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Vocabulary Learning Strategies

In ESP Context

The case of third year LMD students of Computer Science at Saida University of Science and Technology

A Dissertation Submitted in the Fulfilment of the Requirements for the Degree of Master in English.

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Dedication

By the name of Allah the most merciful

We dedicate this work to

Our parents

Our brothers and sisters

Our best friends

And to all those who support and encourage us

Tahi Sara & Abdelli Mounia

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Abstract

Acquiring vocabulary for second language learners is a fundamental component for ESP students' learning courses. A good mastery of vocabulary is essential for English as Second Language (ESL) / English as Foreign Language (EFL) learners, especially for those who learn it for specific purposes. In addition to this, vocabulary learning strategies are one of the most necessary factors for students' success in learning technical English. The second important factor is students' background in the area. The current study aims to investigate learning English vocabulary for specific purposes at Mathematics and Computer Science Department as a case of study. The study is conducted to display the importance of vocabulary in ESP learning and what students should do to adopt new strategies in order to achieve their wants and needs. The research investigation was conducted for students of third year level to fulfill the requirements of scientific methodology. The most important outcome is to be objective and precise in evaluating students at the Department of Computer Science hopefully to improve ESP learning of terminologies along with some significant recommendations. Among the results found in the study we recognize that Computer Science students face problems of terminologies in technical English. It is recommended to use Vocabulary Learning Strategies effectively as memory strategies, cognitive strategies...etc. Maintaining Learner Centered Approach in order to realize students' involvement in their learning process so as to promote vocabulary learning in English for specific purposes' perspective.

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Abbreviations and Acronyms

CALL: Computer Assistant Language Learning

CMC: Computer Mediated Communication

EAP: English for Academic Purpose

EBP: English for Business Purpose

EEP: English for Educational Purpose

EGP: English for General Purpose

EFL: English as a Foreign Language

EGAP: English for General Academic Purpose

ELT: English Language Teaching

EOP: English for Occupational Purpose

ESAP: English for Specific Academic Purpose

ESL: English as a Second Language

ESP: English for Specific Purpose

EST: English for Science and Technology

EVP: English for Vocational Purpose

GE: General English

ICT: Information Communication Technology

L2: Second Language

LMD: license Master Doctorate

LSA: Learning Situation Analysis

NA: Needs Analysis

PSA: Present Situation Analysis

TSA: Target Situation Analysis

VLS: Vocabulary Learning Strategies

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General Introduction

General Introduction

In the present time English is considered as an inevitable part of general and specific education for learners. This trend of English globalization as a worldwide phenomenon makes it necessary for different purposes: to deal with the foreign business partners in their jobs, to know it for their studies, to travel aboard to meet other cultures. Nowadays, the majority of English users can be found in countries where the language is employed as a foreign language. Effective use of English as a foreign language in specific purposes is without a doubt one of the most common situations, but at the same time a highly complex phenomena. In our case of study, English is considered as tool of learning the specialty with a basic aim. Learning ESP does not mean only to manage the basics of language but also the terminologies of the relevant field of study or occupation.

The aim of our work is to show how to learn English vocabulary for specific purposes (ESP) at Mathematic and Computer Science Department (third year level). Our research was not chosen by chance since it is a daily academic problem. The interest of this work is to display students' learning vocabulary within ESP in a dynamic form, in practical use, in the term of practical tasks to remember the new lexis actively.

In order to reach this purpose, this study looks for: whether the students' present vocabulary learning strategies can be effective to improve learning English in an ESP contexts (computer science students) or not, and if yes, how is that?

In order to achieve this purpose, the research question asked is:

how can learning vocabulary strategies be affective in ESP context?

Under the heading of this question other minor questions maybe raised:

To what extent vocabulary problems affect on students' involvement in the course?

What terms we should teach to computer science students to have a remarkable result?

Based on these questions, the research hypotheses are as follow:

- If vocabulary learning strategies are applied effectively, it will offer a positive outcome for both teachers and learners.
- Does the courses designed foe ESP classes meet students' needs?

General Introduction

In looking for answers to these questions; the study comes across a number of pitfalls such as: lack of ESP teachers, difficulty in understanding the questionnaire till we translate it in Arabic version, lack of documentation in our library.

Then, to make all of this clear and to answer these questions, we have divided this study into four main chapters. The first chapter deals with the literature review, and what ESP researchers state about learning ESP vocabulary as Hutchinson, Waters, Schmit...etc.

The second chapter consists of the methodology of the authors' work which includes instruments, tools, procedure, and limitation of the study...etc. However, the third chapter is the practical part of the study which deals with findings, description, discussion and data analyzing. Moreover, the fourth chapter is a sort of suggestions and recommendations for promoting ESP vocabulary current situation in computer science department.

Chapter One

Research Methodology

1.1. Introduction

This chapter is about research methodology and procedures adopted to conduct this papper. The research are done to study Computer Science students' vocabulary problems and needs whithin ESP Learning. To reach this goal, The author adopt a traingulation (questionnaire, interview and class obervation) so as to confirm and validate the process of research.

1.2. Research Design & Procedure

The current case of study is the third year Licence Master Doctorat (LMD) Computer Science students, in the department of Mathematics and Computer Science, at Moulay Taher University of Science and Technology in Saida. The purpose of this study is to identify the main vocabulary problem faced by students' in ESP and search for solutions. The study aims also at investigating the English language needs of Computer Science students so as to be fullfild.

1.3. Sampling

The chosen population in this study was the third year Computer Science LMD students, during the academic year of 2015/2016 in the Department of Computer Science and Mathematics at Moulay Taher University of Saida, the Faculty of Science and Technology. The selected students were twenty five (25),. They study English one hour and half per week.

All the participants had been learning English for approximately six to eight years before starting their university education and two years at university. These students were chosen because of the great importance of the English language in their field of study and also because of the fact that their data based are given to them in English. The interview respondent were four (4) one of them has a magister level in ESP, and the others teachers have a B.A level.

1.4 Instrumentation

Three tools of research are chosen in this study which helps us to gather data, answer our researchs questions and to confirm our research hypothesis. Students'questionnaire submitted to the target group, i.e. third year computer Science students, a structured interview addressed to ESP teacher and a classroom observation where the learners are of Computer Science speciality and the language teacher is a subject specialist.

1.5 Triangulation

The term 'triangulation' is used when a combination of qualitative and Quantitative forms of inquiry is used. Triangulation of the data produced by different research methods is thought to be a simple and common form of combining methods.According to Dawson (2002: 20):

> "Various reasons have been advanced for the use of combined methods triangulation, including increasing the concurrent, convergent and construct validity of research, the ability to enhance the trustworthiness of an analysis by a fuller, more rounded account, reducing bias, compensating for the weakness of one method through the strength of another, and in testing hypotheses".

