAOP)

The second type Carter (1983) mentioned is English for Academic and Occupational Purposes (EAOP). "Tree of ELT" (Hutchinson & Waters, 1987, p.6) describes the classification

of ESP in depth where ESP is divided to three branches: 1) English for Science and Technology (EST), 2) English for Business and Economics (EBE), and 3) English for Social Studies (ESS). Furthermore, each of the three divisions is broken into two different types, namely: English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). As mentioned on the tree of ELT, an example of EOP in EST branch is English for Technicians.

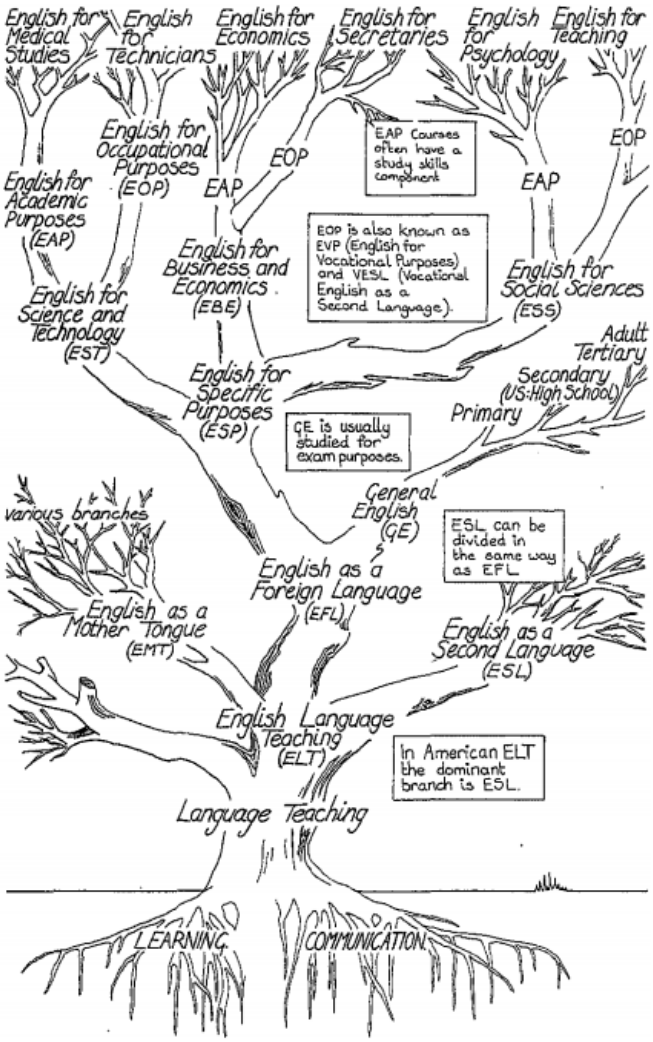


Figure 5. The Tree of ELT. Retrieved from https://abudira.files.wordpress.com/2012/02/english-for-specific-purposes_-hutchinson-tom_-waters-alan.pdf

The second type Carter (1983) mentioned is English for Academic and Occupational Purposes (EAOP). "Tree of ELT" (Hutchinson & Waters, 1987, p.6) describes the classification of ESP in depth where ESP is divided to three branches: 1) English for Science and Technology (EST), 2) English for Business and Economics (EBE), and 3) English for Social Studies (ESS). Furthermore, each of the three divisions is broken into two different types, namely: English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). As mentioned on the tree of ELT, an example of EOP in EST branch is English for Technicians.

According to Hutchinson and Waters (1987) there is no straightforward difference between EAP and EOP, they argued that: "people can work and study simultaneously; it is also likely that in many cases the language learnt for immediate use in a study environment will be used later when the student takes up, or returns to, a job" (p. 16). Gatehouse (2001) refers to the lack of a clear difference between the two branches as the reason why Carter categorizes EAP and EOP under the same type of ESP. Dudley-Evans and St. John (1998 as cited in Choudhary, 2013), for instance, suggested a classification where EAP and EOP are included in their work as types of ESP. Furthermore, EAP is subdivided into two branches, namely: As a school subject which can be either independent or integrated and English for Occupational purposes which is pre-studied, in-studied, and post-studied. Moreover, EOP is subdivided to: Pre-experience and post-experience; the latter is described to be simultaneous. Figure (4), as mentioned below, summarizes Dudley-Evans and St. John's (ibid) view of the classifications of ESP.

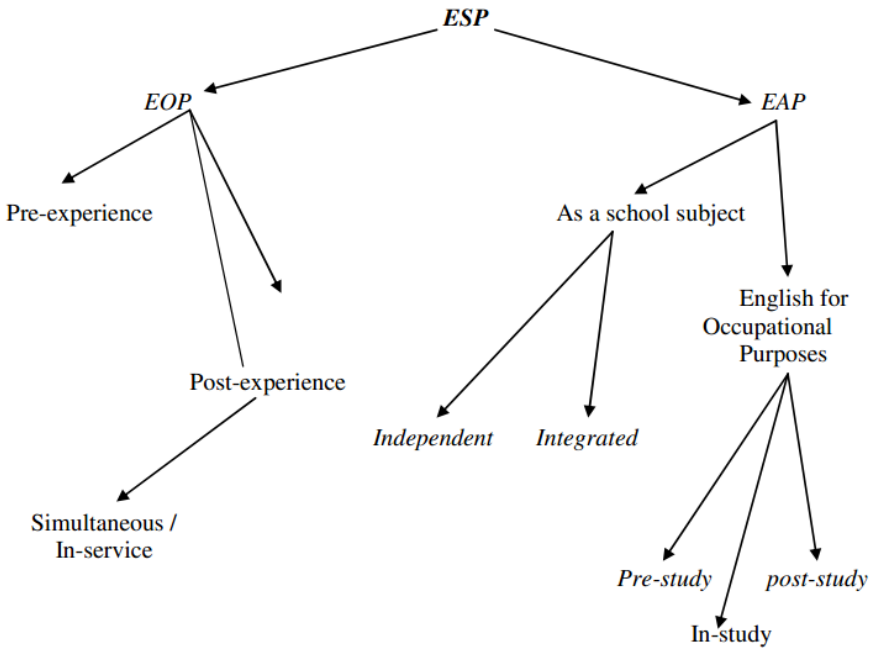


Figure 6. Dudley-Evans & St. John's (1998) Classification of ESP. Retrieved from https://www.academia.edu/8519119/English_for_Specific_Purposes_Its_Definition_Characteristics_Scope_and_Purpose

3.3 English with specific topics

The third type in Carter's classification of ESP is English with Specific Topics. The emphasis of this type of ESP, as Carter (1983) notes, is on the topic itself rather than the purpose. Moreover, English with specific topics has to do with properly anticipating the future needs of the learners (Target Future Needs) before designing any ESP material so learners are prepared for the future needs.

4. English for Science and Technology (EST)

Due to several historical factors, English came into light as a predominant medium of gaining knowledge as it comes to science and technology. The eminent development of English, as a means to broaden one's own knowledge, created a new generation of learners who think

through English as a means to meet their particular needs. Consequently; English for Science and Technology (EST) was emerged within ESP, Kennedy and Bolitho (1990, as cited in Jonė & Audron, p. 2001) states:

> Much of the demand for ESP has come from scientists and technologists who need to learn English for a number of purposes connected with their specialisations. It is natural, therefore, that English for Science and Technology (EST) should be an important aspect of ESP programmes.

One of the main roles of EST is to enable students of science and technology to use English adequately and more effectively in the target situation by developing the required competences. In this matter, Jameel (2009, p.2) states: "The role of English in EST scenario, professionally in engineering college is not only to impart linguistic skills to the engineering students but also many soft skills that are really required in their professional careers.". Thus, EST is an approach to language learning/teaching in which learners' motives and needs to learning the language is the basic criterion of content selection.

Conclusion

As far as the current chapter is concerned, the historical development of ESP has been thoroughly covered. It also has given insight into the characteristics of ESP leaving no room for ambiguity about Carter's work. The next element was devoted to the types of ESP by discussing its different classifications and branches e.g. Hutchinson and Waters' tree of ELT and Dudley-Evans and St. John's classification of ESP. EST was highlighted as the last element of the current chapter by briefly tracing its development and stating the reasons and factors that helped its emergence as a branch of ESP.

Chapter II

INTRODUCTION TO NEEDS ANALYSIS

Introduction

1. **The Eminence of Needs Analysis**
2. **Needs Analysis: a Brief Overview of the Origins**
3. **Needs Analysis: Definitions**
4. **Requirements of Needs Analysis**
5. **Approaches to Needs Analysis**
6. **Methods of Needs Analysis**

Conclusion

Introduction

Needs Analysis (NA) has emerged under the umbrella of ESP as an important step of course design. The current chapter covers the eminence of Needs Analysis by providing a brief overview of the origins as well as definitions of its nature. Moreover, the requirements of Needs Analysis are discussed in order to demonstrate what ought to be taken into account as one carries out a language needs investigation. Finally, this chapter addresses the approaches and methods of Needs Analysis with the purpose of illustrating how it should be ideally undertaken.

1. The Eminence of Needs Analysis

It is possible that the language course can provide what is needed by learners of different levels, different countries and different target situations with the help of Needs Analysis. A well-established NA has several benefits such as: providing the policy-makers with references and curriculum designs for FLT. Nunan (1988) argues that NA is the point of departure of a curriculum or a syllabus design. In order to design an efficient language course, different angles needs to be analyzed carefully, for instance: learners, teachers, employers, and language teaching institutions (Juan, 2014). As a result of combining the analysis of the previous angles, NA guarantees the effectiveness of the teaching process and paves the way to the teacher to reach the previously set goals.

2. Needs Analysis: a Brief Overview of the Origins

Surprisingly, NA as one of the language teaching terms was first coined in the 1920's (West, 1997, as cited in Songhori, 2008). As opposed to nowadays' view of Needs Analysis, it used to be referred to as unveiling the needs of learners of general English (GE); the motives and

the needs of learners used to be restricted to using the language for the daily basis communication. In the mid 1970's and early 1980's, major publications in the field of FLT such as Munby's (1978), under ESP teaching, smoothed the path of Needs Analysis towards popularity as one of the fundamental stages of the course design of foreign language teaching.

3. Needs Analysis: Definitions

Needs Analysis, as a significant step in the process of designing an ESP or GE course, had a great deal of attention by different researchers. They tried to decipher "needs-based philosophy" of language teaching from different backgrounds (Hutchinson & Waters, 1987). For instance, Richterich (1983) states that Needs Analysis is a process which includes accumulating information on individuals or groups of individuals who are supposedly expected to learn a language.

Richards and Rogers (1986) highlighted that NA is the process of identifying the general and specific language needs which can possibly be addressed in developing the content of language syllabus. Thus, the focus may either be put on the general parameters of the syllabus or on the special needs of the learners.

In order to differentiate between what learners are required to know and what learners think they need to know, Hutchinson and Waters (1987) define Needs Analysis from the level of necessities, lacks, and wants. They believe that basing a course on the target objectives without considering the constraints and lacks is inadequate. The concept of "learning needs" provided and analysed by Hutchinson and Waters (1987) have been proved to be reasonably useful in the field of teaching. Consequently, course designers analyze the learning needs of the learners according to the existing knowledge, the condition of learning situation, and other learning-

related factors. Figure (7) on the next page summarizes the Classification of Needs analysis according to Hutchinson and Waters:

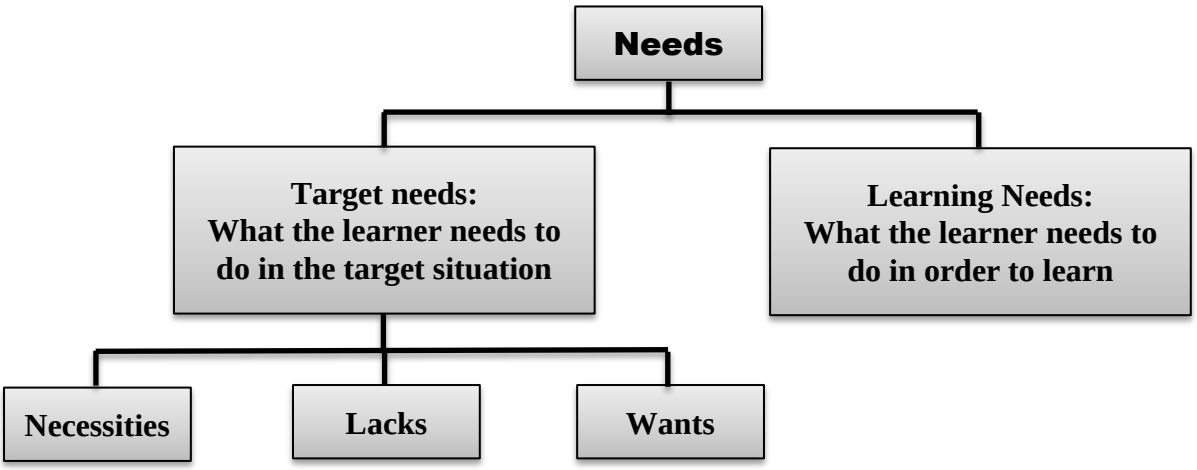


Figure 7. Hutchinson and Water's (1987) Classification of Needs Analysis

John (1991) argues that in order to have a valid and relevant course design for all the subsequent activities, NA ought to be the first step. Similarly to John's view, Brown (1995) defines Needs Analysis as being:

> the systematic collection and analysis of all subjective and objective information necessary to define and validate defensible curriculum purposes that satisfy the language learning requirements of students within the context of particular institutions that influence the learning and teaching situation. (p. 36)

To break down such a multipart definition into a clearer and easier definition, Needs Analysis is data-gathering tool used by curriculum designers. It is used to collect subjective and objective information to develop a curriculum that satisfies the stakeholders: teachers, administrations, students, and even parents. Thus, Needs Analysis is the basic tool developing a curriculum which meets the needs of the learners in a particular discipline.

Witkin and Altschuld (1995) describe Needs Analysis as a systematic process undertaken by the examiner for the sake of: a) regulating priorities, b) coming to a decision about curriculum or organizational improvement, and c) allocating sources. In a similar manner, MC Ardle (1998) believes that in order to identify and overcome problems and issues which exist in the present situation, Needs Analysis should be conducted. As far as MC Ardle's definition is concerned, Needs Analysis is the first in a sequence of steps to undertake an effective change since it detects the gap between the current and desired organizational and individual performances.

Dudley-Evans and St John (1998) refer to Needs Analysis as interdependent overlapping activities in a cyclical progress. In a simpler manner, Needs Analysis is the first step in ESP course development. Furthermore, it is followed by other activities based on the information collected in the first step, such as: curriculum design, material selection, methodology, assessment, and evaluation (Brian & Sue, 2013). The cyclical progress of Needs Analysis is summarized by Dudley-Evans and St John (1998) in figure 5 from

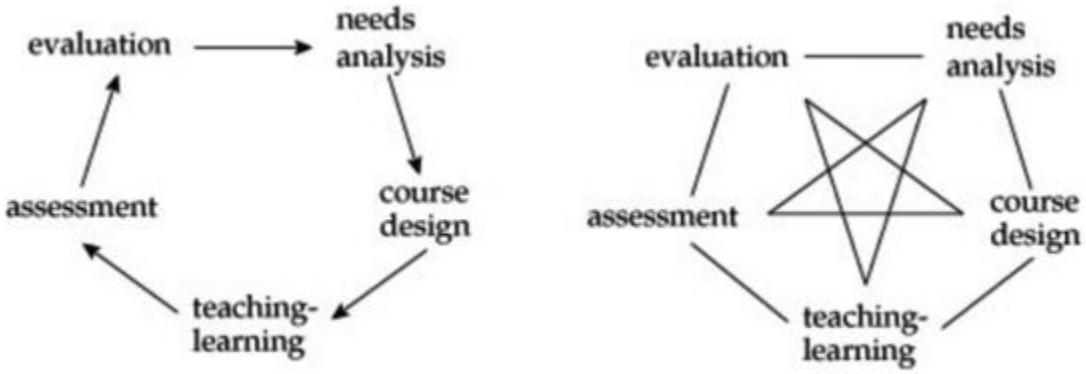


Figure 8. The Cyclical Process of Needs Analysis. Retrieved from

https://books.google.dz/books?isbn=0521596750

Richards and Schmidt (2002) stated that Needs Analysis is: "the process of determining the needs for which a learner or group of learners requires a language and arranging the needs according to priorities." (pp. 353-354). In a simpler manner, Needs Analysis is the procedure of collecting information about the learners' thoughts of how ideally English ought to be taught according to their actual and/or future needs. The figure below encapsulates the information obtained by NA:

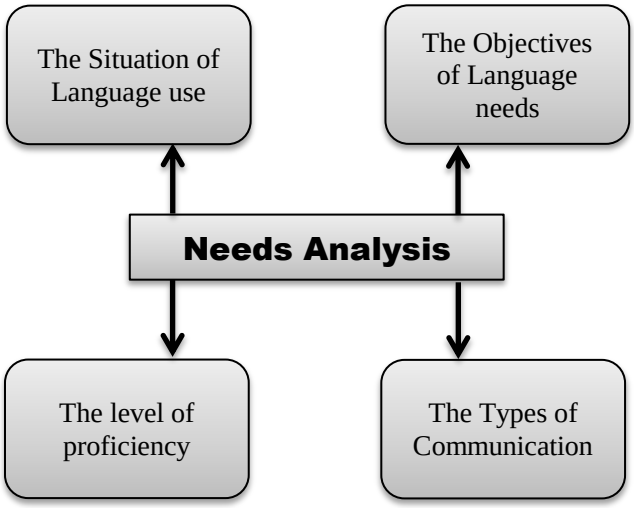


Figure 9. Information investigated by Needs Analysis (Richards & Schmidt, 2002)

Gupta (2007) affirms that NA is a process during which the course designers try to ascertain how to close a learning gap. NA includes determining the essential needs as an attempt to addressing them. It involves an analysis of different accumulated data, outlined as follows:

- Comparing between the current conditions and the desired ones
- Outlining the problems encountered by learners
- Comprehending different behaviours that contribute to the present conditions
- Verifying how the present conditions can be changed to manufacture the desired ones
- Developing solution approaches
- Building the necessary support for the solution approaches

To sum up, Needs Analysis can be described as a systematic attempt to reveal the needs, wants, lacks and necessities which are encountered by a learner or a group of learners in order to develop a well-designed language program with the appropriate goals, objectives and content.