The three different methods of data collection involved in the study could be generated within triangulation.



check

Students' Interview Data

Figure 1.5.1: Traingulation

Teachers' Interview data

1.5.1 Classroom Observation

Classroom observation is conceived to enquire about the students'attitudes toward the subject, the teacher, the course, and their engagement during the English course. In addition to determin students' orientations toward English language, the reasons for study it, and terminologies problems faced through our analysis of the students' questionnaires.Furthermore, this kind of research tools helps us in diagnosing the situation of the teaching/ learning of ESP. To reach this aim, the investigator used classroom observation .The first objective of this instrument is in fact to examine possible relationships between English teacher and students and the passing of English course. The second objective is to identify, through the quantitative analysis carried out on a group of learners the involvement of students' in the course of ESP.Generally, this kind of instrumentation to study the main factors behind students vocabulary and terminology problems among third year LMD Computer Science.

1.5.2. Students' Questionnaire

The primary method of investigation is used in this study was a questionnaire completed by third year LMD Computer Science students. We choose this instrument of research for its convenience in gathering data. It gives them a certain freedom to express themselves. Furthermore, the questions in this instrument of research are standardized.

The questionnaire contains eight questions with several kinds and response modes. The questions prescribe a variety of responses from which the respondent may choose. In general, these questions are quick to complete. On the other hand, they do not enable respondents to add any remarks, qualifications or explanations. Students answer the same questions in the same order.

1.5.3. Teachers' Interview

The present research uses a structured interview. This instrument is a fixed format interview in which all questions are prepared in. We choose this type of instrumentation in order to know the ESP teachers'points of view on the issue ESP vocabulary teaching, to detect some prblems faced by them in their teaching career and to check the teaching situation. The teachers we select to answer the interviw questions teach ESP to students of different specialities (Computer science, politics, law and so on). They are four teachers, one of them is a subject specialist, holds the master degree in ESP. She has a broad knowledge in the specialist field.wheras the three lasting teachers are of B.A license degree in English.

1.6. Data Analysis Procedure

The data collected in the present study was of two types: quantitative and qualitative. The most obvious distinction between the two sorts of data is that quantitative deals with numbers and usually employs statistical techniques, whereas qualitative data do not, or only to some extent. For instance, if one is to count, calculate percentages and use statistical analysis, one must have data that are amenable to these procedures. As a result, quantitative research typically employs what are usually referred to as structured forms of data.We used both types of collecting data to balance our work(quantitative and qualitative).

1.7. Limitation of the Study

Third year students at Moulay Taher University have been chosen to conduct this research mainly for the importance of ESP at the Mathematics and Computer Science department and they are in necessity to learn ESP. Though the study had known some limitations ,the sapmle was very few visa a vis the data demanded, the questionnaire had been translated into the Modern standard Arabic because most of students' did not understand the language and we were time to time clarifying for them points and concepts.

1.8. Conclusion

The Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which the researchers go about their work of describing, explaining and predicting. It is the study of methods by which knowledge is gained and its aim is to give the work plan of research. The purpose of this chapter is to allow readers to evaluate both the appropriateness of the methods used in this study, the reliability, and validity of the results.

Chapter Two

Review of Literature

Section I: General Overview of ESP

This section tackles all the issues of ESP that is necessary in the work

2.1.1. Introduction

The growth of English as foreign language for specific purposes discipline (ESP) served the English vocabulary to be the most important factors for students' success in learning technical English. Thus, ESP learners focus crucially in learning academic vocabulary which goes under many strategies and approaches.

These strategies show exactly how to discover the meaning of technical words, how to store them to use them and to go further in developing their lexical background in their fields of study or work. In addition, it influences non-native learner's communicative competence.

This chapter describes the main key points related to the study, what scholars viewed them from their own perspectives. The chapter is divided into three mains sections which are: general overview of English for Specific Purpose discipline (ESP), this section is a set of definitions and clarifications about the origins of the discipline, its developments and its types. The second section is about vocabulary types in ESP and its role within the discipline. Third section is about the central theme point which is vocabulary learning strategies, in that section the concept of vocabulary strategies is defined and it is shown how scholars classify those strategies and approaches in addition to its role when dealing with the four skills of English foreign language learning. Then, we conclude the chapter with a short conclusion.

2.1.2Definitions of ESP

Understanding English for Specific Purposes (ESP) discipline what really means was a complex matter which created a big attempt and question marks for many scholars .Almost of those scholars had limited the concept of ESP in the idea of what it holds from approaches, perspectives, instructions and so on...

The term ESP is firstly defined by Mackay and Mountford (1978) as the teaching of English for utilitarian purposes. The purposes they referred to is the learners' various needs when dealing with the English language for occupational, scientific and academic purposes. They also see ESP as a special language which

has special environment and chosen population. Mackay and Mountford clarified that the population are likely to be adult people .The emphasis is on the adult because of their high consciousness about the reasons to achieve a remarkable competency in English on their specialities issues. The second reason is that adults do use English in real situations and settings which create a strong relationship between the setting, the participants and the nature of the English language used.

Secondly, Hutchinson and Waters (1987) believed that the appearance of the ESP was through answering the question which was: why do learners need to learn a foreign language in addition to their study or occupational carrier?

The reason behind their questioning is considering ESP as an approach rather than being just a product. In fact, Dudley-Evans and St John (1998) had answered that by stating that *"the answer to the question relates to the learners, the language required and the learning context, and thus establishes the primacy of needs in ESP."*

Thirdly, Strevens (1988) had seen ESP as including characteristics which are absolute and variable. According to Strevens, the designed English language courses which are in relation with their Education's themes and topics contents called the absolute characteristics. These courses are made purposely to accomplish the students' needs in their occupation process, educational process and various activities. ESP had been made to focus on the adequate language that goes hand in hand with those activities in semantics, analysing discourse and lexis and to contrast with the English for General Purposes (EGP) in terms of choosing the suitable language.

2.1.3Origins of ESP

According to Hutchinson (1987) and Waters ESP was unplanned phenomenon that appeared thanks to deferent factors. Almost of this factors are: the demands of a brave new world, a revolution in linguistics, and focus on the learner.

The first one is the demands of brave new world, here Hutchinson and waters sort out by two main factors: the unexpected expansion of activities in the field of science, technology and economics in the united states which create new generations motivated to learn English as being an international and unified language.

Second, the oil crises faced by the western world, these crises lead to the flow of the western technology and knowledge on the countries oil reached. The the oil crisis of the early 1970's resulted in western money and knowledge flowing into the oil-rich countries. The language of this knowledge became English. The common impact of this crises is to create a pressure on the English language teaching to exchange goods for instance since it became the language of western knowledge and technology. So now, English becomes more useful and internationally demanded more than any language over the word.

The second factor is a revolution in linguistics. Here, the English language knew a developmental process under the idea being further rather than being just an instrument of communication. Hutchinson and Waters (1987) stated that the language differs according to the discourse, as being spoken or written.

Linguistic revolution had pointed that English language is used in different contexts so as different variant will be change. After a while, this idea had been developed further; since it claims that English change depending on the contexts so in order to meet students needs in a specific specialisation we should design an adequate instructions and courses the fact that By the many attempting to establish new English under the name of English for science and technology appeared in the 1960s' period.

The last factor is that is giving g much importance and focus to the learner by giving more attention to the way he is acquiring the language differently. Learners are targeted by using various ways of learning plans, and motivated by different needs and interests in order to accomplish their linguistic knowledge and terminologies. The teacher is considered to design special courses to better go hand in hand with the students needs in ESP learning.

2.1.4. ESP Main Characteristics

On the other side, Stervens viewed the variable characteristics that are probably limited in terms of variety to the learning skills to be learned, also they predicted that it may not be not be taught according to any pre-ordinate methodology.

Fourthly, Schleppegrell (1990) implied that the main causes behind making ESP programmes is to reach common adult professional jobs which needs to learn English, a

shared environment in which English is used , and content knowledge of their subject area, and well-developed learning strategies. So, it possible to say that learner gives to the ESP strong reasons for learning, a special context when it should be used, a set of knowledge for the professional domains and well equipped learning strategies. Fifthly, Robinson (1991) stated that the primer needs defined ESP as discipline based on tow key aspects and an amount of features which are commonly true of ESP.

The first features was that ESP is generally goal-oriented, also that ESP courses are based on needs analysis under the aim of specifying as possible as it is what must be done by the learners in the environment of English .Furthermore, the general characteristics described by the scholar define the key concepts as :ESP courses are taught to adults who are in homogeneous classes organized with respect to professional background or field of specialization and the objectives of the courses should be met, even if there is a limited time period. Despite all of these authentic definitions, it seems to be weak.

Dudley-Evans and St John (1998) claimed that Strevens' absolute emphasis on the content could inform a false reaction by almost ESP teachers since ESP is all the times related in a direct way to the subject content. At the same time, Robinson (1991) mentioned that homogenous classes are considered as one characteristics of ESP may take to the same conclusion but, it is obvious that Stevens' (1977:145.162) definition is the most clear and understandable above all. First, the absolute characteristics are that ESP is designed to meet learners' specific needs, ESP makes the disciplines methodologies and activities suitable and useful, and ESP is based on the appropriate language skills, discourse, and genre to these activities. Second, the variable characteristics is that ESP is probably related and designed for specific discipline, ESP is used in special teaching situations, with different methodologies and instructions of those of the General purpose EGP, specific purposes ESP may be designed for adult learners at specific educational level or at professional work, it may be designed also for secondary school level too. Generally, ESP is designed for advanced and intermediate learners, most of ESP courses are containing fundamental knowledge of the language system however, and it can be also used by beginners.

Dudley-Evans and St John (2014) seem to make three definitions. First of all, they clarify that ESP teaching isn't necessarily related to content but it should often contemplate the target concept and activities of the broad discipline. Secondly, they said

the fact that ESP is joined to a specific profession or discipline make the use of methodologies different from that of the English Language Teaching (ELT) general purpose. That means, the ESP methodologies should refer to the quality of interaction between teachers and learners. They viewed that language should be included as a key defining features in ESP. Since students needs are analysed in relation to activities which must be carried out by the learners , the basic prediction of ESP is that these activities are depending on register, genre and the associated language that help students to manipulate in order to carry out the activities.

To summarise what had been said before, it is remarkable that every definitions had conclude the ESP key aspects, the nature of language used or taught, the participants, and the settings in which the teaching/learning process would take place. These three main characteristics are strongly to form ESP as special English to teach and learn, by using purposely it in a specific setting to accomplish a designed and useful goal which in return will reach further personal purposes. Till these times, ESP specialist do not seems agree in how to teach and what types of language should they teach.

2.1.5. The Development of ESP

ESP spread rapidly all over the world thanks to the thirsty need o the English language in almost domains. Yet, it had known many developmental stages that are measured through evaluating the application of that universal phenomenon. In 1958 swales mentioned that the use of English for Science and Technology (EST) play a great role in illustrating ESP development as hole.

Register Analysis

It is also known as the concept of learning a special language that accomplishes learners' specific needs in English language on a particular area... Far from general English. The main aim here, is to recognize and identify the grammatical and lexis features of the study register or occupational one so as to make the ESP courses and syllabus relevant to the learners needs and which give a higher priority to the language form that will appear in their studies.

Rhetorical or Discourse Analysis

In this stage the process of development shifted at the level of sentences. This stage of ESP development gives more clarification in how sentences were combined in discourse to produce meaning. The main aim of this shifting was to identify the organisational patterns in texts and to specify the linguistic means by which these patterns are signalled. These patterns would then form the syllabus of the ESP course. The typical teaching materials based on the discourse approach taught students to recognise textual patterns and discourse markers.

Target Situation Analysis

The main aim of the situation analysis is to take the existing knowledge and set it on a more scientific basis, by establishing procedures for relating language analysis more closely to learner's reasons for learning. The ESP course design process should proceed by first identifying the target situation and then carrying out a rigorous analysis of the linguistic features of that situation. The identified features will form the syllabus of the ESP course. This stage process is usually known as needs analyses, but according to Chambers (1980) term of target situation analysis, it is more accurate description of the process concerned.

Skills and strategies stage

In this stage the focus should be on the interpretive strategies which enable the learner to deal with the superficial forms of language. This stage is generally focussing on the reading and listening skills' strategies that train the learner on reflecting, analysing and retrieving how meanings are produced differently in the written and spoken language.

Learning Centred Approach

Learner-centred approach stage of the ESP development came as a result of analyzing the real language use across different areas. In ESP, learner needs act as a guide for specifically what material (real content) the teacher will teach. Of course the basis of this is the ongoing research in the different areas related to linguistic analyses. In this stage of development the students become the epicentre of everything which occurs in the classroom. All planning revolves around the students and what is known about them when from the onset and certainly every single class session needs to revolve around what the students need to do. Furthermore, a valuation relates as well to students and, as mentioned above, is often handled in a kind of continuous assessment scenario where the teacher needs to keep close tab on how each student is developing.

2.1.6. ESP as an Approach not a Product

We can see that ESP is just one branch of English as Foreign Language or English as a Second Language (EFL/ESL) which are the main branches of English language teaching in general. As we know that, a tree cannot survive without roots. In this case, the roots which nourish the tree of English Language Teaching are communication and learning. The main focus of ESP is to be based on the language centred approaches, to define ESP of nowadays we try to establish a context about how ESP and ELT are related in the present times.

In the tree of ELT shows some of common branches in which the levels of ESP courses take place. These levels are consisted of two fundamental types of ESP depending on the study requirement of the students, if they are EAP they are concerned with English for academic purposes for study or work and if they are English for Occupational Purposes (EOP), English for Vocational Purposes EVP, they are concerned to receive English for Occupational purpose / Vocational Purpose/ Vocational English as Second Language .ESP approach clearly distinguishes the need of the learners in his speciality , in this concept, three categories appeared: EST(English for Social Sciences).