4. Requirements of Needs Analysis

It is commonly known that NA is one of the eminent features of ESP. Regarding this common belief, Robinson (1991) asserts that "an ESP course is based on needs analysis" (p. 3). The next requirements ought to be taken into account as needs analysis is being carried out to ensure its effectiveness:

4.1 Prioritizing Communication needs

What should determine the content of an ESP course is the perception of teachers and course designers that what learners should use in reality what they are being taught i.e. communication (Dudley-Evans & St John, 1998). As stated by Long (2005), to undergo a communicative task includes the ability to understand discourse practices where learners are expected to operate. Therefore, predicting learners' particular needs as precisely as possible is crucial to train them properly for the situations they are more likely to encounter in the target situation.

4.2 Highlighting the Context

The language teaching and learning procedure is affected by the context (Jordan, 1997). A course design that does not include the context, where English is being used, is more likely to be fruitless and inadequate (Long, 2005). Context in the field of language teaching includes different factors, namely: institution, teachers, and society (Richards, 2001). First, institutions might have an impact on the specificity of the ESP course e.g. giving the ESP course the same

importance as other discipline modules. Second, teachers have a massive impact on how ESP course is being delivered. Finally, societal factors is referred to as the expectations of the society e.g. employers' English standards for employment. As an example, an ESP course may focus on productive and receptive skills; however, a teacher may deem that productive skills should be given more attention. Moreover, teacher's personality and methodology of teaching are factors that have vital impact on the learning situation.

4.3 Inviting Multiple perspectives

According to Benesch (2001), the needs of learners depend on a variety of expectations and interpretations from different perspectives. Thus, it is rather important to confirm that interpretations take into account the perspectives of teachers, administrators and other stakeholders. Long (2005) argues that the multi-perspective data have to be collected in the process of needs analysis. Different perspectives involved in ESP teaching and learning help in providing rather valid and reliable data; consequently, better resources are provided to the learners.

Similarly, Robinson (1991) argued that NA should include three main sources to ensure the relevance of information, namely: students, language teaching institution, and the student's employer. In the same stream, Richterich and Chancerel (1987, as cited in Robinson 1991) suggest the same sources of information, which are: students themselves, the language-teaching establishment, and the use 'institution', e.g. students' location of work.

4.4 Using Multiple data collection methods

The use of multiple data collection in NA is highly recommended in order to ensure the validity of the data gathered (Hutchinson & Waters, 1987). To illustrate, Jasso-Aguilar's (2005) study revealed that if the observation method to NA had not been employed, the language needs

of hotel maids could not have been discovered. For similar reasons, Long (2005) requests more attention i.e. 'methodological options' in NA, considering the limitations of data collection methods and that such obstacles should be dealt with before and during the NA process. Jordan (1997) points out that a single method to NA is inadequate. Circumstances, for instance, influence the choice of the method as a researcher conducts a NA investigation.

4.5 NA as an ongoing activity

Due to the fact that the needs of learners are more likely to change by time depending on contextual and human affective variables, teachers and course designers should undertake NA continuously (Hutchinson & Waters, 1987; Nunan, 1988). NA, as an ongoing activity, may include different influence and different perspectives, such as: curriculum development and action research. On the one hand, a curriculum as a term is defined by (Allen, 1984, as cited in Chamnong, 2009) as "a very general concept involving consideration of the whole complex of philosophical, social and administrative factors which contribute to the planning of an education programme" (p. 62). A curriculum, along with language teaching, is described as "dynamic system of interrelated elements" (Brown, 1995, p. ix). With this consideration, a curriculum is the systematic dynamism of interrelated elements, amongst them is NA. On the other hand, Action research commences from what Kemmis and McTaggart (1988) refer to as 'thematic concern' i.e. 'learner needs' in the current situation. During the process of action research in NA, elements that are not suitable could be changed for the betterment of the curriculum during the second half of the process (Bassey, 1988, p. 93, as cited in Chamnong, 2009).

5. Approaches to Needs Analysis

Different approaches can be learned as one dives into the literature of NA, such as: sociolinguistic model (Munby, 1978) and the systemic approach (Richterich & Chancerel, 1977). However, the current research discusses what Jordan (1997) presents as the main approaches to NA.

5.1 Target Situation Analysis (TSA)

TSA arose as a consequence of Munby's (1978) model of the Communication Needs Processor (NP). Munby's (1978) model comprises a meticulous set of procedures in order to discover target situation needs. If a course designer operates Munby's model, a syllabus can be established from the 'communicative competence specifications' which is concluded from the profiles of the students' language needs.

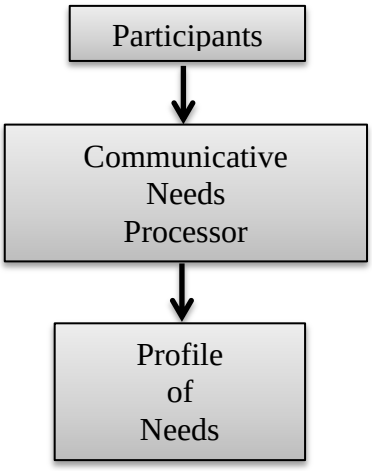


Figure 10. Munby's Model of Needs Analysis

For the sake of discovering the target situation of a learner or a group of learners, Munby (1978) contemplates nine components, which are:

1) **Participants:** offer the examiner information about learners' language e.g. preferable languages, mother tongue, target language as well as identity e.g. sex, age, nationality

2) **Purpose:** the purpose that motivates learners towards learning the language is explored by the examiner, e.g. occupational or academic.
3) **Setting:** the examiner considers spatio-temporal and psychological environment settings, e.g. when and where learners would like to learn the language.
4) **Interaction:** the examiner looks for what should be involved in the target language use, e.g. work-related interaction.
5) **Instrumentality:** information about the communication is investigated by the examiner, such as the medium (spoken or written or both); the channel (face to face, telephone) and the mode (dialogue or monologue).
6) **Dialect:** the examiner examines information about the preferences of learners on dialects, e.g. Californian accent, London accent.
7) **Target level:** the examiner analyzes information about level of competence.
8) **Communicative event:** the productive or receptive skills that learners are more likely to do.
9) **Communicative key:** how communication needs to be undertaken, e.g. formal or informal.

Even though Munby's model has fairly contributed to the field of ESP, it has its share of criticism by several linguists. For instance, Hutchinson and Waters (1987) consider that the process of writing target profile for each student is time consuming. Moreover, it was criticized that it focuses on the point of view of the analyst and neglects those of the learners.

5.2 Present Situation Analysis (PSA)

As a term, 'Present Situation Analysis' was coined by Richterich and Chancerel (1980, as cited in Songhori, 2008, p.10). TSA endeavors to define the needs of learners by investigating

their strengths and weaknesses at the beginning and the end of the language course (Robinson, 1991). According to Jordan (1997), the sources of data to this approach are: students, the teaching establishment, and the place of the work, i.e. PSA provides information from multiple sources of data. Therefore, Richterich and Chancerel's approach provides detailed guidelines, techniques, and recommendations of what should be included in a language course. PSA endeavors to investigate information about:

- Levels of ability
- Available curricula
- Teaching methods
- Societal and cultural view on language teaching and learning

Several scholars as: Robinson (1991), Jordan (1997), and Dudley-Evens and St John (1998), state that PSA is a complement to TSA, they argue: "if target situation analysis tries to establish what the learners are expected to be like at the end of the course, present situation analysis attempts to identify what they are like at the beginning of it" (Songhori, 2008, p.10, as cited in Sierocka, 2014).

5.3 Deficiency Analysis (DA)

According to Allwright (1982) and Jordan (1997), Deficiency Analysis is developed to consider learners' current needs, wants, lacks, and necessities of the target situation. In fact, the purpose of this approach is to build the bridge between the target needs and the current abilities of the learners (Dudley-Evans & St John, 1998). As stated by (West, 1997), several systems that employ this approach include two essential components:

a. A list of potential target needs expressed in terms of activities.
b. A scale which is used to prioritize each activity

5.4 Learner-Centered Approach

Berwick and Brindley (1989), as the pioneers of this approach, suggest three ways to consider learner needs: 1) perceived vs. felt needs, 2) product vs. process oriented interpretations, and 3) objective vs. subjective needs. According to Berwick (1989), 'perceived needs' are taken from the perspective of the experts, e.g. course designers; whereas 'felt needs' are taken from the perspective of learners.

As far as product-oriented interpretation is concerned, learners' needs are deemed to be the language that learners require in the target situation. However, in the process-oriented interpretation, the examiner focuses on how learners as individuals act in response by involving affective and cognitive variables to their learning situation (Brindley, 1989).

Objective needs are considered to be prior to a course since they are derived from a variety of factual information about learners, such as: their present language proficiency and learning difficulties. On the other hand, subjective needs are addressed as the course is in progress, given that they can be derived from information concerning learners' affective and cognitive factors, e.g. attitudes, personality, learning expectations, and different other factors (ibid).

5.5 Strategy Analysis

Strategy Analysis focuses on learners' views and perceptions about the learning styles and strategies; it emphasizes more on "the methodology employed to implement language programmes" (Nunan 1988, cited in Jordan 1997, p. 27). Jordan (1997) ascertains that learners often consider a teacher-centered approach to language teaching as inadequate and inappropriate because they find themselves in a position where they must embrace the teacher's view to learning strategy instead of theirs. Therefore, the teacher should observe different strategies

employed by learners and attempt to adopt and accommodate his/her teaching methods to meet the needs of learners.

5.6 Means Analysis

According to Dudley-Evans and St. John (1998), Means Analysis provides "information about the environment in which the course will be run" (p. 125). In other words, the environment may include: the teachers, teaching method, students, and facilities. Thus, the purpose of Means Analysis is to adapt the ESP course to meet the cultural environment where the course should ideally be carried out. As a result of undertaking Means Analysis, the dissatisfaction caused by the inappropriate selection of teaching methods can be prevented (Jordan, 1997).

6. Methods of Needs Analysis

As one undertakes NA, regarding the principles and the appropriate type, there are numerous methods that can be employed. A list of several different methods is offered by Robinson (1991) which comprises interviews, questionnaires, tests, case studies, and authentic data collection, i.e. to analyze the present manuals and written assignments. As far as Jordan (1997) is concerned, another method is added to those of Robinson (1991) advanced documentation which investigates information about:

- Educational background
- Previously attended courses
- Language tests at home
- Self-assessment
- Direct monitoring
- Learner diaries

All of the methods above can be employed depending on the circumstances of the educational institution, cultural perspective and different other criteria.

6.1. Questionnaires

The questionnaire method is widely known as a primary tool of collecting data as one conducts a Needs Analysis. Jordan (1997) outlined the advantage of this method, which is the ability to collect a fairly considerable number of subjects in a short amount of time. Furthermore, analyzing questionnaires is a manageable task to be done with fewer efforts than the case of tests and interviews. The main disadvantage of this method, though, is that the participants of the questionnaire might be misled by misinterpreting the questions. Thus, in order to overcome such inconvenience, questionnaire should be piloted before it is finally distributed to participants.

6.2. Interviews

Needs Analysis can take a different method to investigate learners needs, namely: interviews. An interview can be structured or unstructured depending on the intentions of the examiner. On one hand, structured interviews depend on questionnaires with close-ended questions which allow the participants to a few possible answers. On the other hand, the interviewer comes up with unfixed questions that can be changed depending on the answers of the interviewee. Mackay (1978) states that "A structured interview is similar in format construction and purpose to a questionnaire"(p. 22); thus, structured interview is similar to questionnaire in formulation, design, and objective. However, the difference can be spotted in the practical field as the interviewer asks the questions and records the answers, unlike the questionnaires. One of the main advantages of a structured interview is that the interviewer can explain and clarify the question to the interviewees leaving no room for misinterpretation.

6.3. Case studies

In order to investigate a learner or a group of learners' communication needs, the case studies method to Needs Analysis is more likely to be employed by the investigator. Schmidt (1981) believes that case studies are crucially significant; because, they evoke learner's understanding about his/her struggles, needs in a clearer and detailed manner than in interviews or questionnaires. Despite case studies' advantages, this method is time consuming and its results often cannot be generalized.

6.4. Tests

Needs Analysis can use tests as a method for measuring one's own abilities, knowledge, and/or performance in a particular discipline. Saunders (1984, as cited in Mounir, 2013, p. 44) asserts that the reliability and validity of the test are of a crucial importance because the absence of which can lead to serious issues. Therefore, learners should be tested before they undergo a course for the sake of determining their abilities, strengths, and weaknesses. Despite the advantages of this method, Weimer (2015) mentions amongst several disadvantages that tests provide unprepared students the opportunity to guess, and with guesses that are right, they get credit for things they don't know.

6.5. Direct observation

Direct observation is one of the most fundamental and the basic methods used of data collection (Singh, n.d). It can be employed as a method of a needs analysis procedure for the fact that it brings reliability and accuracy of all the information that is gathered and checked. As far as direct observation is concerned, it is tremendously helpful for the investigator to collect data of spoken and written interactions of different participants, namely: teachers, learners, and even administrators.

6.6. Participatory analysis

Robinson (1991) states that participatory analysis includes different activities, such as: discussion, negotiation, and compromise with several learners who are concerned in the discussion of their needs and wants. As apparent, learners tend to be more active than simply finishing off a questionnaire; they are expected to take part of the discussion on their needs and even make their own recommendations.

Regarding the main methods that have been discussed previously, data collection methods that are used for conducting needs analysis are quite a lot. Jordan (1997) indicates that there is no single method to conduct needs analysis. Therefore, every researcher has different circumstances that affect the choice of the method in undertaking his/her investigation. It is up to the researcher to choose the method that best serves his/her goals and circumstances.

Conclusion

It is concluded that in order to address ESP learners' specific need, a realistic NA-based combination of the discipline-related content and general English is necessary to be conducted.

Chapter III

The Presentation and Analysis of Data

Introduction

1. **Description of the Questionnaire**
2. **Analysis of the Questionnaire**
3. **Description of the Observation Checklist**
4. **Analysis of the Observation Checklist**
5. **Discussion of the Results**
6. **Recommendations**

Conclusion

Introduction

The current chapter is devoted to the analysis and interpretation of the results from the data collection instruments. Sixty (60) Master one students of Mathematic Department and fifty (50) master one students of Architecture Department have been selected randomly as a sample to provide answers to the distributed questionnaire. Furthermore, for the sake of fulfilling the objectives of this research, both sessions of English for Architecture and English for Mathematics have been regularly attended to, as classroom observation,

It is important to acknowledge that this research has encountered some inconveniences, such as: the inconsistency of teachers' attendance as well as the particular number of students who have either partly answered the questionnaire or have completely avoided some questions. As far as questionnaires are concerned, it could be deduced that some students have either stumbled upon some negative feelings, e.g. the embarrassment to answer particular questions or they simply have not understood the nature of the questions. However, the current research has overcome this obstacle. The tabulations of the results have been operated even to the unfinished questionnaires with the assistance of the Statistical Package for the Social Sciences (SPSS). The program reports the number of the missing answers and provides a valid percentage which doesn't include the missing ones.

1. Description of the Questionnaire

The analysis of the questionnaires of students from both departments is carried out separately to indicate their needs. The questionnaire is divided into two parts; the first six questions are attitudinal ones to indicate students' perceptions and attitudes towards the course of ESP as well as the areas of satisfactions and dissatisfactions. The rest of the questions attempt to target the needs, wants and preferences of students and the way they want to study the language.

2. Analysis of the Questionnaire

2.1 Students of Mathematics

Question 1. Gender: ☐ Male ☐ Female

		Frequency	Percent	Valid Percent
Valid	male	9	15.0	15.3
	female	50	83.3	84.7
	Total	59	98.3	100.0
Missing	System	1	1.7	
Total		60	100.0	

Table 1. Students of Mathematics' Gender Distinction

The purpose of the first question is to raise students' involvement and responsibility to providing data that are relevant to them. The table above provides the noticeable difference between males and females students in the Mathematic Department. As apparent, the majority of the students who contribute in the questionnaire are females with a percentage of 84.7% whereas males have a percentage of 15.3%. It is important to mention that one of the students left the boxes unanswered. It could be possible that he/she felt that the question was not important to answer or he/she did not pay enough attention.

Question 2. How do you consider your level in English?

		Frequency	Percent
Valid	Very low	6	10.0
	Low	23	38.3
	Average	25	41.7
	Good	6	10.0
	Total	60	100.0

Table 2. The English Level of students of Mathematics

Students were asked to rate their English proficiency on a five-grade scale from very low to excellent. The data is analyzed and represented in table (2). As provided in the table, a

considerable number of students ranges from the level average (41.7%) to low (38.3%). The minority of students consider their level as very low (10%) and good (10%). The function of this question is to give an opportunity for students to assess themselves. Self-evaluation is of a great impact; it encourages students' involvement and responsibility.

Question 3. Do English courses at your department reflect your language needs?

		Frequency	Percent	Valid Percent
Valid	Yes	19	31.7	32.2
	No	18	30.0	30.5
	To some extent	22	36.7	37.3
	Total	59	98.3	100.0
Missing	System	1	1.7	
Total		60	100.0	

Table 3. Compatibility Between Courses Given and the Needs of Students of Mathematics

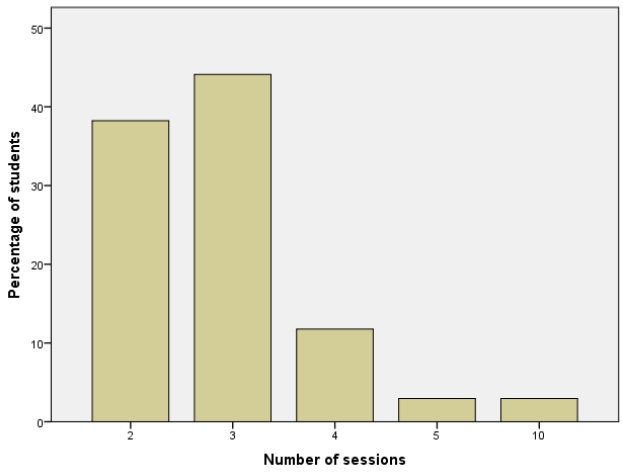
This question is based on the reflection of students on the ESP course, since they are usually adults who already have some familiarity with English and are expecting to learn the language in order to communicate a set of professional skills and to perform particular job-related functions. Fiorito (2005, para. 15) states that "Learners in the ESP classes are generally aware of the purposes for which they will need to use English". However, Table (3) indicates that students are not certain whether or not the course meets their needs. On the one hand, 32.2% of the participants believe that the course does meet their needs; on the other hand, a percentage of 30.5% disagree. Moreover, the table shows a slightly higher percentage of 37.3% of the students who believe the course does meet their needs to some extent. Finally, one student tends to avoid this question as shown in table (3).

Question 4. Do you think one hour and a half session per week is sufficient to learn English?

		Frequency	Percent
Valid	Yes	24	40.0
	No	36	60.0
	Total	60	100.0

Table 4. Students of Mathematics' Opinion on the Sufficiency of the Time of English Courses

The results in table (4) reveal that 40% of the students are actually satisfied with the time allocated to English course; however, more than half of them (60%) expressed dissatisfaction. The questionnaire provided an opportunity for students to offer the appropriate amount of time that should be allocated to English according to them. Graph (1) below represents the number of sessions that is offered by the 60% students who are not satisfied with the time allocated to English course. Amongst which, 6 students didn't know the amount of time that should be allocated to English course. The majority of the students proposed that 2 (38%) to 3 (44%) sessions ought to be sufficient for English course. Several reasons why students opt for more hours to learning English may be anticipated; however, the analysis of the upcoming questions such as question 7 and 9 would reveal reasons that ESP teachers should take into account.



Graph 1. The Proposed Sessions by Students of Mathematic

As one is conducting an English course, it is essential to put into account the shortage of time. As far as the previous point is concerned, Robinson (1989, p.398) states that "ESP courses are normally constrained by a shortage of time"

Question 5. Are you satisfied with the way you study English?

The primary purpose of teaching at any level of education is to bring a fundamental change in the learner (Tebabal & Kahssay, 2011). Thus, learners themselves could be considered as a primary source to identify the effectiveness of teaching methodology.

		Frequency	Percent
Valid	Yes	26	43.3
	No	34	56.7
	Total	60	100.0

Table 5. Students of Mathematics' Satisfaction with the Teaching Methodology

As represented in table (5), more than half of the participants are not satisfied with the methodologies that the teacher undertakes during the teaching process. However, a considerable percentage (43.3%) of students tends to be satisfied. Unsatisfied students expressed the areas of dissatisfaction to their convenience. Most of them center on: the content of the course, the lack of discussion between the teacher and students; here are some examples from students' answers:

1. "المعلومات غير مفيدة في المجال" (the information are not beneficial according to the discipline)
2. "غياب الحوار المباشر بين الأستاذ و الطالب، غياب توظيف المكتسبات و المفاهيم في عبارات مضبوطة أثناء الدرس" (the absence of the direct dialogue between students and their teacher, the absence of implementing the acquired knowledge in technical/academic terms during the course).
3. " من بداية الفصل الثاني و نحن ندرس في أمثلة و أشياء لا علاقة لها بالرياضيات. الأحسن هو التركيز على ما يفيدني كطالبة مقبلة على إعداد مذكرة تعتمد على مراجع معدة باللغة الإنجليزية" (We are stuying about subjects

that has no relation to the discipline « Mathematics» from the beginning of the second semester. It would be better if an emphasis is put on what serves my needs as a student who is expected to prepare a thesis based on English sources).

Question 6. For this question, please choose a number from 0-5 to indicate how much you agree or disagree with each statement and write the number next to the statements.

0	1	2	3	4	5
Extremely disagree					Strongly agree

Likert scale is an effective tool as it comes to investigating attitudes, beliefs, and opinions. According to Nicole (2011), the advantageous side of such data-gathering tool is that it doesn't force students to a particular topic; it allows them to respond in the degree of agreement which makes the answers easier for the participants of the questionnaire. The statements of the question are analyzed and interpreted separately.

Statement a. I am enthusiastic towards learning English.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	2	3.3	3.5
	Disagree	3	5.0	5.3
	Somewhat disagree	1	1.7	1.8
	Somewhat agree	10	16.7	17.5
	Agree	10	16.7	17.5
	Strongly agree	31	51.7	54.4
	Total	57	95.0	100.0
Missing	System	3	5.0	
Total		60	100.0	

Table 6. Enthusiasm of Students of Mathematics Towards English Learning

Ormrod (2014) states that: "Motivation increases the amount of effort and energy that learners expend in activities directly related to their needs and goals" (para. 4). The purpose of this statement is to figure out the students of Mathematics' attitude towards learning English.

Enthusiasm and motivation are key factors in language learning. The data provided in table (6) summarize the answers provided in the questionnaire; even though, a percentage of 5% of students did not have an answer for this statement. On one hand, a minority of them expressed a negative attitude, 3.5% extremely disagreed, 5.3% disagreed, and 1.8% of the students somewhat disagreed. On the other hand, the majority has a positive attitude, 54.4% are enthusiastic towards learning the language, 17.5% agreed and 17.5 somewhat agreed to the statement.

Statement b. English is an important module for my studies.

This statement is based on the statement of Kennedy and Bolitho (1984), they state that "Much of the demand for ESP has come from scientists and technologists who need to learn English for a number of purposes connected with their specialisms" (p. 6).

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	1	1.7	1.7
	Disagree	8	13.3	13.8
	Somewhat disagree	9	15.0	15.5
	Somewhat agree	14	23.3	24.1
	Agree	5	8.3	8.6
	Strongly agree	21	35.0	36.2
	Total	58	96.7	100.0
Missing	System	2	3.3	
Total		60	100.0	

Table 7. The Importance of English According to Students of Mathematics

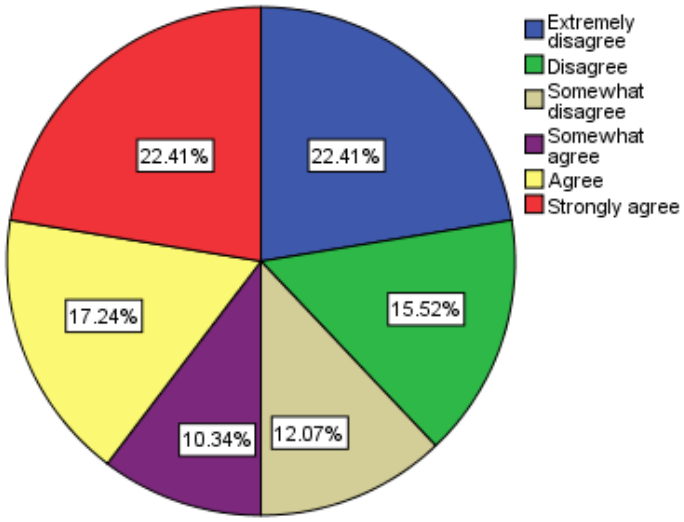
The majority of the participants provided a positive response towards this statement. 36.2% of the students strongly believed that English is an important module for their studies and 8.6% agreed. Furthermore, 24.1% think that English is somehow important. On the contrary, the minority did not show a positive response: 1.7% strongly disagreed, 13.3% disagreed, and 15% somewhat disagree with the statement.

Statement c. I need to use English for my job.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely disagree	13	21.7	22.4	22.4
	Disagree	9	15.0	15.5	37.9
	Somewhat disagree	7	11.7	12.1	50.0
	Somewhat agree	6	10.0	10.3	60.3
	Agree	10	16.7	17.2	77.6
	Strongly agree	13	21.7	22.4	100.0
	Total	58	96.7	100.0	
Missing	System	2	3.3		
Total		60	100.0		

Table 8. The Occupational Needs of Students of Mathematics

Even though students are in an academic atmosphere, some of them may need English for occupational purposes. This statement is selected to differentiate between those who need English as a tool for occupation and those who do not.



Graph 2. Students of Mathematics' Occupational Needs

Graph (2) provides an almost equal variety of positive and negative answers. The same percentage of students (22.41%) has shown an extreme agreement and disagreement to the

statement. Moreover, 17.24% expressed a positive response and agreed; however, a slightly different percentage of 15.52% disagreed. Finally, 10.34% somewhat agreed and 12.07% somewhat disagreed. The answers were close to each other which indicate diversity amongst the learners.

Statement d. I use English printed documentations in my field.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	13	21.7	22.4
	Disagree	9	15.0	15.5
	Somewhat disagree	7	11.7	12.1
	Somewhat agree	6	10.0	10.3
	Agree	10	16.7	17.2
	Strongly agree	13	21.7	22.4
	Total	58	96.7	100.0
Missing	System	2	3.3	
Total		60	100.0	

Table 9. The Use of English Printed Documentations in Mathematics

Several studies have shown that "of some 100,000 scientific journals published worldwide, 50% were in English" (TRUCHOT, 2002, p. 10). The current statement examines the use of English printed documentations by students of Mathematics for further studies, e.g. books, articles, and reports. From students' answers, 22.4% extremely disagreed with the statement and 15.5% disagreed. More to the point, a percentage of 11.7% somewhat disagreed. However, some students have shown a positive response to the statement. 22.4% strongly agreed that they use English printed documentations. Moreover, 17.2% agreed and 10.3% somewhat agreed. One of the most significant reasons why a considerable number of students do not use English printed documentations is because the level of the majority ranges between averages to low levels.

Statement e. English lectures help me to listen effectively to lectures presented in English.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	6	10.0	10.5
	Disagree	10	16.7	17.5
	Somewhat disagree	4	6.7	7.0
	Somewhat agree	12	20.0	21.1
	Agree	10	16.7	17.5
	Strongly agree	15	25.0	26.3
	Total	57	95.0	100.0
Missing	System	3	5.0	
Total		60	100.0	

Table 10. The Contribution of English Lectures in Improving Listening Skills

The current statement is based on the students' opinions on their improvement in a specific receptive skill (listening) according to the courses they undertake. The current statement is an attempt to reveal whether English lectures help students to listen effectively to different lectures presented in the same language. As far as table (10) is concerned, 26.3% of the students seemed to strongly agree that they can listen effectively to lectures in English thanks to the English course they have. 17.5% of them tended to agree with the statement and 21.1% agreed to some extent. However, 10.5% extremely disagreed and 16.7% disagreed with the fact that English courses help them listen more effectively to lectures in the same language. Finally, a minority of 7% disagreed to some extent.

Statement f. English lectures help me to listen to scientific talks.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	8	13.3	13.8
	Disagree	6	10.0	10.3
	Somewhat disagree	8	13.3	13.8
	Somewhat agree	6	10.0	10.3
	Agree	13	21.7	22.4
	Strongly agree	17	28.3	29.3
	Total	58	96.7	100.0
Missing	System	2	3.3	
Total		60	100.0	

Table 11. The Contribution of English Learners in Listening to Scientific English Talks

Statement (f) was deliberately included in this question to find out if students observe the improvement of their listening skills as it comes to listening to scientific talks. Surprisingly, half of the participants provided a positive response. 29.3% strongly believed that what they take during the English course helps them listen to scientific talks, 22.4% agree to the statement, and 10.3% of the students agree to some extent. Nonetheless, 13.8% of the students extremely declined that English courses help them listen to scientific talks, 10.3% disagreed and 13.8% somewhat declined the current statement.

Statement g. English lectures help me to speak the language confidently.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	6	10.0	10.3
	Disagree	6	10.0	10.3
	Somewhat disagree	8	13.3	13.8
	Somewhat agree	10	16.7	17.2
	Agree	9	15.0	15.5
	Strongly agree	19	31.7	32.8
	Total	58	96.7	100.0
Missing	System	2	3.3	
Total		60	100.0	

Table 12. The Assistance of English Lectures in Improving Speaking Confidence

The current statement is based on students of Mathematics' self-assessment of their speaking abilities. More than half of the answers were positive. A percentage of 32.8% of students strongly agreed with the content of the statement, and 15.5% agreed. Moreover, 17.2% of the participants agreed to some extent. Nevertheless, 10.3% expressed an extreme disagreement with the statement, another 10.3% denied that English course helps them speak confidently, and 13.8% somewhat disagreed showing some confusion of whether they are confident as they speak or not.

Statement h. English lectures help me to read general English texts easily.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	6	10.0	10.3
	Disagree	8	13.3	13.8
	Somewhat disagree	5	8.3	8.6
	Somewhat agree	9	15.0	15.5
	Agree	11	18.3	19.0
	Strongly agree	19	31.7	32.8
	Total	58	96.7	100.0
Missing	System	2	3.3	
Total		60	100.0	

Table 13. English Lectures Assistance in Improving Reading General Texts

Table (13) provides students' self-assessment of reading general texts and the relationship between English courses they take and their reading skills development. 32.8% of students of Mathematics strongly agreed that their skills in reading general texts have improved as a result of attending English courses in their department. 19% of them had a good impression about the statement and agreed on it; 15.5% somewhat agreed. However, 10.3 extremely disagreed and 13.8 believe that English courses don't help them read general texts. The rest of the percentage (8.6%) somewhat didn't agree with the statement.