Via The analogy of English language teaching tree, we can say that ESP is not a matter of teaching "specialized varieties" of English because the fact that language is used for a specific purpose. There are some features which can identified as "typical" of a particular context of use, and which , so, the learners is more perhaps to meet in the target situation, ESP is not just a matter of science words and grammar for scientist and so on. When we look at the tree, there's actually much hidden from view inside and beneath the tree although we know the leaves and the branches. They are supported by a complex underlying structure. The point is we need much more communication than just the surface features of what we read and hear and also we need to distinguish between performance and competence in relation to what people actually do with the language and the range of knowledge and abilities which can enables them to do it.

ESP is not different in kind from any other form of language teaching. It based on the principles of effective and efficient learning. Even though the content of the learning is different; the processes of learning might be different for the ESP learner than for the general English learner.

ESP is different from the form of ELT because ESP must be seen as an approach not as a product. ESP is not a particular kind of language or methodology, nor does it consist of a particular type of teaching material. ESP is an approach to language learning, which is based on the learners' need. So, we conclude that ESP is an approach to language teaching in which all decisions as to content and method are based on the learners' reason for learning.

The main factors in the origin of ESP are the Linguistic factor dominates the ESP's development that focus on the nature of specific varieties of language use. In tree of ELT, it shown that they are primarily concerned with communication and learning. ESP is not a language product but as an approach to language teaching which is directed by specific and apparent reasons for learning.

2.1.7 ESP and EGP in theory and practice:

Many ESP scholars believe that ESP differs from EGP in both situations.

In Theory:

It is quoted by Orr (1998) in distinguishing between general English and English for specific purposes as:

"English for general purposes (EGP) is essentially the English language education in junior and senior high schools where needs can not readily be specified. Students are introduced to the sounds and symbols of English, as well as to the lexical/grammatical/rhetorical elements that compose spoken and written discourse... University instruction that introduces students to common features of academic discourse in the sciences or humanities, frequently called English for Academic Purposes (EAP), is equally ESP."

EGP is a set of variable purpose which is general, that fact that it may be considered as unhelpful. Strevens (1988), preferred to use the term « English for Educational Purposes » (EEP) to account for a school –based learning of a language as a subject element within the overall school curriculum. However, Orr (1998) had seen that:

"English for Specific Purposes (ESP) is research and instruction that builds on EGP and is designed to prepare students or working adults for the English used in specific disciplines, vocations, or professions to accomplish specific purposes." It is obvious that ESP context must be preceded by a sizeable background of general English. As it has been argued, ESP is associated with mature learners, because it has a strong relationship with specialization in different fields of concern. Aside from the rough separation 'at definition level, there exists overlapping connection and proportion between them. To clarify their relations, Widowson (1983) accounts for distinctive features of ESP and EGP; among them these are the most important:

EGP	ESP
*The focus is on education.	*The focus is on training.
* As the future needs of the student's are	*As the English is intended to be used in
impossible to predict, course content is	specific vocational contexts, selection of
more difficult to select.	Appropriate content is easier.

Table 2.1.7.1.1: EGP and ESP distinctive features

Much of the discussion needs till now theoretical arguments regarding ESP and EGP. It is better to alter the perspective so as to get rid of theoretical assumptions and concepts. The investigators prefer to expand on the role of GE (EGP) and its trace in a typical ESP classroom, so that one can have a better understanding of the actualization of their connection in a real context.

In Practice

Some important points about ESP classes and their comparison with EGP ones:

Learners and purposes of learning; ESP learners are usually adults who already have some familiarity with English language and they are learning the language in order to communicate a set of professional skills and to perform particular job related functions. In EGP classes, age of learners varies from children to adults and learning English language is the subject of classes.

- Based on the purpose of learning, aims of instruction are identified; in an EGP class, as a general rule, four skills are stressed equally. But in ESP, it is needs

analysis that determines which language skills are most needed by the students, and the syllabus is designed accordingly. For example, in order to train a tourist guide, the ESP class should promote the development of spoken skills. Another example, one who intends to work in a business administration should be trained in development of reading skills.

- In a typical EGP class, there is concentration on teaching grammar and language structures (mostly in isolation). But in ESP, the focus is on context, to ESP, English is not taught as a subject separated from the student's real world/wishes.

Language in context	>	ESP
Language in isolation		EGP

- Combination of subject-matter (which learners are familiar with) with English language creates a meaningful context which is highly motivating. This meaningful context increases motivation that is a positive indication of a successful learning.
- Regarding the term specific in ESP, it should be noted that not only does it mean English for specific purposes, i.e. English language at service of specific purposes, but also implies specific purposes for learning English. In other words, the study of English through a field that is already known and relevant to it. Therefore, learners are able to use what they learn in ESP classes right away in their work and studies. This means that ESP enables them to use the English they know to learn even more English.

2.1.8. The relationship between ESP and EGP

The following are some opinions on the relation of EGP and ESP: First, Hutchinson and Waters (1987) maintain that what distinguishes ESP from general English (GE) is an awareness of the need. Second, Robinson (1991) suggests that in an ESP class, language is a service 'rather than a subject in its own sake'. Finally, Anthony (1998) notes that are not clear where ESP courses end and general English (GE) courses begin.

In sum, ESP assesses and analyzes needs and integrates motivation, subject-matter and content with the help of relevant language skills. For all of ESP curriculum design, it can be concluded that general English (GE) language content, grammatical functions and

acquisition skills are important and dominant in curriculum development and course design. The problem concerning contrasting leading to emphatic separation of these two fields of study is sometimes because of ill-defined descriptions or ill described definitions.

2.1.9. Who needs ESP?

According to Jeremy Day and Mark Krzanowski (2001) ESP theories differs totally while practicing them in accomplishing students needs process. The facts that make ESP teacher recognise easily who specifically need it. Theoretically, They claim that all learners without exceptions need ESP design courses which meet their needs .However, in the practical side, learners which have a common and similar needs can be grouped together in order to accomplish it. Jeremy Day and Mark Krzanowski quote that:

" is fairly easy in the context of pre-experience courses (e.g. an English course for Media Studies students at a university), where a large number of students have similar needs, decided in advance by experienced specialists (e.g. university professors). This branch of ESP is sometimes called ESAP, (English for Specific Academic Purposes)".

This quotation clarifies well the distinction between ESAP, which prepare learners to their future professional carrier and EGAP that prepare the learners for their trains them for their present studies. Jeremy Day and Mark Krzanowski stated that ESP courses are not marked for educational purpose only but also for working professionals. Hence, the courses will not be design for meet the needs of a specific profession for instance a veterinarian, but also to the specific organisation which leads the ESP teacher to base the activities depending on the situations and the contents needed by the workers on the specific ESP setting.

Section Two: What is Vocabulary?