Statement i. English lectures help me to read scientific English texts without difficulties.

		Frequency	Percent	Valid Percent
	Extremely disagree	7	11.7	13.5
	Disagree	7	11.7	13.5
	Somewhat disagree	6	10.0	11.5
	Somewhat agree	8	13.3	15.4
	Agree	9	15.0	17.3
	Strongly agree	15	25.0	28.8
	Total	52	86.7	100.0
Missing	System	8	13.3	
Total		60	100.0	

Table 14. The Assistance of English Lectures in Improving Reading Scientific Texts

The aim of ESP is to match the needs of students, of different scientific disciplines, with the teaching aims and objectives, e.g. developing reading skills. The table above provides the impression of students of Mathematics over the statement**.** On the one hand, 13.5% of students believe that English course does not help them develop their reading skill in the scientific field, and 13.5% extremely supported their opinion. Moreover, 11.5% somewhat disagreed with the statement. On the other hand, 28.8% of the students strongly approved that English courses help them to read scientific texts without difficulties, 17.3% agreed, and 15.4% somewhat believe that English courses develop their reading skills.

Statement j. English lectures help me to write properly in English.

The current statement aims to assess the students of Mathematics writing skills in English and to tell whether or not English courses afford the help needed to improve such an important productive skill. Writing is a fundamental skill that serves as a communicative tool between the writer and the reader. Silva (1993, para. 1) states that "Writing is a visual form of communication, either printed in hard-copy or in electronic form. It follows conventions that are mutually understandable by the writer and the reader." Thus, English course ought to help students comprehend the commonly understandable conventions in writing. Table (15) below reports the students' responses.

		Frequency	Percent	Valid Percent
	Extremely disagree	4	6.7	7.7
	Disagree	3	5.0	5.8
	Somewhat disagree	11	18.3	21.2
	Somewhat agree	8	13.3	15.4
	Agree	10	16.7	19.2
	Strongly agree	16	26.7	30.8
	Total	52	86.7	100.0
Missing	System	8	13.3	
Total		60	100.0	

Table 15. The Assistance of English Lectures in Improving Writing Skills

According to the data provided from the table above, a significant percentage of students provided positive answers: 30.8% strongly agreed and 19.2% agreed that the attended English courses help them write properly. Furthermore, 15.4% agreed to some level to the given statement. The minority of the students (7.7%) extremely disagreed followed by a percentage of 5.8% who disagreed with the idea presented in the statement. Finally, the remaining percentage of 21.2% somewhat disagreed with the relationship between English courses and their writing skill development.

Question 7. Which English language course would you like to attend?

Students of Mathematics were asked this question in order to uncover their favored English language course. They were offered three branches, namely: General English (GE), English for Occupational Purposes (EOP), and English for Academic Purposes (EAP). The variables were treated separately because some participants have chosen more than one variable. However, table (16) is a concluding analysis of the three variables.

		Responses		Percent of Cases
		N	Percent	
Types of English Language Course	General English (GE)	37	56.9%	62.7%
	English for Occupational Purposes (EOP)	17	26.2%	28.8%
	English for Academic Purposes	11	16.9%	18.6%
Total		65	100.0%	110.2%

Table 16. Types of English Course Preferred by Students of Mathematics

The table above illustrates the choices opted for by Students of Mathematics. As apparent, more than half of the participants (62.7%) have chosen GE, 28.8% have selected EOP, and 18.6% have opted for EAP. It is concluded that students of Mathematics tend to be more interested in General English than other types of English courses. Supposedly, ESP students are

adults and aware of their language needs and wants. However, students of Mathematics tended to lack such awareness.

Question 8. What are the struggles you have in English language?

		Responses		Percent of Cases
		N	Percent	
Language Skills Struggles	Speaking struggles	29	32.6%	48.3%
	Listening struggles	13	14.6%	21.7%
	Reading struggles	11	12.4%	18.3%
	Writing struggles	18	20.2%	30.0%
	All above	18	20.2%	30.0%
Total		89	100.0%	148.3%

Table 17. Areas of Language Difficulties of Students of Mathematics

Table (17) represents the struggles of students of Mathematics in terms of language skills. As mentioned in WVAdultEd Instructor Handbook (2015, p.1): "It is important to determine students' strengths and weaknesses at the outset to help them know what goals will be realistic and how to proceed with a plan of study". This question is based on the eminence of determining the weaknesses of students in developing and ESP syllabus. A significant number of students with a percentage of 48.3% experience speaking struggles. Moreover, Students with listening struggles constitute of 21.7%; reading struggles are encountered by 18.3% of the students. Furthermore, 30% have difficulties as it comes to writing activities and another 30% struggle with all of the four skills. Thus, it is important for the teacher to divide the ESP syllabus on the four skills to meet his/her students' needs. However, as a teacher of ESP, figuring out students struggles generally is not sufficient; one must find out what particular techniques that students look forward to improve. Therefore, the coming questions provide more detailed options and techniques that students need within each language skill.

Question 9. What reading skill do you need to improve?

		Responses		Percent of Cases
		N	Percent	
Reading Skills	General authentic texts	31	32.3%	51.7%
	Discipline-related publications	32	33.3%	53.3%
	Technical & academic vocabulary	24	25.0%	40.0%
	Another skill	9	9.4%	15.0%
Total		96	100.0%	160.0%

Table 18. Reading Skills Needed by Students of Mathematics

Students provide the areas of weakness which they need to develop in their reading skills. A variety of options were offered, such as: general authentic texts, discipline-related publications, technical and/or academic vocabulary. As far as table (18) is concerned, 51.7% of answers opted for reading general authentic texts skills, 53.3% opted for the ability to read discipline-related publication, and 40% of the feedback has revolved on the ability to read technical and academic vocabulary. Finally, 15% of the answers were other skills proposed by students themselves which most of them are unfortunately not related to reading. The suggestions that are related to reading skills are:

1. "أريد فهم الشعر و القصص المكتوبة بالإنجليزية" (I want to understand poetry and stories written in English)
2. "قراءة الكتب العلمية و إن لم تكن متعلقة بمجال دراستي" (reading scientific books even if they are not related to my discipline)
3. "To read maybe English Journal"

Question 10. What listening skill do you need to improve?

As listed by Shiena (2012), there are numerous benefits of listening, such as "Listening is adapting new information". Thus, the basis of the current question is to provide an ESP teacher with the appropriate listening skill that students opt for.

		Responses		Percent of Cases
		N	Percent	
Listening Skills	Understanding speech instantly	29	30.9%	49.2%
	Understanding general conversations	36	38.3%	61.0%
	Understanding discipline-related lectures	26	27.7%	44.1%
	Another skill	3	3.2%	5.1%
Total		94	100.0%	159.3%

Table 19. Listening Skills Needed by Students of Mathematics

From the data provided in table (19), 61% of the answers concentrated on the ability to understand general conversations. Moreover, 49.2% needed to develop the ability to understand speech instantly. Furthermore, only 44.1% needed to develop the ability to understand discipline-related lectures. Finally, a minority of 5.1% of the students needed to improve other areas in their listening abilities but only one amongst them provided a related answer which is: " الحوار و الكلام بطلاقة" (dialogue and fluent speech). As far as this student is concerned, she needs to develop her listening skills to reach to the level of understanding dialogues and fluent speeches by native speakers.

Question 11. What speaking skill do you need to improve?

		Responses		Percent of Cases
		N	Percent	
Speaking Skills	Fluent talking	41	34.5%	68.3%
	Respecting Grammatical rules	22	18.5%	36.7%
	Discipline-related participation	25	21.0%	41.7%
	Speech clarity	27	22.7%	45.0%
	Another skill	4	3.4%	6.7%
Total		119	100.0%	198.3%

Table 20. Speaking Skills Needed by Students of Mathematics

The current question is data-provider for ESP teachers. Students are asked to provide a specific speaking skill they need to improve. The data provided by students ought to be analyzed

carefully so the teacher would select the right skill that students opt for. Table (20) indicates that 68.3% of the answers were about the ability to speak fluently and 45% want to speak with clarity, i.e. the ability to clearly and correctly pronounce words and sentences. Furthermore, a percentage of 41.7% of the answers were about the ability to participate in discipline-related activities, i.e. asking and answering questions concerning the discipline and 36.7% of the answers from students who want to respect grammatical rules as they speak. Finally, the rest of the answers (6.7%) opted for other skills. Unfortunately, only one out of participants offered another skill which was the ability to speak fluently; the student states "تكون كالعربية و نتعامل بها" (I want to use English the same way I use Arabic). Basically (??), he wants to be able to speak English as fluently as he speaks Arabic.

Question 12. What writing skill do you need to improve?

		Responses		Percent of Cases
		N	Percent	
Writing Skills	Summary and paraphrase	19	20.4%	31.7%
	Technical/Academic vocabulary use	15	16.1%	25.0%
	Production of reports/articles	25	26.9%	41.7%
	Writing for leisure	30	32.3%	50.0%
	Another skill	4	4.3%	6.7%
Total		93	100.0%	155.0%

Table 21. Writing Skills Needed by Students of Mathematics

The purpose of this question is to provide ESP teachers with writing skills that students need to improve. It would be ideal if ESP teachers carry out such questions (9, 10, 11, and 12) at the beginning of the academic year in order to reach better results by the end of the year. The current question investigates the writing skills that students need to develop. Surprisingly, a percentage of 50% of the answers were about writing for leisure. However a significant percentage of 41.7% have selected to improve the skills to write a report and/or an article.

Moreover, 31.7% of the answers emphasized the skills of summary and paraphrase and 25% chose to develop the ability to integrate technical and academic vocabulary in their writings. Finally, a group of 6.7% has opted for developing other skills. Only two of the answers are represented since the rest are not relevant:

1. ‘’الكتابة بشكل جيد يبدو تعبير’’ (to write in a good form that looks like a paragraph)

   This skill can be included to « writing for leisure »; however, that would solely depend on the intentions of the student who provided this answer.

2. ‘’التواصل مع الأجانب عبر شبكة الإنترنت’’ (To communicate with foreigners via internet)

   As apparent, this particular answer does not relate to any of the skills provided with the question. It reflects the interest of this student in writing for online communication with the language rather than writing discipline-related productions.

2.2 Students of Architecture

It is worth to mention that the objectives of this questionnaire are the same as those of students of Mathematics. Therefore, during the analysis of the feedback of students of Architecture, the aims and purposes of the questions will not be mentioned since they were previously dealt with during the analysis of students of Mathematics questionnaire.

Question 1. Gender: ☐ Male ☐ Female

		Frequency	Percent
Valid	male	20	40.0
	female	30	60.0
	Total	50	100.0

Table 22. Students of Architecture Gender Distinction

Table (22) indicates that 40% of the participants from the department of Architecture were males and a more than a half of them 60% were females.

Question 2. How do you consider your level in English?

		Frequency	Percent	Valid Percent
Valid	Very low	2	4.0	4.1
	Low	13	26.0	26.5
	Average	21	42.0	42.9
	Good	11	22.0	22.4
	Excellent	2	4.0	4.1
	Total	49	98.0	100.0
Missing	System	1	2.0	
Total		50	100.0	

Table 23. The English Level of Students of Architecture

As indicated in table (23), there is a significant number of students, with a percentage of 42.9%, who claimed to have an "Average" level. Moreover, 26.5% of the students described their level as "Low" and 22.4% of them pointed out that they have a good level of English. In addition, the minorities with a percentage of 4.1% claimed that they have a "Very low" level. Equally to the previous percentage, students showed that they have an "Excellent" level.

Question 3. Do English courses at your department reflect your language needs?

		Frequency	Percent
Valid	Yes	13	26.0
	No	18	36.0
	To some extent	19	38.0
	Total	50	100.0

Table 24. Students of Architecture's Reflection on the English Course

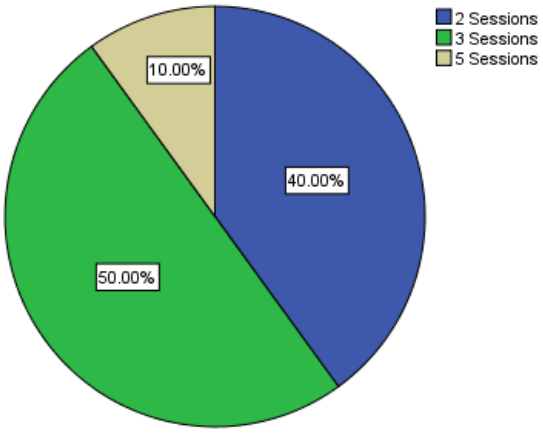
As represented in table (24), a variety of answers were offered by students. For instance, 38% of the students believed that English courses met to some extent their needs. Furthermore, 36% stated that English courses did not meet what they opted for. Finally, a percentage of 26% of the students deemed that English lectures met their needs.

Question 4. Do you think one hour and a half session per week is sufficient to learn English?

		Frequency	Percent
Valid	Yes	18	36.0
	No	32	64.0
	Total	50	100.0

Table 25. Compatibility Between Time Allocated to Courses and Students' Needs

Table (25) signifies the students' satisfaction and dissatisfaction with the time devoted to English course. The majority of the students (64%) expressed dissatisfaction and some of them (36%) pointed out that they are satisfied with one hour and a half per week. Unfortunately, among the 64% of the students who are not satisfied with the time allocated to English course, only 10 students provided the sufficient sessions from their perspectives. According to graph (3), half of the students proposed that three sessions of English would be sufficient, and a significant percentage of 40% of the students suggested that two sessions would be convenient, and a minority of 10% recommended that five sessions per week would be ideal.



Graph 3. The Proposed Sessions by Students of Architecture

Question 5. Are you satisfied with the way you study English?

		Frequency	Percent	Valid Percent
Valid	Yes	14	28.0	29.2
	No	34	68.0	70.8
	Total	48	96.0	100.0
Missing	System	2	4.0	
Total		50	100.0	

Table 26. Students Architecture's Satisfaction with the Teaching Methodology

Table (26) denotes the view of students of Architecture towards the teaching methodology. The majority of the students (70.8%) showed dissatisfaction with the teaching methodology undertaken by the teacher. Furthermore, a slightly considerable percentage of 29.2% provided a positive attitude towards the teaching methodology. The areas of dissatisfaction were provided by students, such as:

1. ترجمة النصوص لا ترقى للمستوى المرغوب فيه باللغة العامية. و ثان الأجدر أن تدرس اللغة الإنجليزية باللغة الإنجليزية بحد ذاتها من أجل تحسينها و استيعابها" (Translation of texts does not meet the expected level in language. Better suitably, English should be taught in English itself for the sake of comprehension and improvement)
2. "هناك مشكل في طريقة إلقاء الدرس أي أنه الأستاذ غير مهتم بطريقة نطق الطالب، من المستحسن إنشاء دروس خاصة بإخراج الحروف" (The teacher does not care about the way students speak, it would better if courses about articulation (Phonetics) are established)
3. "إضافة دروس تتعلق بالإختصاص، محاولة حوار أكثر مع الطلبة" (Courses that relate to the discipline should be added, teacher should try more to hold a conversation with students)

Question 6. For this question, please choose a number from 0-5 to indicate how much you agree or disagree with each statement and write the number next to the statements.

0	1	2	3	4	5
Extremely disagree					Strongly agree

Statement a. I am enthusiastic towards learning English.

		Frequency	Percent
Valid	Extremely disagree	3	6.0
	Disagree	4	8.0
	Somewhat disagree	7	14.0
	Somewhat agree	4	8.0
	Agree	5	10.0
	Strongly agree	27	54.0
	Total	50	100.0

Table 27. Students of Architecture's Enthusiasm Towards English Learning

The data provided in table (27) represent the attitude of students towards English learning. More than a half of the participants (54%) strongly agreed that they are enthusiastic towards English learning. Moreover, 10% of students agreed and 8% thought to some extent that they are enthusiastic. Furthermore, a minority of 6% of the students had an extreme negative attitude towards learning English and 8% disagreed with the statement. Finally, the rest of students with a 14% thought to some degree that they are not enthusiastic towards English learning.

Statement b. English is an important module for my studies.

		Frequency	Percent
Valid	Disagree	3	6.0
	Somewhat disagree	9	18.0
	Somewhat agree	8	16.0
	Agree	9	18.0
	Strongly agree	21	42.0
	Total	50	100.0

Table 28. The Importance of English According to Students of Architecture

As far as table (28) is concerned, a significant number of students with a percentage of 42% strongly viewed English as an important module for their studies. In addition, 18% of the participants agreed that English is important and 16% of them somewhat approved the statement's idea. In the contrary, a minority of 6% of the students did not view the importance of English and 18% of them pointed out to some extent that English is not important to their studies.

Statement c. I need to use English for my job.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	3	6.0	6.1
	Disagree	4	8.0	8.2
	Somewhat disagree	10	20.0	20.4
	Somewhat agree	5	10.0	10.2
	Agree	12	24.0	24.5
	Strongly agree	15	30.0	30.6
	Total	49	98.0	100.0
Missing	System	1	2.0	
Total		50	100.0	

Table 29. Students of Architecture's Occupational Needs

As indicated in table (29), a significant number of answers have shown a positive attitude towards the statement. First, 30.6% of answers strongly believe that they need English for occupational purposes. Second, 24.5% of the answers agreed that one of the purposes behind learning English is "job". Third, students who agreed to some degree that they need English for their jobs represent a percentage of 10.2%. As opposed to the previous answers, only a minority of 6.1% have shown an extremely negative attitude towards the use of English in their jobs. Moreover, a very slightly increased number of students with a percentage of 8.2% disagreed that they have occupational needs or use to English. Finally, a considerable percentage of 20.4% have shown a little hesitation and disagreed to a certain extent.

Statement d. I use English printed documentations in my field.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	6	12.0	12.2
	Disagree	13	26.0	26.5
	Somewhat disagree	11	22.0	22.4
	Somewhat agree	7	14.0	14.3
	Agree	5	10.0	10.2
	Strongly agree	7	14.0	14.3
	Total	49	98.0	100.0
Missing	System	1	2.0	
Total		50	100.0	

Table 30. The Use of English Printed Documentations by Students of Architecture

According the data provided in table (30), the answers were divided with an approximate equality to the possibilities provided. On the one hand, 14.3% of the students strongly agreed to the use of English printed documentations and 10.2% agreed with the statement. In addition to that, 14.3% of the answers were an agreement to some degree with the use of documentations printed in English. On the other hand, 12.2% of the participants extremely disagreed with the use English printed materials and quite a significant number of students with a percentage of 26.5% disagreed that they refer to English printed documentations in their studies. Finally, 22.4% somewhat did not agree with the statement.

Statement e. English lectures help me to listen effectively to lectures presented in English.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	10	20.0	20.8
	Disagree	5	10.0	10.4
	Somewhat disagree	10	20.0	20.8
	Somewhat agree	11	22.0	22.9
	Agree	3	6.0	6.3
	Strongly agree	9	18.0	18.8
	Total	48	96.0	100.0
Missing	System	2	4.0	
Total		50	100.0	

Table 31. The Assistance of English Lectures in Improving Students' Listening Skills

As far as table (31) is concerned, 20.8% of the answers expressed dissatisfaction with the statement and 10.4% believe that English lecture did not help them to listen effectively to lectures presented in English. Furthermore, 20.8% described their confusion by choosing "somewhat disagree". On the contrary, 18.8% of the answers expressed a very positive response to the fact that English lectures improve listening to lectures in English. In addition, a minority of 6.3% agreed to the idea presented in the current statement. Finally, 22.9% of the answers are positively hesitant response to the idea that English lectures help students in listening effectively to other lectures presented in the same language.

Statement f. English lectures help me to listen to scientific talks.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	4	8.0	8.2
	Disagree	10	20.0	20.4
	Somewhat disagree	6	12.0	12.2
	Somewhat agree	10	20.0	20.4
	Agree	7	14.0	14.3
	Strongly agree	12	24.0	24.5
	Total	49	98.0	100.0
Missing	System	1	2.0	
Total		50	100.0	

Table 32. The Contribution of English Lectures in Listening to Scientific Talks

Table (32) represents the answers provided by students of Architecture as they reflected upon statement (f). 24.5% of the answers express a strong approval to the idea represented in the current statement. In addition, 14.3% of the students revealed that they notice the improvement of the ability to listen to scientific talks. Moreover, 20.4% of the answers somewhat agreed to what the current statement stands for. However, a minority of 8.2% strongly disagreed that English lectures help them listen to scientific talks. Furthermore, 20.4% revealed that students

did not notice the improvement of the ability to listen to scientific talks. Finally, a percentage of 12.2% of the answers revolve on “somewhat disagree”.

Statement g. English lectures help me to speak the language confidently.

		Frequency	Percent
Valid	Extremely disagree	9	18.0
	Disagree	11	22.0
	Somewhat disagree	8	16.0
	Somewhat agree	7	14.0
	Agree	6	12.0
	Strongly agree	9	18.0
	Total	50	100.0

Table 33. The Assistance of English Lectures in Improving Speaking Confidence

The answers to the current statement provided by students of Architecture are summarized in table (33). 18% of the participants strongly believed that English lectures help them to speak with confidence and 12% agreed that English lectures are helpful. Moreover, 14% agreed to the statement to some extent. However, 18% of students extremely disagreed that English lecture help them speak with confidence. In addition, 22% of them did not see that speech confidence is being boosted by English lectures and 16% somewhat agree with English lectures do not help speech confidence.

Statement h. English lectures help me to read general English texts easily.

		Frequency	Percent
Valid	Extremely disagree	3	6.0
	Disagree	9	18.0
	Somewhat disagree	7	14.0
	Somewhat agree	13	26.0
	Agree	8	16.0
	Strongly agree	10	20.0
	Total	50	100.0

Table 34. English Lectures Assistance in Improving Reading General Texts

As presented in table (34), 20% of the participants strongly thought that English lectures help them to read general English texts with ease. In addition, 16% of them revealed a positive attitude towards the statement and 26% somewhat believed that the ability to read English texts is being boosted by English lectures. Nevertheless, few students with a percentage of 6% strongly disagreed that they read general English easily. Furthermore, a considerable percentage of 18% expressed a negative attitude towards the statement. Finally, 14% of students somewhat disagree that reading English texts is reinforced by English lectures.

Statement i. English lectures help me to read English scientific texts without difficulties.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	8	16.0	17.0
	Disagree	8	16.0	17.0
	Somewhat disagree	9	18.0	19.1
	Somewhat agree	5	10.0	10.6
	Agree	9	18.0	19.1
	Strongly agree	8	16.0	17.0
	Total	47	94.0	100.0
Missing	System	3	6.0	
Total		50	100.0	

Table 35. The Assistance of English Lectures in Improving Reading Scientific Texts

The negative feedback tends to be more than the positive as outlined in Table (35). 17% of the answers were extremely against the idea presented in the current statement; the same percentage of the previous answers centered on the belief that English lectures do not reinforce the ability to read scientific texts. Moreover, 19.1% support latter to a certain degree. On the contrary, 17% of the answers strongly approved the idea of the current statement and 19.1% believed that they are able to read English scientific texts as a result of what they take during English courses. Finally, the minority of 10.6% somewhat approved the latter.

Statement j. English lectures help me to write properly in English.

		Frequency	Percent	Valid Percent
Valid	Extremely disagree	6	12.0	12.8
	Disagree	5	10.0	10.6
	Somewhat disagree	8	16.0	17.0
	Somewhat agree	9	18.0	19.1
	Agree	6	12.0	12.8
	Strongly agree	13	26.0	27.7
	Total	47	94.0	100.0
Missing	System	3	6.0	
Total		50	100.0	

Table 36. The Assistance of English Lectures in Improving Reading Scientific Texts

As far as statement (j) is concerned, the current table denotes the answers provided by students of Architecture. 27.7% of the answers considered that English lectures are extremely helpful as it comes to writing and 12.8% of them agreed that English lectures help students write in proper English. Additionally, 19.1% thought that they write properly due to the lectures they attend at the university. However, 12.8% extremely disagreed that English lectures improve their writing skills. Furthermore, 10.6% did not notice that English lectures have an effect in their writing and 17% disagreed to some extent that English lectures are helpful with regard to their writing skills.

Question 7. Which English language course would you like to attend?

		Responses		Percent of Cases
		N	Percent	
Types of English course	General English (GE)	26	40.6%	52.0%
	English for Occupational Purposes (EOP)	24	37.5%	48.0%
	English for Academic Purposes	14	21.9%	28.0%
Total		64	100.0%	128.0%

Table 37. Types of English Course Preferred by Students of Architecture

Table (37) provides the type of English course that students of Architecture opt for. A significant percentage of 52% of the students preferred General English as English course. Moving down to a lesser percentage of 48%, students chose English for Occupational Purposes to their English course. Finally, 28% of the answers were around English for Academic Purposes.

Question 8. What are the struggles you have in English language?

		Responses		Percent of Cases
		N	Percent	
Language Skills Struggles	Speaking struggles	32	43.8%	65.3%
	Listening struggles	10	13.7%	20.4%
	Reading struggles	12	16.4%	24.5%
	Writing struggles	13	17.8%	26.5%
	All above	6	8.2%	12.2%
Total		73	100.0%	149.0%

Table 38. Students of Architecture's Areas of Language Difficulty

Table (38) represents the current language struggles of students of Architecture. Over half of the participants with a percentage of 65.3% have difficulties in speaking. Moreover, a percentage of 26.5% of the answers were devoted to writing struggles and 24.5% of the answers were reading struggles. Furthermore, 20.4% of the answers were listening struggles and the rest of the answers were all of the language skills with a percentage of 12.2%.

Question 9. What reading skill do you need to improve?

		Responses		Percent of Cases
		N	Percent	
Reading skills	General authentic texts	23	28.4%	46.0%
	Discipline-related publications	25	30.9%	50.0%
	Technical and academic vocabulary	22	27.2%	44.0%
	Another skill	11	13.6%	22.0%
Total		81	100.0%	162.0%

Table 39. Reading Skills Needed by Students of Architecture

The provided numerical data in table (39) represent students' choices of the appropriate reading skills that they want to improve. A significant percentage of 50% of the answers were the ability to read discipline-related publication, such as: articles, journals and reports. However, a considerable percentage of 46% of the students chose to learn the skills necessary to read general authentic texts. In addition, 44% of the participants needed to acquire the ability to read technical and academic vocabulary. Furthermore, the rest of the students, with a percentage of 22%, selected another skill. However, few of the participants provided feedback; the majority of them are irrelevant to the current skill. More importantly, one student needed to learn how to follow news audio-visually "متابعة الأخبار السمعية و المرئية"

Question 10. What listening skill do you need to improve?

		Responses		Percent of Cases
		N	Percent	
Listening Skills	Understanding speech instantly	30	41.1%	62.5%
	Understanding general conversations	16	21.9%	33.3%
	Understanding discipline-related lectures	23	31.5%	47.9%
	Another skill	4	5.5%	8.3%
Total		73	100.0%	152.1%

Table 40. Listening Skills Needed by Students of Architecture

As far as table (40) is concerned, the majority of the answers (62.5%) focused on developing the ability to understand speech instantly. Moreover, 33.3% of the answers provided from students emphasized the ability to understand general conversation. However, a significant percentage of 47.9% of students' feedback was to improve the skills necessary to understand discipline-related lectures. A minority of 8.3% of the students selected other skills; but, unfortunately, they did not provide the skills they opt for.

Question 11. What speaking skill do you need to improve?

		Responses		Percent of Cases
		N	Percent	
Speaking Skills	Fluent speech	35	36.5%	70.0%
	Respecting Grammatical rules	18	18.8%	36.0%
	Discipline-related participation	18	18.8%	36.0%
	Speech clarity	20	20.8%	40.0%
	Another skill	5	5.2%	10.0%
Total		96	100.0%	192.0%

Table 41. Speaking Skills Needed by Students of Architecture

As far as speaking skills are concerned, the majority of the students, with a percentage of 70%, needed to improve the skills necessary to speak fluently. Moreover, 36% of the answers revolved on the skills needed to respect grammatical rules during speaking and 40% of the answers focused on the clarity of speech i.e. to articulate words correctly. However, only 36% of the answers were about improving speaking skills necessary for discipline-related participation, e.g. asking and answering questions during a discipline-related activity, such as: conferences and lectures. Unfortunately, the minority of 10% of the answers did not provide other skills related to speaking.

Question 12. What writing skill do you need to improve?

		Responses		Percent of Cases
		N	Percent	
Writing Skills	Summary and paraphrase	18	22.5%	36.0%
	Technical/Academic vocabulary use	19	23.8%	38.0%
	Production of reports/articles	23	28.8%	46.0%
	Writing for leisure	17	21.3%	34.0%
	Another skill	3	3.8%	6.0%
Total		80	100.0%	160.0%

Table 42. Writing Skills Needed by Students of Architecture

As indicated in table (42), a variety of choices have been selected by students of Architecture. The highest percentage (46%) of the answers was devoted to improving the skills to write reports and articles. Furthermore, integrating technical and academic vocabulary in students' writing was selected by 38% of the answers and 36% of the answers were centered on the techniques on summary and paraphrase. Moreover, a fairly considerable percentage of 34% of the answers tended to revolve on writing for leisure. Finally, a minority of 6% of the answers opted for other skills that participants wanted to develop in their writing. Surprisingly, both of the answers mentioned "برنامج التصميم" (Design program). May be they opt for learning the coding language of Architecture programs such as ArchiCAD and AutoCAD that are used by students to design buildings plans.

3. Description of the Observation Checklist

The observation took place during the second semester of the academic year (2015-2016). The observer attended the ESP course of both Master one students of Architecture and Mathematics. The main reason for the observation is to assess students' understanding of English for Specific Purposes as well as teachers' understanding to how ESP should be taught through direct observation. The checklist enables the research to realize which processes are made by the teacher to help students master the language in their particular discipline and which ones are missing and need to be reviewed. It enables the observer to spot the attitude of Master one students of Architecture and Mathematics towards the course. The researcher plays the role of the passive observer when both students and teachers are engaged in the ESP class.

- **Reliability:** Giving that students of Mathematics and Architecture will have natural occurring ESP courses, the researcher should be able to obtain a fairly consistent picture of how ESP courses are being taught. However, it may be quite difficult to observe every

single little detail that may affect the teaching/learning process and students/teachers performance could be influenced by the outside factor, namely: physical and psychological well-being. The research criteria are fairly straightforward; therefore, the checklist can be implemented consistently.

- **Validity:** The checklist is based directly on the curriculum of the second semester. Hence, it is strongly aligned with what students of Mathematics and Architecture are supposed to be learning.
- **Bias:** All students are exposed to the course of ESP in class and will be given the same time as the teacher gives them an activity. In this case, no one will have additional time or resources that would make the process of learning or the activity itself unfair. It is possible, though, that the teacher may give a special treatment to some active or inactive students whom s/he tends to like or dislike.
- **Practicality:** the checklist is very practical because it organizes the results of the observation in a very straightforward way and it does not require much time and efforts.

4. Analysis of the Observation Checklist

4.1 Sessions of Mathematics

1- Content Organization	Not Observed	Fairly Observed	Well Observed
1-The purpose of the lesson is related with clarity to the discipline.	2		1
2-The new lesson is linked to the previous one.	2		1
3-The overview presentation of the lesson is specific for the discipline.	1		2
4-The logical sequence presentation of the lesson	2	1	

Table 43. Content Organization (Mathematics Sessions)

The table above indicates the data accumulated that concerns "Content Organization". For instance, the purpose of the lesson was not related to the discipline at all. Moreover, the connection between the new lesson and the previous one as well as the logical sequence presentation of the lesson tended to be fairly observed. Furthermore, the overview presentation of the lesson did not seem to be specifically related to students' discipline.

2- Content Presentation	Not Observed	Fairly Observed	Well Observed
1- The voice is easily hearable.		1	2
2- The eye contact is maintained with students			3
3- The ideas are clearly explained.		2	1
4- Students' questions are listened to and answered.		2	1
5- Unfamiliar concepts and terms are explained.		1	2

Table 44. Content Presentation (Mathematics Sessions)

The content provided in Table (49) is concerned with content presentation. The voice of the teacher was easily heard and she fairly maintained an eye contact with her students during the lesson. Moreover, the teachers' explanations to the ideas of the lesson were fairly observed especially as it came to defining unfamiliar concepts and terms. However, the teacher did not seem do give much attention to students' questions. The role of ESP is to fill the gap between the students' current level and the target one. However, students of Mathematics may become hesitant as they have questions and confusions about the subject matter which creates a gap between them and their teacher. Consequently, the gap will not be illuminated.