The second section in this chapter is a general view about vocabulary issues.

2.2.1 What is vocabulary?

Vocabulary is considered as a micro-skill to be developed when learning English for specific purposes. It is an essential part to learn since without it our communicative skills increases and even our scientific study process. Krashen in 1998 stated that "*lexicon organise a mental vocabulary in a speaker's mind*", in others words a person's knowledge of vocabulary in mind is its lexicon. Miller (1987) had defined vocabulary as a set of words that are the basic building block used in generation and understanding sentences. Later on, Gardner(2009) saw vocabulary as a part of language structure and not only confined to the meaning of that means the fact that how people use words, phrases and all vocabulary's categories.

2.2.2 The Importance of Vocabulary

Vocabulary is central to English language teaching because without sufficient vocabulary students cannot understand others or express their own ideas. Wilkins (1972) wrote that "... while without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (p. 111–112). This point reflects my experience with different languages; even without grammar, with some useful words and expressions, I can often manage to communicate. Lewis (1993) went further to argue, "Lexis is the core or heart of language" (p. 89). Particularly as students develop greater fluency and expression in English; it is significant for them to acquire more productive vocabulary knowledge and to develop their own personal vocabulary to their language learning. As Schmitt (2010) noted that "learners carry around dictionaries and not grammar books" (p. 4). Teaching vocabulary helps students understand and communicate with others in English.

2.2.3. Types of vocabulary in ESP

ESP vocabulary is divided into different types which are required in different learning filed focuses. In the ESP literature a distinction has been drawn amongst core vocabulary, technical vocabulary, and semi-technical vocabulary. The distinction, though not clear-cut and agreed-upon as such, is an important one.

This perceived importance could be attributed to the fact that the distinction has the potential to yield, so to speak, compartmentalized categories into which typical vocabulary items fall. This is particularly important in addressing the question of which vocabulary to teach.

Generally speaking, core vocabulary, otherwise known as 'common core', refers to the 2000-3000 words that provide the basis of about 80 percent of the vocabulary likely to be encountered (Jordan, 1996). Core vocabulary, Henry Widdowson (1983, p.92) suggests that it has a long history in the extensive work carried out on word counts, which culminated in West's General Service List of English Words (West 1953), it was found that certain lexical items of high aggregate frequency also occurred across a wide range of texts 'common core' items are not schematically bound, and in consequence are subject to a wide range of interpretation".

Technical vocabulary is largely of interest and use to people working in a specialized field. Nevertheless, as Dudley-Evans & St John (1996, p.80) suggest that "the teaching of technical vocabulary is not the responsibility of EAP teachers and that priority should be given to the teaching of 'semi-technical' or 'core vocabulary'".

Our major concern in ESP courses, as Dudley-Evans & St John (1996) state, is the so-called semi-technical vocabulary, which, of course, has opened up an interesting avenue of research. Interesting in the sense that semi-technical vocabulary by definition refers to "a whole range of items which are neither highly technical nor specific to a certain field of knowledge nor obviously general in the sense of being everyday words which are not used in a distinctive way in specialized texts"(Baker, 1988, p.91). In fact, the current premium put on the role of semi-technical vocabulary in ESP courses is a function of the fact that comprehending specialized texts no matter what the field may be is not merely a matter of knowing the relevant terminology (Baker, 1988), for, according to Hutchinson & Waters (1980), "The language used in technical education is not, except

For a few examples of terminology, subject neither specific nor even specific to technical communication. Everyday language is used. (Cited in Widdowson, 1983, p. 93).

Thus, Semi-technical vocabulary plays a significant role in understanding specialized texts. Semi-technical vocabulary, by its very nature, has appeared to be rather to use Baker's (1988, p.91) terms' elusive and confusing' for many practitioners. This confusion might stem from the fact that semi-technical vocabulary, in a way, belongs to both technical and core vocabulary. This article, as the below schematic diagram illustrates, suggests that semi-technical vocabulary is the category which shares the characteristics of both technical and core vocabulary.



Figure 2.2.3.1: A proposed Model Illustrative of the Distinction (or the relationship) Amongst Three Categories of Vocabulary.

Dudley-Evans & St John (1996), and Chung & Nation (2004), the following table is proposed as a fairly comprehensive criterion for distinguishing amongst technical, semi-technical, and core vocabulary.

Technical vocabulary	Semi-technical vocabulary	Core Vocabulary
-Technical vocabulary is	-General vocabulary that	-The 2000-3000 words
subject related; occurs in a	has a higher frequency in	1
specialist domain; and it is	a specific field	about 80 per cent of the
a part of a system of		vocabulary likely to be
subject knowledge		encountered
-Technical terms should		
either only occurs in a		
specialist area or occur		
with much greater		
frequency in that area than	•	
other area		
-General English words		
that have a specific		
meaning in certain		
disciplines		

Table 2.2.3.1: Vocabulary Categories and their Characteristics

2.2.4 Taxonomy of vocabulary in ESP

Robinson (1991) had divided the vocabulary of ESP into three classes depending on their semantic ambiguity:

The Ultra Specialised Vocabulary

This category of vocabulary belongs to each scientific or technical field or sub-field. Words are called jargon which one could never use them to communicate just in a closed specialist in that field context. Furthermore, every word has a unique and precise meaning in the scientific or technological domain that is being considered. One teachers issue is to know whether or not this vocabulary has to be taught.

General Scientific and Technological Words:

A category of vocabulary which refers to situations, actions and problems .They are common in most technological fields. One should not think that the vocabulary to this second category is not necessarily a simple and basic scientific and technological one, because it may also be extremely complex. Some vocabularies may basic for example to refer to a simple hand-held tools .Some of others may also be more elaborate for instance in industry there are plenty of transverse activities which are common to several industrial domains, fields and situations and which require language (and vocabulary) proficiency that is far from basic Robinson (1989) notices that the semantic ambiguity of this category of vocabulary may be slightly higher than that of ultra-specialised words.

The boundaries between this class of words and the former is impossible to draw: as soon as an invention or a new device leaves the closed circle of scientists and technicians, gains popularity and it is used in everyday life, the corresponding word passes from the category of general scientific and technological words to that of general English. For instance, which domain do these words belong to: computer, walkman, and thermometer? However, in such cases, categorising these words as scientific or general is immaterial since, whatever their category, they are equally necessary for scientific and technical communication. In terms of ambiguity and meaning, these words may have high ambiguity, which may make them difficult to understand, since the exact meaning is not always immediately perceivable even to the second language (L2) learner who knows the word. Even such a usual verb as clean can be a problem: a mechanics will clean a carburettor; an electrician can clean a wire, while a farmer cleans a field or a ditch.