3- Interaction	**Not Observed**	**Fairly Observed**	**Well Observed**
1- Students show interest in the subject.	2	1	
2- Satisfying answers are given to students.	1	1	1
3- Students attention is steered to the relationship between the course and their discipline.		1	2
4- Non-verbal signals of confusion and curiosity is responded to.	2	1	
5- The pace of the lesson allows students to take notes and reflect on the course.		2	1

Table 45. Interaction (Mathematics Sessions)

The data provided in the table above is an analysis to the interaction between the teacher and her students. From the results, students did not show interest in the module of English. This may be a result of the unclear relationship between students' discipline i.e. Mathematics and English as a course since the teacher did not steer the link between the two. In addition, the teacher did not respond to the non-verbal signals of confusion and curiosity. Furthermore, the

answers of the teacher to the students' questions were fairly observed. Finally, the teacher delivered the lesson in a pace that allows students to take notes and reflect on the ideas presented in the lesson.

4- Instructional Materials	Not Observed	Fairly Observed	Well Observed
1-Students are prepared for the lesson with the apposite activity reflecting their discipline.	1	1	1
2-The use of diverse classroom activities.	2	1	
3- The lesson is supported with examples from students' discipline.		1	2
4- The lesson is supported with the appropriate use of audio-visual technology.		1	2

Table 46. Instructional Materials (Mathematics Sessions)

Table (51) represents the data that concern the instructional materials. From the overview of the table, it is concluded that results of the observation are negative. The teacher did not prepare students with the appropriate activities that reflect their discipline i.e. Mathematics; in addition, diverse classroom activities were not employed by the teacher. Moreover, the examples provided by the teacher during the lessons were not related to Mathematics. Furthermore, the teacher did not use audio-visual technology in order to support the lesson.

5- Content data & Relevance	Not Observed	Fairly Observed	Well Observed
1- Students needs are appropriately related to the lesson.			3
2- The purpose of the course is related the presented materials.	2		1
3- The materials presented are related to the discipline's authentic situations.			3
4- The lesson presented improves students' usage of the language in their discipline.			3

Table 47. Content data & Relevance (Mathematics Sessions)

As indicated in table (52), the teacher did not relate students' needs or even discipline to the lessons being presented. Moreover, the purpose of the course was not related to the presented materials. Furthermore, the materials presented during the courses were not related to the target situations; therefore, the lesson presented may not improve students' usage of the language in their discipline.

Comment Section

The most frequent comment in the comment section is that the teacher has an inconsistent presence to fulfill her duty. Moreover, other areas that are not covered in the checklist had been reported, such as:

- The teacher is the course developer, administration tend to give ESP teachers total freedom to select the elements of the curriculum. However, the teacher of ESP was not qualified and lacks experience in the field of teaching.

- The teacher used a book “English for Science and Technology” as a source to her courses and activities. Unfortunately, the courses selected still did not concern Mathematics students, the courses related to different disciplines, such as Geology and Biology.
- Students were not assisted to answering the questions; thus, they are incapable of answering. In addition, the teacher was not dynamic, she taught the whole time as she sits on her chair and desk.

4.2 Sessions of Architecture

1- Content Organization	Not Observed	Fairly Observed	Well Observed
1-The purpose of the lesson is related with clarity to the discipline.	3		
2-The new lesson is linked to the previous one.	1	2	
3-The overview presentation of the lesson is specific for the discipline.	3		
4-The logical sequence presentation of the lesson	1	2	

Table 48. Content Organization (Architecture Sessions)

The table above indicates the data concerning Content Organization that is accumulated from the direct observation. The purpose of the lesson was not related to the discipline and one can tell that there is no link between the previous lesson and the new one. Moreover, the logical sequence of the lesson was not observed. However, it is observed that the overview presentation of the lesson has to do with Architecture.

2- Content Presentation	Not Observed	Fairly Observed	Well Observed
1- The voice is easily hearable.			3
2- The eye contact is maintained with students		2	1
3- The ideas are clearly explained.		2	1
4- Students' questions are listened to and answered.	1	1	1
5- Unfamiliar concepts and terms are explained.		1	2

Table 49. Content Presentation (Architecture Sessions)

The content provided in Table (44) concerns the presentation of content. The voice of the teacher was easily heard and she was fairly maintaining an eye contact with her students during the lesson. Moreover, the ideas tackled during the lesson were fairly explained. In addition, the questions asked by students are fairly answered by the teacher who tended to explain the unfamiliar terms and concepts during the lecture.

3- Interaction	Not Observed	Fairly Observed	Well Observed
1- Students show interest in the subject.	3		
2- Satisfying answers are given to students.		3	
3- Students attention is steered to the relationship between the course and their discipline.	3		
4- Non-verbal signals of confusion and curiosity is responded to.	3		
5- The pace of the lesson allows students to take notes and reflect on the course.	1		2

Table 50. Interaction (Architecture Sessions)

As indicated in table (45), the data is related to the interaction between the teacher and her students. From what had been observed, students did not show interest in English as a module and non-verbal signals of their confusion and curiosity were not responded to by the teacher. Furthermore, students of Architecture did not seem to be satisfied with the answers to their questions provided by the teacher even though the teacher tended to deliver the lesson in an acceptable pace that allows students to take notes and reflect on the ideas presented in the lesson. As a teacher of ESP, one should steer the attention of her/his students to the link between the lesson and the discipline itself; the teacher tended to successfully drive the attention of her students to that link.

4- Instructional Materials	**Not Observed**	**Fairly Observed**	**Well Observed**
1-Students are prepared for the lesson with the apposite activity reflecting their discipline.	2		1
2-The use of diverse classroom activities.	2	1	
3- The lesson is supported with examples from students' discipline.	3		
4- The lesson is supported with the appropriate use of audio-visual technology.	3		

Table 51. Instructional Materials (Architecture Sessions)

Table (46) represents the data provided from the direct observation that concerns instructional materials. From what can be deduced from the table, the teacher did not prepare students with the appropriate activities that reflect their discipline i.e. Architecture. Moreover, diverse classroom activities were not employed by the teacher; yet, the examples that support the lesson are plainly related to Architecture. Furthermore, the teacher tended to use audio-visual technology in order to support the lesson.

5- Content data & Relevance	Not Observed	Fairly Observed	Well Observed
1- Students needs are appropriately related to the lesson.	3		
2- The purpose of the course is related the presented materials.	3		
3- The materials presented are related to the discipline's authentic situations.	2	1	
4- The lesson presented improves students' usage of the language in their discipline.	3		

Table 52. Content Data and Relevance (Architecture Sessions)

From what can be deduced from table (47), the teacher tended to related students' needs effectively to the lessons being presented. However, the purpose of the course did not seem to be related to the presented materials. Furthermore, the materials presented during the courses tended to be helpful in the target situations. Thus, the lesson presented might improve students' usage of the language in their discipline.

Comment Section

The aim of the comment section is to provide other areas that are not covered in the observation checklist. The data gathered from the comments are quite efficient. Some notes were frequent, such as: the inconsistent attendance of the teacher. The rest of the comments are as follows:

1. The teacher programed a test for Architecture Master one students. The amphi-theater was full of students who tended to show more interest on the marks rather than the course itself.
2. The interaction between the teacher and her students was most often in French or Arabic. English were only used when texts are being read or translated.

5. Discussion of the results

The results of the analysis of questionnaire and classroom observation for both Mathematics and Architecture can be discussed in the following titles, namely: 1) Weakness in the nature of ESP at the Chosen Departments, 2) the students' perceptions of the English language course, and 3) the students' language needs.

5.1 Weakness in the Nature of ESP at the Chosen Departments

From the analysis of the previously mentioned instrumental tools, a number of issues have been raised. The concerns are quite serious and seem to result dissatisfactions among students. In fact, the results supported the research perception of the current ESP teaching/learning situation in both departments i.e. several aspects of ESP process have not been taken into account as teachers undertake the teaching process.

On the one hand, the weaknesses spotted in the module of English in the department of Mathematics could be outlined as follows:

- The time allocated to the module does not seem to be enough.
- The content of the syllabus does not relate to the students' discipline i.e. Mathematics.
- The inconsistency in terms of presence of the teacher.
- The lack of experience of the teacher in the field of teaching ESP.

On the other hand, after the investigation that has been undertaken, the weaknesses of English in the department of Architecture could be summarized in the following:

- The time devoted to English, as a module, tends to be insufficient.
- The methodology of teaching seemed to be inadequate, because it focused too much on translation from English to the mother-tongue i.e. Arabic.

- The teacher's inconsistency of presence.

The current weaknesses in the nature of ESP, in the departments of Mathematics and Architecture, call for attention from the administration in order to be solved. If they are not taken into account, they may result in frustration, dissatisfaction, and lack of awareness among students.

5.2 The Students' Perceptions of the English Language Course

In order to determine the effectiveness of a language program, the learners' attitude and expectations ought to be examined (Nunan, 1989, p. 176). As far as Nunan's view is concerned, even though students of Mathematics and Architecture tended to be enthusiastic and motivated to learn English, a significant number of them show signs of dissatisfaction on the current English curriculum in terms of content and methodology of teaching; this might be because both curriculums were not based on predetermined objectives. Furthermore, both Architecture and Mathematics' students proposed that one session per week is sufficient for learning; because, they consider English as an important module for their studies.

5.3 The Students' Language Needs

The current results could be seen as a typical example to what was referred to in Chapter II as Target Needs Analysis. The students target needs are accumulated from the analysis of the questions: 9, 10, 11, and 12. It is worth mentioning that the majority of the students from both departments tend to be unaware of the importance of English for Academic Purposes and English for Occupational Purposes; because, the majority opted for General English as the type of course they wanted to learn. Moreover, the present difficulties of students from both departments tended to revolve more on speaking than on other skills.

According to the results gathered from the questionnaire distributed to students of Mathematics, reading skills which are more likely to be learned and improved are: reading general texts, discipline-related publications, and scientific books even if they do not relate to Mathematics. In addition, students of Mathematics selected the writing skills that seem very important to be learned, namely: writing reports and articles and writing for general purpose i.e. the ability to deliver communicative messages through online chatting for instance. Furthermore, the most important listening skills that are highlighted by students of Mathematics are: listening and understanding speech instantly as well as understanding general conversations in English. One can conclude that students of Mathematics are not aware of the importance of being able to understand discipline-related English lectures. Finally, students of Mathematics' choices of essential speaking skills that they want to learn are: to speak fluently, with clear pronunciation and to participate in discipline-related activities such as asking questions and answering them.

Students of Architecture have selected the most important skills they need to learn so they can function properly and efficiently in the target situation. From what have been analyzed, the reading skills needed to be learned by students are reading discipline-related publications as well as general authentic texts. The results of question 9 showed how students of Architecture are highly aware of the importance of English to their discipline. Moreover, students tended to choose a variety of skills when they were asked to select the writing skills they need to learn. However, the most selected skill was to write reports and articles. In addition to that, the listening skills that needed to be learned and developed were: the ability to understand speech instantly as well as to fathom discipline-related lectures. In order to function effectively and properly in the target situation, students of Architecture selected the most important speaking skills they need to learn, namely: to speak fluently and with a clear pronunciation and

articulation to the words and sentences. What could be concluded from the skills needed by students of Architecture is that they proved constantly that they know to some extent the relevance of English to their discipline and how helpful it could be.

6. Recommendations

The findings of the current investigation may contribute to further improvements to ESP programmes in the faculty of Science and Technology at Mohamed Khider, Biskra. In this matter, it is recommended that:

- The current English programme is required to be adjusted to a more ESP programme for the sake of meeting the needs of students.
- The number of the sessions ought to be increased so that the current view of English as an additional module would be erased in the faculty of Science and Technology.
- More emphasis should be given to speaking skills since it is the skill that most students struggle with.
- Students' needs should be revealed and determined before establishing an ESP programme in order to have a more effective ESP course.
- ESP teachers must be selected carefully with regard to their qualification and experience in the field of teaching.

Conclusion

The current chapter was devoted to the analysis and discussion of the data gathered from the instrumental tools used during the investigation. As a result of the analysis and the discussion, the weaknesses of the nature of ESP in the departments of Architecture and Mathematics were discovered. In addition, the students' perceptions to the language as well as

their needs were revealed. Consequently, for a suitable ESP course that meets the needs of the learners, a list of recommendations was constructed.

GENERAL

CONCLUSION

General Conclusion

The current situation of ESP in the faculty of Science and Technology at the University of Biskra requires a massive attention to be given to different angles, most importantly the language needs of students. Thus, the present study investigates the language needs of students of Architecture and Mathematics, their attitudes to the methodology of teaching, and their perceptions towards the language curriculum. In addition, the present work investigates weakness in the nature of ESP in the departments of Architecture and Mathematics. Thus, this investigation is undertaken in order to confirm or reject the research hypothesis stating that teachers of ESP in the faculty of Science and Technology at the University of Biskra should take into consideration students' needs in the development of the ESP course to boost students' interest and enthusiasm towards the course. Students of Architecture and Mathematics were chosen as a case study that represents the Faculty of Science and Technology students.

In order to achieve the research objectives and offer significant recommendations for future reference, the current research made use of classroom observation and questionnaire as data collection instruments. The NA questionnaire has been distributed to students of Mathematics and Architecture which made use of different approaches, such as: Target Situation Analysis, Present Situation Analysis, and Deficiency Analysis for the sake of having a well-established NA that meets students present and target needs as well as surpassing the current deficiencies.

The findings of the current research could serve as a bridge that identifies "the gap between what is and what should be" (Brindley, 1989, p. 65). For instance, what could be found from the students' feedback with regard to their language needs is: the current level of language

proficiency, the current deficiencies, the specific language skills that need to be improved, the favorite type of English language course. As far as students' preferences are concerned, it was found out that the English language course in both departments did not meet the students' needs, even though the teacher of English for Architecture provided relevant courses to the discipline. Therefore, ESP curriculum in the faculty of Science and Technology needs to be established according to the needs, wants, and lacks so they are enabled to function effectively in both academic and target situations. However, students tended to be in favor of General English as the type of the course they need to attend which leads to the fact that students, of both departments, are not well aware of the importance of English to their discipline.

As far as the current findings are concerned, it is revealed that the current English course is inadequate to students which led to confirming the research hypothesis, i.e. teacher ought to consider students' needs during the development of an ESP programme. Furthermore, the current research could not be generalized to all students of the faculty of Science and Technology due to the fact that the current case study encompasses of students of the departments of Mathematics and Architecture. Therefore, the current limitation may call for a further future investigation(s) in the field of ESP, more importantly NA, that validates the and outcomes of the current research and surpasses the current situation of ESP by providing attention to the importance of English in the faculty of Science and Technology at the University of Mohamed Khider, Biskra.

List of References

References

Benesch, S. (2001). *Critical English for academic purposes: Theory, politics, and practice*. Mahwah, New Jersey: Lawrence Erlbaum Associates Publishers. Retrieved March 12th, 2016 from https://books.google.dz/books?isbn=1135663556

Bojovic, M. (2006). "Teaching foreign language for specific purposes: Teacher Development". 31st Annual ATEE conference. Association of Teaching Education in Europe. Portoroz, Slovenia. October 26th, 2006. Retrieved February 3, 2016 from http://www.pef.uni-lj.si/atee/978-961-6637-06-0/487-493.pdf

Brian, P., & Sue, S. (2013). *The Handbook of English for Specific Purposes*. Malden, Massachusetts: WILEY-BLACKWELL. Retrieved March 21st, 2016 from https://books.google.dz/books?isbn=1118339827

Brown, J.D. (1995). *The elements of language curriculum: A systematic approach to program development*. Boston, Massachusetts: Heinle & Heinle Publishers.

Carter, D. (1983). "Some propositions about ESP". *The ESP Journal*, 2, pp. 131-137. doi: 10.1016/0272-2380(93)90003-P

Choudhary, Z.J. (2013). English for Specific Purposes: Its Definition, Characteristics, Scope and Purpose. *European Journal of Scientific Research*, 112, 1. Retrieved January 1st, 2016 from https://www.academia.edu/8519119/English_for_Specific_Purposes_Its_Definition_Characteristics_Scope_and_Purpose

Claude, T. (2002). *KEY ASPECTS OF THE USE OF ENGLISH IN EUROPE*. Strasbourg: Marc Bloch University. Retrieved March 10th, 2016 from https://www.coe.int/t/dg4/linguistic/Source/TruchotEN.pdf

Douglas, D. (2000). "*Assessing Languages for Specific Purposes*". Cambridge University Press. Cambridge. Retrieved February 2nd, 2016 from https://books.google.dz/books?isbn=0521584957

Dudley-Evans, T. (1998). *Developments in English for Specific Purposes: A multi-disciplinary approach*. Cambridge: Cambridge University Press.

Fung, L, Y. (2014). *Socio-historical Background of English for Specific Purposes and Applicability of Dudley-Evans and St John's Theory on Two Diploma English Courses at an Australian-based University in Malaysia*. Retrieved February 16th, 2016 from https://www.researchgate.net/publication/265729549_Socio-historical_Background_of_English_for_Specific_Purposes_and_Applicability_of_Dudley-Evans_and_St_John's_Theory_on_two_Diploma_English_Courses_at_an_Australian-based_University_in_Malaysia

Gatehouse, K. (2001). Key Issues in English for Specific Purposes (ESP) Curriculum Development. *The Internet TESL Journal*, 7, 10. Retrieved December 5th, 2015 from http://iteslj.org/Articles/Gatehouse-ESP.html

Gupta. K. (2007). *A practical guide to needs analysis*. Updated and expanded by Catherine M. Sleezer and Darlene F. Russ- EFT. Market Street, San Francisco. Second Edition.

Halina, S. (2014). *Curriculum Development for Legal English Programs*. Newcastle: Cambridge Scholars. Retrieved March 10th, 2016 from https://books.google.dz/books?isbn=1443862428

Hutchinson, T. & Waters, A. (1987). *English for specific purposes*. Cambridge [Cambridgeshire]: Cambridge University Press. Retrieved January 3rd, 2016 from https://abudira.files.wordpress.com/2012/02/english-for-specific-purposes_-hutchinson-tom_-waters-alan.pdf

Jack, C.R, Richard S. (2013). Longman Dictionary of Language Teaching and Applied Linguistics. Great Britain: Routeledge. Retrieved March 10th, 2016 from https://books.google.dz/books?isbn=1317863062

Jameel, A. (2009). *Teaching of English*. Delhi: S.B Nangia. Retrieved February 2nd, 2016 from https://books.google.dz/books?id=VPWYXen_lsMC&hl

Johns, A. M. (1991). English for Specific Purposes: its history and contributions. In M. Celce-Murcia (Ed.) Teaching English as a second or foreign language. Boston: Heinle & Heinle.

Jonė, Č. & Audron, P. (2001). English for Science and Technology (EST) at the Level of Master Studies. *KALBŲ STUDIJO*, 1648-2824. Retrieved February 2nd, 2016 from http://www.kalbos.lt/zurnalai/01_numeris/19.pdf

Long, M. (2005). *Second language needs analysis*. Cambridge, UK: Cambridge University Press.

Lorenzo, F. (2005). *Teaching English for Specific Purposes (ESP)*. Retrieved April 13th, 2016 from http://www.usingenglish.com/articles/teaching-english-for-specific-purposes-esp.html

MacKay, H. Tom, A. (1999). *Teaching adult second language learners*. Cambridge University Press. Cambridge.

Mackay, R. & Mountford, A. (1978). *English for specific purposes*. London: Longman.

Maryellen, W. (2015). Advantages and Disadvantages of Different Types of Test Questions. Retrieved April 16th, 2016 from http://www.facultyfocus.com/articles/educational-assessment/advantages-and-disadvantages-of-different-types-of-test-questions/

Meddour, M. (2015). *Integrating Web-based Teaching in ESP: a Case Study of Computer Science Students at Biskra University*. Biskra. Retrieved December 20th, 2015 from http://thesis.univ-biskra.dz/1338/1/Ang_d2_2015.pdf

Michael, W. (2009). AN EVALUATION OF HOTEL EMPLOYEES' ATTITUDES TO GENERAL AND SPECIFIC ENGLISH IN THEIR COURSEWORK. *ESP World*, 4, 8. Retrieved January 26th, 2016 from http://www.esp-world.info/Articles_25/ESP%20world%20study.doc

Mohamed A. S. N. (2002). TEXT FAMILIARITY, READING TASKS, AND ESP TEST PERFORMANCE: A STUDY ON IRANIAN LEP AND NON-LEP UNIVERSITY STUDENTS. Azar. Retrieved January 11th, 2016 from http://www.readbag.com/languageinindia-jan2006-dissertationphd

Munby, J. (1978). *Communicative Syllabus Design*. Cambridge: Cambridge University Press.

Nicole, L. (2011). *The Likert Scale: Advantages and Disadvantages.* Retrieved April 18th, from https://psyc450.wordpress.com/2011/12/05/the-likert-scale-advantages-and-disadvantages/

Nunan, D. (1988). *The Learner-Centred Curriculum*. Cambridge: Cambridge University Press.

Ormrod, J, E. (2014). *How Motivation Affects Learning and Behavior*. Retrieved April 8th, 2016 from http://www.education.com/reference/article/motivation-affects-learning-behavior/

Orr, T. (2002). The nature of English for specific purposes. *English for specific purposes*. Alexandria, Virginia: Teachers of English to Speakers of Other Languages.

OUARNIKI, W. (2012). *The Current Situation of English for Specific Purposes Courses at University Level: Analysis, Evaluation and Perspectives. The case of: Fourth year classic students of architecture at Biskra University. Biskra*. Retrieved December 15th, 2015 from http://dspace.univ-biskra.dz:8080/jspui/bitstream/123456789/4542/1/Master%20Dissertation.pdf

Richard, J.C. (1981). "Communicative Needs in Foreign Language Teaching". *ELT Journal*. Oxford University Press, 37, 2.

Richards, J. C., & Schmidt, R. W. (2002). *Longman Dictionary of Language Teaching and Applied Linguistics* (3rd ed.). London, England: Longman.

Richards, J.C. & T.S. Rodgers (1986). *Approaches and Methods in Language Teaching*. Cambridge University Press.

Richterich, R., & Chancerel, J.-L. (1977). Identifying the needs of adults learning a foreign language. Oxford: Pergamon Press.

Robinson, P. (1989). "*An overview of English for Specific Purposes*". In Coleman, H. (ed.): Working with Language: A multidisciplinary consideration of language use in work contexts. Contributions to the Sociology of Language 52, pp. 395 427. Berlin: Mouton de Gruyter.

Sabasaje, V, M. (n.d). Types of ESP. Retrieved February 4th, 2016 from http://vanzsabasaje.weebly.com/lesson-3-types-of-esp.html

Saeed, A, R. (*2005).* THE PROCESS OF DESIGNING AN ESP WRITING COURSE FOR ENGINEERS IN A SAUDI COMPANY. Annual Review of Education, Communication and Language Sciences, 2. Retrieved January 28th, 2016 from http://research.ncl.ac.uk/ARECLS/vol2_documents/Saeed/saeed.htm

Santiago. (2015). Topic 38 - Scientific, Technologic, commercial and Administrative. Retrieved February 10th , 2016 from https://oposinet.cvexpres.com/temario-ingles-secundaria/temario-2-ingles-secundaria/topic-38-scientific-technologic-commercial-and-administrative-english/

Saunders, G.P. (1984). Flexibility: A critical aspect of ESP course design and methodology, in McAlpin and Wilson (304), (pp. 33-42).

Shiena. (2012). *Benefits of Good Listening*. Retrieved April 5th, 2016 from http://shienaa.blogspot.com/2012/03/benefits-of-good-listening.html

Shmidt, M. (1981). *Needs Assessment in English for Specific Purposes: The case study in Selinker, Tarone and Hanzeli* (29), (pp. 199-210).

Singh, K, J. (2010). *Features, Advantages and Disadvantages of Observation*. Retrieved April 2nd, 2016 from http://www.mbaofficial.com/mba-courses/research-methodology/features-advantages-and-disadvantages-of-observation/

Songhori, M. H. (2008). Introduction to Needs Analysis. *English for Specific Purposes World*, Issue 4, 2008. Retrieved March 20th, 2016 from http://www.espworld.info/articles_20/doc/introduction% 20 to%20needs%20analysis.pdf

Strevens, P. (1977). "Special-purpose language learning: a Perspective". Language Teaching and Linguistics: Abstracts, Vol. 10, n°3, pp. 145-163. Cambridge University Press.

Strevens, P. (1988). "*ESP after twenty years: A re-appraisal*". In M. Tickoo (Ed.), ESP: State of the art, pp. 1-13. SEAMEO Regional Language Centre.

Swales, J. (1971). *Writing Scientific English*. London: Nelson. Retrieved January 20th, 2016 from http://www.uefap.com/materials/history/swales.pdf

The Nature of L2 Writing. (n.d). Retrieved March 26th, 2016 from https://coerll.utexas.edu/methods/modules/writing/01/

West, R. (1994). "*Needs Analysis: State of the Art*". In Howard, R. and Brown, G. (Ed.) Teacher Education for Languages for Specific Purposes. Philadelphia: Multilingual Matters.

Widdowson, H.G. (1979). *Explorations in Applied Linguistics*. Oxford: Oxford University Press.

Widdowson, H.G. (1983). *Learning Purpose and Language Use*. Oxford: Oxford University Press. Retrieved January 11th, 2016 from http://pbi.fkip.untad.ac.id/wp-content/uploads/2014/09/Learning-Purpose-and-Language-Use-by-Widdowson.pdf

Witkin, B. R. & Altschuld, J. W. (1995). Planning and conducting needs assessments: A practical guide. Thousand Oaks: Sage Publications.

WVAdultEd Instructor Handbook, Section 5. (2015). West Virginia: West Virginia Department of Education Office of Adult Education and Workforce Development. Retrieved February 20th, 2016 from http://wvde.state.wv.us/abe/tcher_handbook_pdf/section5.pdf

Appendices

Appendix 1

Needs Analysis Questionnaire for Students

استبيان حول احتياجات الطلبة

This questionnaire forms a necessary part on the investigation under the title of "Needs Analysis of ESP students of Science and Technology" to prepare a Master dissertation. The objective is to spot the needs of Master 1 (M1) students of Mathematics and Architecture. Please, keep in mind the data you provide is completely voluntarily, anonymous and confidential. Your participation is wholeheartedly appreciated.

هذا الإستبيان يشكل جزء مهم في التحقيق الجاري تحت عنوان " تحليل احتياجات طلبة العلوم و التكنلوجيا" و ذلك لتحضير أطروحة الماستر. الهدف من هذا التحقيق هو الكشف عن احتياجات طلبة الماستر 1 لكليتي الرياضيات و الهندسة معمارية.
نرجو التذكير أنّ كل المعلومات التي تقدمها ستكون طوعية، مجهولة و سرية. كل الشكر و التقدير لمشاركتكم في الإتسبيان.

Please, answer the following questions by ticking the appropriate box or making full answers if necessary:

الرجاء الإجابة على الأسئلة باختيارالجواب المناسب الذي يعبر عن رأيك الشخصي:

1- Gender: ☐ Male ☐ Female
الجنس: ذكر أنثى

2- How do you consider your level in English?
كيف تقدر مستواك في اللغة الإنجليزية؟

Very low ☐ ضعيف جدا
Low ☐ ضعيف
Average ☐ متوسط
Good ☐ جيّد
Excellent ☐ ممتاز

3- Do English courses at your department reflect your language needs?
هل ترى أن دروس الإنجليزية تعكس إحتياجاتك؟

Yes ☐ نعم
No ☐ لا
To some extent. ☐ إلى حد معين

4- Do you think one hour and a half session per week is sufficient to learn English?
هل تعتقد أن حصة واحدة لمدة ساعة و نصف كافية لدرس اللغة الإنجليزية؟

Yes ☐ نعم
No ☐ لا

If no, how many sessions do you think is sufficient?
إذا كانت الإجابة "لا"، ما هو عدد الحصص الكافية في رأيك؟

……..

5- Are you satisfied with the way you study English?
هل أنت راضٍ عن طريقة تدريس اللغة الإنجليزية؟

Yes ☐ نعم

No ☐ لا

If no, what are the areas of dissatisfactions?
إذا كانت الإجابة "لا"، ما هي الأشياء التي لا ترضيك خلال الدرس؟

……..
……..
……..
……..
……..
……..

6- For this question, please choose a number from 0-5 to indicate how much you agree or disagree with each statement and write the number next to the statements.
بالنسبة لهذا السؤال، إختر رقما من 0 إلى 5 للإشارة إلى مدى موافقتك أو رفضك للجمل و اكتب الرقم بجوار كل جملة.

0	1	2	3	4	5
Extremely disagree أعارض بشدة					Strongly agree أتفق بشدة

a. ____ I am enthusiastic towards learning English.
أنا متحمس لدراسة اللغة الإنجليزية.

b. ____ English is an important module for my studies.
اللغة الإنجليزية مقياس مهم لدراستي

c. ____ I need to use English for my job.
أنا في حاجة إلى الإنجليزية من أجل الوظيفة

d. ____ I use English printed documentations in my field.
أنا أستعمل الوثائق الإنجليزية المطبوعة الخاصة بمجال دراستي

e. ____ English lectures help me to listen effectively to lectures presented in English.
حصص اللغة الإنجليزية تساعدني في الإستماع بشكل فعال للحصص المقدّمة باللغة الإنجليزية

f. ____ English lectures help me to listen to scientific talks.
حصص اللغة الإنجليزية تساعدني في الإستماع للمحادثات العلمية

g. ____ English lectures help me to speak the language confidently.
حصص اللغة الإنجليزية تساعدني في تحدث اللغة بثقة

h. ____ English lectures help me to read general English texts easily.
حصص اللغة الإنجليزية تساعدني في قراءة النصوص الإنجليزية العامة بسهولة

i. ____ English lectures help me to read scientific English texts without difficulties.
حصص اللغة الإنجليزية تساعدني في قراءة النصوص الإنجليزية العلمية بدون صعوبات

j. ____ English lectures help me to write properly in English.
حصص اللغة الإنجليزية تساعدني في الكتابة بشكل صحيح

7- Which English language course would you like to attend?
ما هو نوع دروس اللغة الإنجليزية الذي ترغب في حضوره؟
General English (GE). ☐
الإنجليزية العامة
English for occupational purposes (EOP). ☐
الإنجليزية لأغراض مهنية
English for academic purposes (EAP). ☐
الإنجليزية لأغراض أكاديمية

8- What are the struggles you have in English language?
ما هي الصعوبات التي تواجهها في اللغة الإنجليزية؟
a- Speaking struggles. ☐
صعوبات في الكلام
b- Listening struggles. ☐
صعوبات في الاستماع
c- Reading struggles. ☐
صعوبات في القراءة
d- Writing struggles. ☐
صعوبات في الكتابة
e- All above. ☐
كل المذكوة أعلاه

9- What reading skill do you need to improve?
ما هي المهارة التي تريد تحسينها في القراءة؟
a- To read general authentic texts. ☐
قراءة نصوص عامة
b- To read discipline-related publications (books, articles and reports). ☐
قراءة إصدارات متعلقة بمجال دراستك (كتب، مقالات، تقارير)
c- To read and understand technical and/or academic vocabulary. ☐
قراءة و فهم المصطلحات الأكاديمية و الخاصة
d- Another skill. ☐
مهارة أخرى
If you chose another skill, please specify:
إذا اخترت مهارة أخرى، يرجى التحديد:
……..

10- What listening skill do you need to improve?
ما هي المهارة التي تريد تحسينها في الإستماع؟
a- To understand speech instantly. ☐
فهم الكلام على الفور

b- To understand general conversations on everyday situations. ☐
فهم و استيعاب المحادثات في المواقف اليومية
c- To understand discipline-related lectures and pick the main ideas. ☐
فهم المحاضرات المتعلقة بالمجال الدراسي و استيعاب الأفكار الأساسية
d- Another skill. ☐
مهارة أخرى
If you chose another skill, please specify:
إذا اخترت مهارة أخرى، يرجى التحديد:
……..

11- What speaking skill do you need to improve?
ما هي المهارة التي تريد تحسينها في الكلام؟
a- To speak fluently. ☐
التكلّم بطلاقة
b- To respect the grammatical rules while speaking. ☐
احترام قواعد اللغة عند المحادثة
c- To participate in a discipline-related conversation (asking and answering questions). ☐
المشاركة في المحادثة المتعلقة بمجال الدراسة (طرح و إجابة الأسئلة)
d- To speak the language with clarity (correctness and clarity in pronunciation). ☐
تكلم اللغة بوضوح (الصحة و الوضوح في النطق)
e- Another skill. ☐
مهارة أخرى
If you chose another skill, please specify:
إذا اخترت مهارة أخرى، يرجى التحديد:
……..