As a matter of fact, scientific and technological language is concerned with providing accurate information and facts, so that expression of personal reactions or emotions, ethical or stylistic appeals are reduced or discarded. This means that 80% or 90% of general English vocabulary falls outside the range of EST, and therefore one may discuss whether it should be taught at all in an EST course. Nevertheless, one must not forget that among the immensity of General English Vocabulary there are a large numbers of words that are so usual, common and found in any context, in any communication activity whether specialised or not - that it is impossible to ignore them, and are as essential as the next category described hereafter. If we now turn to their semantic ambiguity, we notice that it is maximum, as, unfortunately, any L2 learner has already noticed.

Articles, Auxiliary, Prepositions and linking words vocabulary

Words half way between lexis and grammar are the backbone of the language and without which no complex meaningful sentence can ever be built. They, naturally, do not belong to the language of ESP, but are essential nonetheless. One should not forget that a word may have very different semantic fields and belong to several categories at the same time. Take this usual noun: a plate. It belongs to general English when you think about kitchenware or about your car's licence plates. But it is specialised vocabulary when it is used in printing, electrical or building industry, not to mention railway lines. Thus, the same word may be classified into different categories, depending on its meaning.

Section 03: Vocabulary Learning Strategies

This section contains a detailed view on vocabulary learning strategies.

3.3.1. Vocabulary Learning Strategies Definition

Vocabulary Learning Strategies are the mental and the communicative procedures learners use in order to learn and use language (Nunan 1999, P.171). Learning strategies
are "*particular approaches or techniques that learners employ to try to learn a second language*" (Ellis 1997, P.76-77). Moreover, the main purposes of language learning strategies taken by learners to make learning easier, faster, more enjoyable, more self-directed, and more transferable to new situations (Oxford 1990, p.80).

From the definitions and the purposes below, we can recognize that language learning strategies are any set of actions, plans, tactics, thoughts, or behaviors that language learners have made use of to help them to facilitate learning, comprehension, storage, retrieval, and use of information. Also the features of language learning strategies are important, they share some common characteristics with vocabulary learning strategies. Table one below shows the key features of language learning strategies proposed by Oxford (1990):

Language Learning Strategies

- 1- Contribute the main goal communicative competence.
- 2- Language learning strategies allow learners to become more self-directed.
- **3-** Expand the role of language teachers.
- 4- Are problem oriented.
- 5- Are specifications taken by learner
- 6- Involve many aspects of learning, not just the cognitive.
- 7- Support learning both directly and indirectly.
- 8- Are not always observable.
- 9- Are often conscious.
- 10-Can be taught.
- 11-Are flexible.
- 12-Are influenced by variety of factors classification.

Table 2.3.1.1: key features of language learning strategies

3.3.2 Classification of vocabulary learning strategies:

Schmitt (1997, p. 207. 208) has developed a taxonomy of vocabulary learning strategies based on extensive language strategies, including memory, cognitive, comprehension, meta-cognitive, affective and social categories.

Determination strategies

- 1- Analyze part of speech.
- 2- Analyze affixes and roots.
- 3- Check for L1 cognate.
- 4- Guess meaning from textual context.
- 5- Use a dictionary (bilingual or monolingual).

Social strategies

- 1- Ask teacher for a synonym, paraphrase, or L1 translation of new words.
- 2- Ask class-mate for meaning.
- 3- Study and practice meaning in groups.
- 4- Interact with native speakers.

Memory strategies

- 1- Connect word to previous personal experience.
- 2- Associate the word with its coordinates.
- 3- Connect the word in its synonym and antonym.
- 4- Use semantic maps.
- 5-Image words form.
- 6- Study the spelling of words.
- 7- Use physical action when learning a word.

Cognitive strategies

- 1- Verbal repetition.
- 2-Word lists.
- 3- Keep a vocabulary notebook.

Chapter Two

4- Written repetition.

5- Put English labels on physical objects.

Meta cognitive strategies:

- 1- Use English language media (songs, news casts, movies...etc).
- 2- Test one-self with word tests.
- 3- Skip or pass new words.
- 4-Continue to study words overtime.

However, Nation (2001) has classified his taxonomy under three classes of strategies as follows:

A)-Planning (choosing what to focus on and when to focus on it).

- Choosing words.
- Choosing aspects of word knowledge.
- Choosing strategies and planning repetition.
- *B)- Sources* (finding information about words).
- 1-Analyze the words.
- 2-Using words parts.
- 3- Learning from word focus.
- 4- Using context and dictionaries.
- 5- Consulting a reference source in L2 and L1.
- 6-Using parallels in L1 and L2.
- *C*)-*Processes* (establishing knowledge).
- 1-Notice.
- 2- Retrieving and generating.

3.3.3. Vocabulary learning approaches:

Since vocabulary is the heart of mastering a language, it is necessary to discuss vocabulary learning approaches. But, we should be made clear that hear there is no right or best approach for vocabulary learning (Schmitt, 2000.P, 142). According to Richek et al (1996, P. 203), there are ways in which learners learn vocabulary: "the direct vocabulary learning approach", and "the indirect vocabulary learning approach".

Direct vocabulary learning approach

Direct or explicit vocabulary learning approach is concerned with learning processes either in context or in isolation. In direct learning vocabulary, learners are systematically taught specific words and language structures (Richek et al, 1996, p.203). This approach of vocabulary learning is necessary for learning the core vocabulary-basic and important vocabulary that used and serves in most situations. This is particularly for beginner-level or less successful language learners and it is used for the learning of basic semantic knowledge specifically (Nation, 1990). After the language ability is developed, in directed vocabulary learning approach through context is essential to be emphasized to language learners (Coady and Huckin, 1997).

Indirect vocabulary learning approach

Indirect or implicit vocabulary involves learning the meaning of new words implicitly when language learners hear or see words used in many different contexts, for example, through daily opportunities, through conversations with others and through reading extensively on their own (Read 2000, p. 39). Indirect vocabulary learning is concerned with unconscious processes of learning through reading or listening without language learners necessarily being aware of the goals of learning. Moreover, learners absorb meaning vocabulary, grammatical structures, and concepts simply from being exposed to rich language (Richeck et al, 1996. P.203). Learning vocabulary indirectly should be emphasized for further lexical and semantic development of the words learned through explicit learning and for learning additional vocabulary.

Many researchers have maintained that guessing the meaning of words presented in context is an effective strategy for vocabulary learning when language learners become advanced or independent learners; they acquire the meanings of new words by using more "inferential" or "implicit" vocabulary learning strategies. Regarding the role of teachers at this stage, they may help learners with vocabulary directly or "explicitly" by means of word lists, aired translation equivalent, and in related semantic sets.

To sum up, although there is evidence that indirect vocabulary learning is found to be beneficial, in recent studies of L2 learners, a combination of both direct and indirect vocabulary learning approach is evidenced to be superior to either direct or indirect vocabulary learning alone. Both types of vocabulary learning approaches improve learners' language abilities, that is to say language learners know how to maximize the effectiveness of learning, using coping with and storing newly-learned vocabulary on their own.

3.4. Vocabulary and the four language skills:

This section concentrates on vocabulary and the four language skills, including types and functions of vocabulary. There are four categories of vocabulary learning: *listening, speaking, reading, and writing vocabulary*. Listening vocabulary refers to words used to understand what they hear. Speaking vocabulary concerns words in prints that they recognize and use to understand what they read, and finally writing vocabulary involves words they use in their own writing. Pikulski and Templeton (2004, p.2) have produced a diagram that may make a better understanding of the relationship between vocabulary and the four language skills:



Figure 3.4.1: Vocabulary and the four language skills

Based on the diagram, vocabulary is categorized into four main groups as meaning/oral vocabulary, literate/written vocabulary, receptive vocabulary and productive vocabulary. However, it is obvious that all vocabulary items are overlapped in meanings and functions.

3.5. Meanings and Functions of vocabulary:

Meanings and functions of vocabulary concerned with the four skills as follow:

Meaning/oral vocabulary

It refers to words language learners use in order to understand what they hear in speech, words they use when they speak which involves both receptive and productive skill (listening/speaking). For listening, if they lack meaning/oral vocabulary knowledge, they probably miss the points of what they are listening to. For speaking, Pikulski and Templeton (2004, P. 3) affirm that language learners who have large speaking vocabulary generally tend to have large listening, reading, and writing vocabulary, and vice versa.

Literate/ written vocabulary

It includes both receptive and productive vocabulary. Receptive vocabulary involves being able to recognize it when it is seen, i.e, when the learner reads, he needs a number of vocabulary items to understand texts he is reading. Likewise, when the learner writes, he needs a number of vocabulary items to produce his ideas in the writing texts.

Receptive vocabulary

It is generally acknowledged that language learners need receptive vocabulary for their listening and reading. The better one's vocabulary knowledge, the easier one would find it to understand the conversation or a large amount of reading. However, when compared vocabulary learning from listening with vocabulary learning from reading, Read (2000, p.47) points out that vocabulary learning from listening has received much less attention than learning vocabulary items through reading.

Productive vocabulary

It involves words language learners use to express their thoughts and ideas in speaking and writing. Since both of them are productive skills, Nandy (1994, p. i) highlights the relationship between vocabulary and expression of speech and writing that:

"An extensive vocabulary, besides empowering us to give expression to a wide range of thought, also enable us to vary our forms of expression, and so made our speech or our writing more pleasing to hear or more interesting to read. No one can ever become an effective speaker or a ready writer if he does not have at his command a wide vocabulary to which he is continually adding".

To conclude this section, it is apparent that vocabulary is vital for the improvement of the four language skills. To improve language skills, language learners need to involve receptive and productive, meaning/moral, and literate/written vocabulary.

3.6. Conclusion

Summing up, ESP is a language used for special purposes to meet specific goals in the field of study as in the professional one. ESP demands much use of vocabulary in dealing with target language since it play a basic role in learning it. There were many strategies to enhance students learning process of vocabulary concerning the four skills. Research demonstrates that vocabulary learning strategies make learning more selfdirected and transferable to new situations but there is a need for training learners in the use of Vocabulary Learning Strategies (VLSs). Nation (2001) believes that since "learners differ greatly in the skill with which they use strategies, it is important to make training in strategy use a planned part of a vocabulary development program".

Chapter Three

Data Analysis and Discussion

3.1. Introduction

This chapter seeks to explore the ESP learning at the department of Mathematics and Computer Science (Computer Science) in Moulay Taher's faculty of Saida. This chapter deals with analyzing and discussing the collected data via using triangulation in order to confirm the work's hypothesis or vice versa.

3.2. Classroom Observation

Classroom observation enables the collection of remarks to grasp data related to our topic of research. The class has been observed during two sessions only because of some reasons mentioned in the first chapter. There were sessions of one hour and a half in 19 and 26 April and the latest just before the midterm examination .The lessons attended were a correction of the second semester's test. The target promotion was students of third year computer science specialty at level of Mathematics and computer science department in Saida's Science and Technology University. They were divided into two sessions in order to facilitate the subject matter learning scheduled in 7 weeks of duration.

During the two sessions of observation, the first thing observed is that the process of learning is made under a collaborative way (group work). Secondly, the main interest was derived to the marks obtained but not the development of student's level. In addition to this, students mainly interact in Arabic language with their teachers that what makes some teachers start their teaching process by teaching general English before passing to the specific so as to clarify and facilitate the process of learning to their students. Moreover, the findings show that some teachers are easily heard, maintaining eyes contact and following what happens in the classroom. They answer the questions asked by students using mainly the translation method and the French language which seems also difficult for most of them as English language. Furthermore, those teachers do their best to make their lessons interesting by encouraging their students' participation, questioning ...etc. Though, Students seems passive and rarely tried to interact because of the relationship between their teachers is so limited. Additionally, students seem motivated and competitive but their weakness in the target language is very remarkable which make them afraid of being active in the lesson.

We remarked the absence of audio-visual aids although the specialty requires the providing of those important equipments which constantly affect the atmosphere of learning negatively with no creativity and boredom.

3.3. Students Questionnaire

In order to know the role of vocabulary learning strategies in learning ESP, we have prepared this questionnaire, which help us to convey the aim of this study.

3.3.2. Procedures of the Study

Among the students of Mathematics and Computer Science Department, a group of 25 third year students have been selected randomly to answer the questionnaire that has been designed in order to investigate eight points .The main objectives behind selecting this sample are : first of all, this category of students are mature enough to evaluate their level of English. Secondly, those students felt that their needs must be taken into consideration. Thirdly, they are supposed to be graduate students this year and finally, to diagnostic ate the ESP current situation.

3.3.3. Findings of the Results:

Question 01: Do you consider English important for your studies?

Importance of English	Number	Percentage
Yes	19	76%
No	06	24%

Table 3.3.1: The Importance of English



Figure 3.3.1: Importance of English in Computer Science specialization

The figure bellow reveals that 76% of students have answered 'yes'. While, 24% have answered 'No'. Since, more than the half has responded positively we can notice that English is important in their field of study.

Question 02: How do you evaluate your level of English?

Options	Number	Percentage
Poor	06	24%
Good	11	56%
Excellent	05	20%

Table3.3.2: students' self-evaluation





This pie chart sums up the results recorded in the second questions respectively. 56% of the respondents have selected the option 'b'. while, 24% of the sample prefer the option 'a', and 'c' option reaches the last score 20%. These results indicate that some students are still facing lacks in English even at the end of their studies.

Question 03: How do you find the number of hours provided for English learning?

Option	Number	Percentage
Sufficient	05	20%
Reasonable	03	12%
Not sufficient	15	68%

Table 3.3.3: Students' Opinions Concerning English Courses Period.



Figure 3. 3.3: Students' opinions concerning English learning period.

This question proposes three options in order to obtain a valuable appreciation concerning this main points , the results are seen as such: 20% for first rank (reasonable) , 12% for the second rank (sufficient) , and the third rank takes the highest percentage 68% (not sufficient).