12- What writing skill do you need to improve?
ما هي المهارة التي تريد تحسينها في الكتابة؟
a- To summarize and/or paraphrase information. ☐
تلخيص و إعادة صياغة المعلومة
b- To integrate technical and/or academic vocabulary in writing. ☐
إدخال و دمج المصطلحات الخاصة و الأكاديمية في الكتابة
c- To write a report and/or an article. ☐
كتابة التقرير أو المقال
d- To write as a hobby for leisure. ☐
الكتابة كهواية وقت الفراغ
e- Another skill. ☐
مهارة أخرى
If you chose another skill, please specify:
إذا اخترت مهارة أخرى، يرجى التحديد:
……..

thank you for your collaboration and time.
شكرا لك على تعاونك و وقتك

Appendix 2

Observation Checklist

English teacher: ..... **Observer:** .....
Course: ..... **Number of students present:** .....
Date/Time of observation: ..... **Number of students:** .....

1- Content Organization	**Not Observed**	**Fairly Observed**	**Well Observed**
1-The purpose of the lesson is related with clarity to the discipline.			
2-The new lesson is linked to the previous one.			
3-The overview presentation of the lesson is Specific for the discipline.			
4-The logical sequence presentation of the lesson			
2- Content Presentation	**Not Observed**	**Fairly Observed**	**Well Observed**
1- The voice is easily hearable.			
2- The eye contact is maintained with students			
3- The ideas are clearly explained.			
4- Students' questions are listened to and answered.			
5- Unfamiliar concepts and terms are explained.			
3- Interaction	**Not Observed**	**Fairly Observed**	**Well Observed**
1- Students show interest in the subject.			
2- Satisfying answers are given to students.			
3- Students attention is steered to the relationship between the course and their discipline.			
4- Non-verbal signals of confusion and curiosity is responded to.			

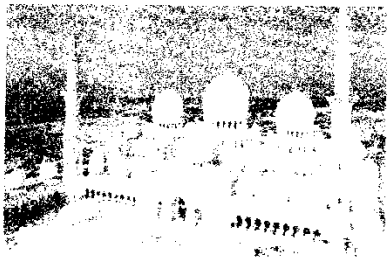
5- The pace of the lesson allows students to take notes and reflect on the course.			
4- Materials and Environment	**Not Observed**	**Fairly Observed**	**Well Observed**
1-Students are prepared for the lesson with the apposite activity reflecting their discipline.			
2-The use of diverse classroom activities.			
3- The lesson is supported with examples from students' discipline.			
4- The lesson is supported with the appropriate use of audio-visual technology.			
5- Content data & Relevance	**Not Observed**	**Fairly Observed**	**Well Observed**
1- Students needs are appropriately related to the lesson.			
2- The purpose of the course is related the presented materials.			
3- The materials presented are related to the discipline's authentic situations.			
4- The lesson presented improves students' usage of the language in their discipline.			

Comment Section:

…….....
…….....
…….....
…….....

Appendix 3

Sheikh Zayed grand mosque



General architecture:

As a testament to the vision of its founder, Sheikh Zayed Grand Mosque sits majestically at the entrance to Abu Dhabi" the capital of the United Arab Emirates" City Island, distinctly visible from the three main bridges connecting the island to the main land, the Maqta, Mussafah and the Sheikh Zayed Bridge.In just a short space of time this architectural treasure - the third largest mosque in the world - has became one of the major attractions of the city of Abu Dhabi. The 22,412 square metre mosque site can accommodate 40,960 worshippers: 7,126 in the main prayer hall; 1,960 in the open prayer hall; 980 female worshippers in the female section of the open prayer hall; 28,729 in the open sahan (courtyard); 682 in the main prayer hall entrance.

The Sheikh Zayed Grand Mosque is well recognized by its pure color, as it is clad with SIVEC marble from Macedonia. Every artistic design element was carefully considered and fits into the overall vision of the Mosque.

Some key contributions to Islamic art found in the Sheikh Zayed Grand Mosque:

Combining Mamluk, Ottoman and Fatimid styles, the design of the minarets fuse the rich and diverse Islamic world into one summation of art and beauty.

Developing the art of ornamentation thorough using multi-colored marble to create unprecedented artistic forums with the help of natural colors in addition to the development of sophisticated techniques associated with the decoration of crowned columns. The crowns are not located on the top of the columns but at the bottom. This extraordinary technique is innovative to Islamic architecture.

Giving priority to the art of using colours to create original artistic forms. The colours of the walls, columns and the carpet are harmonized together transforming the entire mosque into an artistic masterpiece and a symphony of colors and shades.

Using modern techniques of artistic glass work; mosaic, carved and sandblasted glass displaying traditional Islamic designs of symmetry and repetition.

Domes:

There are 82 domes of various sizes and the largest is located in the centre of the main prayer hall. The design elements include pure white marble cladding; ornately carved 'crowns' and crescent shaped finials decorated with gold-glass mosaic. The intricate gated windows allow the natural light to enter the prayer halls.

The inside of the domes feature traditional Moroccan artwork which has been made from reinforced plaster called (GRG). Encircling the inside of the domes are verses from the Holy Quran which are also molded from GRG and painted in gold colour.

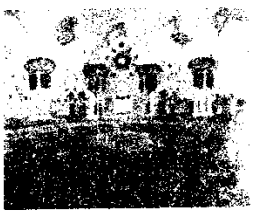
Other domes are found on the grand gated entrance and other entrances. There are also fourteen green glass domes incorporated into the roof of the underground male and female ablution facilities. They are visible above ground and are an important feature of the Mosque's Islamic garden design.

Marbles: The pure white colour of the Mosque has become one of its most distinguishing characteristics. Sheikh Zayed bin Sultan Al Nahyan, the founder of the Mosque was fond of the colour white, a symbol of purity and piety.

The internal elevations of the main prayer hall feature traditional geometrical Islamic designs with a unique floral addition.

Lunar illumination:

The unique lightning system was designed to reflect the phases of the moon. Soft undulating clouds of a bluish gray colour are projected onto the white marble external surfaces of the mosque including the façade and domes. Each day appears a little different from the next as the lighting cycle commences with darker clouds when the month is in its early stages and the moon is a small crescent. As the moon progresses through its cycle and becomes full, so does the lightning effect become more brilliant. There are twenty-two light towers consisting of an efficient number of light projectors to achieve this creative effect.

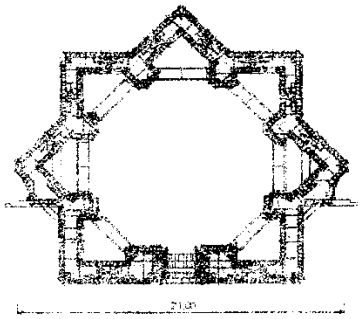


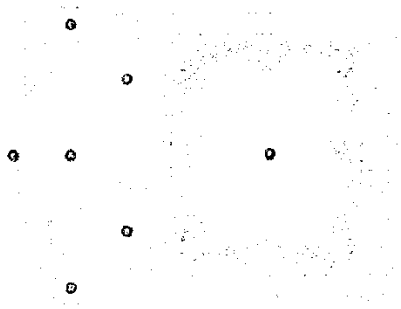
Carpets:

The main prayer hall houses the world's largest hand-knotted carpet.The predominantly wool carpet was hand-crafted by approximately 1,200 artisans.

Its creation was a two year project, the design took approximately 8 months, the knotting 12 months and the remaining time to transport, trim and weave the pieces together. The final single piece carpet is 5,700 square meters, about 70% being wool and the rest of 30% is cotton.

The genius of the architect reaches climax in the design scheme he provided for the central space around the*mihrab* area, which received a particular attention. The space is designed in the shape of an eight-pointed star defined by the regular eight sides polygon of the dome and the eight pillars carrying it . This focal point has particular sanctity in Islam; it holds the *mihrab*, the indicator of *qibla*, the *minbar* (or pulpit from which the Friday sermon is delivered), and it marks the location of the imam who leads the prayers. Indeed if one raises his gazes to the giant dome he would observe a huge eight pointed crown which covers the entire area. raised on eight robust pillars, each one being made of four marble columns . Above them smaller arches were intersected in the Cordoban manner, transforming the polygon into a circle carrying the dome. Two other smaller domes of beautiful but simpler design accompany the main dome. A total of ninety six columns and twenty four arches are used, transforming the prayer hall into a peaceful forest of robust pillars . The columns are decorated with semi precious stones such as dark lapis lazuli, a scheme which is repeated in columns of the courtyard galleries and all columns of the mosque using over 20,000 hand made panels of these stones .





Appendix 4

b) Complete the following list:

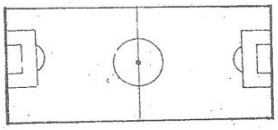
NOUN	ADJECTIVE
1. a circle	**circular**
2. a square	**square**
3. a cube	_ _ _ _
4. a triangle	_ _ _ _
5. a rectangle	_ _ _ _ _
6. a sphere	_ _ _ _ _
7. a cone	_ _ _ _
8. a cylinder	_ _ _ _ _ _

We can describe the shape of an object in different ways:

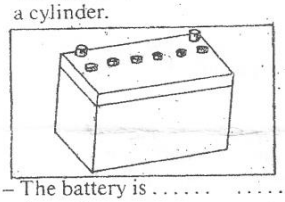
Example: 1 – The 5 DA coin **is circular.**
2 – The coin **is circular in shape.**
3 – The coin **is shaped like** a circle.
4 – The coin **has the shape of** a circle.

Exercise 4:
Look at the following pictures and fill in the blanks.

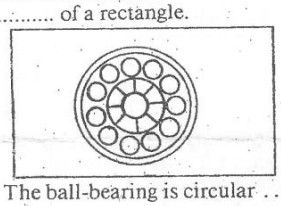
1 – The log .... like a cylinder.



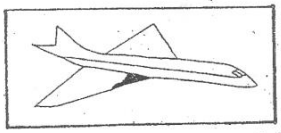
2 – The football ground ..... the ..... of a rectangle.



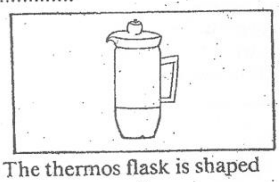
3 – The battery is .... shape.



4 – The ball-bearing is circular ....

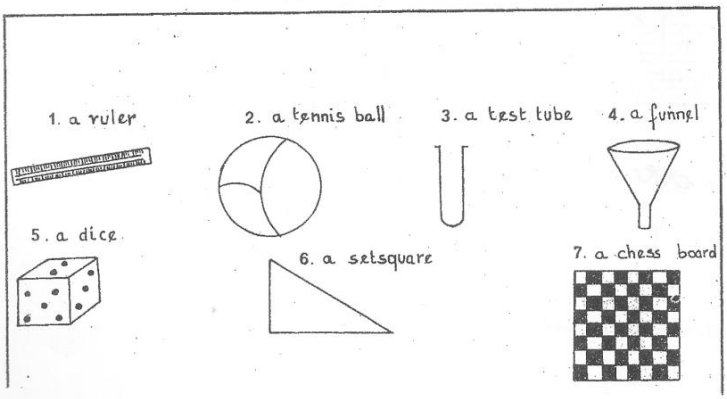


5 – The wings of the plane have the ..... of a ..... .



6 – The thermos flask is shaped ....

Exercise 3:
Describe the following objects using the forms given above.



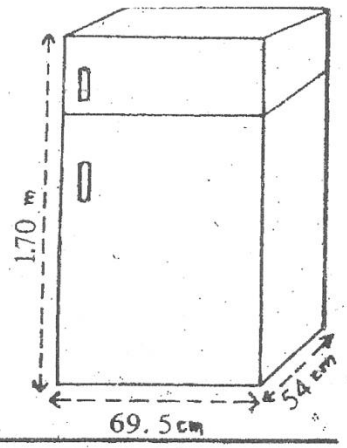
II – DIMENSIONS: How long/wide is it?

We can describe the dimensions of an object in different ways:

Example: – The refrigerator is 69.50 cm **wide,** 54 cm **deep** and 1.70 m **high.**

or – The refrigerator is 69.50 cm **in width,** 54 cm **in depth** and 1.70 m **in height.**

or – The refrigerator has a width of 69.50 cm, **a depth** of 54 cm and **a height** of 1.70 m.



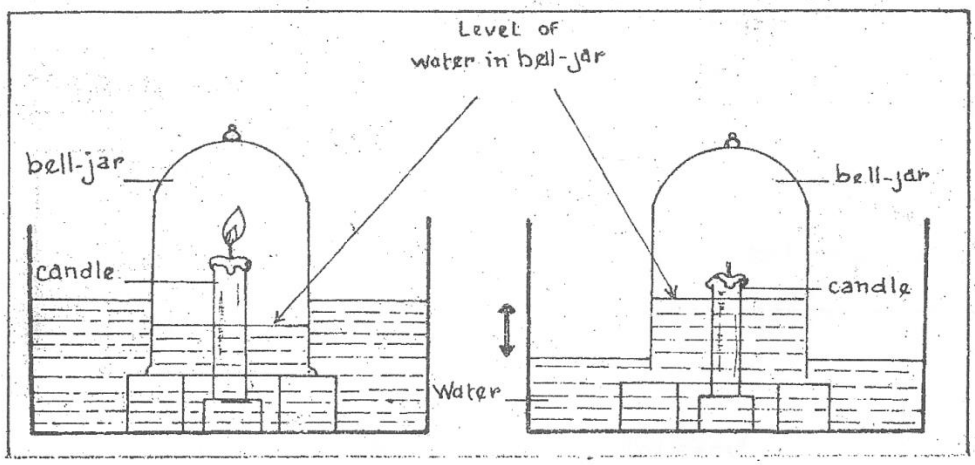
dimension /daiˈmenʃ(ə)n/ width /wiɪθ/ height /hait/
thermos /ˈθɜːməs/

Exercise 1

Fill in each blank using the appropriate verb in its correct from:

carry out	place	discover
use	prove	go out
rise	burn	cover

At first it was believed that air consisted of a single gas but by experiment it .....(1) that it consisted of two important gases and traces of others. The following experiment.. .....(2) discover one of them: A lighted candle .....(3) in water and .....(4) with a bell jar. As the candle .. ..(5), the water gradually .. ..(6) in the jar and eventually the candle ....(7). Thus it ... (8) that the gas which the candle .. ..(9) for combustion is oxygen. Consequently it is said that oxygen supports combustion.



الملخص

الدراسة الحالية عبارة عن تحقيق حول احتياجات الطلبة بكلية العلوم و التكنلوجيا بجامعة محمد خيضر، بسكرة. كان كل من الإستبيان و المراقبة داخل القسم الأدوات الأساسية لجمع البيانات. تم توزيع الإستبيان على 110 طالب من الكلية. كان الهدف الأساسي من الإستبيان هو الكشف عن: الاحتياجات اللغوية للطلبة، نظرتهم للغة الإنجليزية و طريقة تدريسها الحالية. بالإضافة إلى ذلك، تم حضور حصص الإنجليزية لكل من قسم الرياضيات و الهندسة المعمارية من أجل تأكيد أو دحض النتائج الخاصة بالإستبيان. من جهة، كشفت نتائج الإستبيانات أن الطلبة من كلا القسمين متحمّسون لدراسة اللغة، كما أنهم يعانون من صعوبات في اكتساب مهاراة الكلام. على غرار ذلك، تم الكشف عن أهم المهارات اللغوية التي يحتاج الطالب أن يطورها لكل من القراءة، الكتابة، السماع، و الكلام. و من جهة أخرى، فقد تم التحقّق أن أساتذة الإنجليزية في كلا القسمين لم يقوموا بإجراء تحليل لاحتياجات الطلبة لأجل خلق همزة الوصل بين الدرس و تلك الاحتياجات. و مع ذلك، كان من الواضح أن أستاذة اللغة الإنجليزية لقسم الهندسة المعمارية قد وفرت دروس تتعلق بالمجال الخاص باللطبة. المأمول من هذه الدراسة هو توفير الإنتباه اللازم لحالة اللغة الإنجليزية بكلية العلوم و التكنلوجيا و أن يكون هذا البحث عبارة عن منصة لأعمال و تحقيقات مستقبلية من أجل توفير برامج أفضل للغة الإنجليزية في المجالات الخاصة و التي تلائم احتياجات الطلبة.