Question 04: Do you have an attitude toward learning English?

Option	Number	Percentage
Yes	18	72%
No	08	28%

Table 3.3.4: Students' Attitudes towards English.



Figure 3.3.4: Students' Attitudes toward English

According to the results recorded in this figure, 72% of respondents have expressed a positive attitude toward English .While, only 28% have answered negatively .This low percentage explains that those students have faced unsuccessful previous English learning or perhaps they believe that English is not necessary for them.

Question 05: Do you use books / documentation printed in English?

Option	Number	Percentage
Positive	09	36%
Negative	16	54%

Table	3.3.5:	The	Use (of Scie	ntific	Books	Written	in English
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Figure 3.3.5: Use of Scientific Books Written in English.

Regarding students' answers, we notice that 54% of respondents have answered 'yes'. Whereas, 26% have answered 'no'.

Options	Number	Percentage
Difficulty in speaking	14	56%
Grammatical problems	07	28%
Spelling problems	06	24%
Lack of confidence	09	36%
Difficulty in understanding	04	16%

Question 06: what are the main problems you face in English?

Table3.3.6: English Problems



Figures 3.3.6: Students' problems in learning English

The chart above displays the main problems behind the failure of some students than others in acquiring the ESP vocabulary. The majority of respondents (56%) see that scientific word / expressions written in English is the main obstacle. However, 28% of the face grammatical problems related to scientific and technical English. While, 36% feels unconfident at all toward being involved, and 16% face problems of spelling.

Question 07: Which methods you use mostly in English vocabulary learning?

Methods	Number	Percentage
Listening	18	72%
Reading English books	06	24%
Using bilingual dictionary	13	52%
Memorization	05	20%
Studying the spelling	04	16%

 Table3.3.7: Methods Used in Learning English Vocabulary.



Figure 3.3.7: Methods Used in Learning English Vocabulary.

From the figure, we notice that the highest percentage of the students (72%) use listening mostly .While, half of proportion adopt bilingual dictionaries .However, (24%) of them prefer reading books and articles ...etc. Furthermore, just (20) of students believe that memorization is better, and (16%) of respondents focus more in studying words' spelling.

Question 08: How do you describe your opinions on the strategies you use to learn ESP vocabulary?

Strategies	Always	Sometimes	Never
Use bilingual dictionaries.	24%	64%	01%
Ask the help of the teacher.	16%	56%	24%
Interact with native speakers.	24%	48%	16%
Interest in learning English countries	20%	44%	12%
culture.			
Learning by listening/ recording	08%	40%	46%
English vocabulary from audiovisual			
media.			
Using online tests to test students'	24%	32%	20%
vocabulary level.			

 Table 3.3.8: Strategies Used to Learn English Vocabulary.



Figure 3.3.8: Strategies Used to Learn ESP Vocabulary.

The results obtained denotes that the majority (56%) apply the following strategies sometimes depending on their learning needs, use bilingual dictionaries, the help of the teacher, and testing ... etc. While, learning by listening / recording vocabulary is less used by students for a rate of (46%).

3.4. Teachers Interview

The interview has been distributing for science and technology departments teachers who are four (04) teachers. The teachers' interview is intended to investigate their opinions about the learning theories and their role in achieving learners' ESP vocabulary development.

3.4.1. Description of the Interview:

Question 01: which degree do you have?

Degree hold	Number	Percentage
B.A	3	75%
MAGISTER	1	25%
OTHERS	0	0%

 Table 3.4.1: Teachers Degree.





The table bellow shows that (75%) of teachers have B.A License degrees, while (25) have a degree in magister.

Question 02: what is your status as a teacher?

Status	Number	Percentage
Permanent	01	25%
Vocational	03	75%

Table 3.4.2: Teachers' status



Figure 3.4.2: Teachers' Status.

The results obtained denote that the majority of teachers are vocational (75%), while the others are permanent (25%).

Question 03: Do you use Needs Analysis in your lecture?

Option	Number	Percentage
Yes	02	50%
No	02	50%

Table 3.4.3: The Use of Needs Analysis.



Figure 3.4.3: The Use of Needs Analysis.

The table bellow shows that half of teachers interviewed use needs analysis, and the other half do not use it in designing their ESP courses.

Question 04: what are the parameters you take into consideration when designing your lectures?

Options	N.T	Percentage
Mixed	01	25%
EGP-ESP	02	50%
ESP	01	25%

 Table 3.4.4: Parameters Designed in Lectures



Figure 3.4.4: Parameters Designed in Lectures

The table bellow presents the parameters designed in their lectures; half of them used to teach EGP as a best way. However, (25%) used to teach pure ESP, and (25%) of teachers mixed both.

Question 05: what is the content you teach in the course?

Options	Number	Percentage
Vocabulary	01	25%
Grammar	03	75%
Pronunciation	00	0%

 Table 3.4.5: Content Taught in Courses



Figure 3.4.5: Content Taught in Courses

The results above show that teaching technical vocabulary takes a low percentage. In contrast, a large proportion (75%) seems to teach only grammar and teaching pronunciation is completely absent.

Question 06: which of the following vocabulary do you teach?

Vocabulary type	Percentage
Technical	80%
Semi-technical	20%

Table 3.4.6: Vocabulary Type.



Figure 3.4.6: Vocabulary Type

The results obtained demonstrate that technical vocabulary is taught mostly (80%) and only (20%) teach semi technical.

Question 07: how do you teach vocabulary?

Some teachers claim that they enrich their students by technical vocabulary in courses related to their specialty

Question 08: what are the texts, tasks, activities, and examples you use related to your students' field?

Options	Number	Percentage
Yes	03	75%
No	01	25%

Table 3.4.8: Procedures Used in Teaching ESP.



Figure 3.4.8: Procedures Used in Teaching ESP.

The table denotes that (75%) of teachers respond that the texts they use in their courses are related to students' field, while a few percentage (25%) answered "No".

Question 09: what teaching aids do you use?

Choice	Number	Percentage
Classical aids (chalk)	03	75%
Technical aids	01	25%

Table 3.4.9: Teaching Aids.



Figure 3.4.9: Teaching Aids

The table bellow clarify that (75%) of teachers use classical aids chalk and brush, while (25%) of teachers use technical aids.

Question 10: How do you find the students' interest in your course?

Options	Number	Percentage
High	00	0%
Average	01	25%
Low	03	75%

Table 3.4.10: Students' Interests.



Figure 3.4.10: Students' Interest

According to the results obtained teachers reveal that (25%) of students have an average level, while (75%) of students have a low level.

Question 11: Do you have any specific training in teaching English as a foreign or a second language?

Options	Number	Percentage
Yes	01	25%
No	03	75%

Table 3.4.11: Teachers' Training.



Figure 3.4.11: Teachers' Training.

According to the table (75%) of teachers did not attend a specific training, while just (25%) of them have attend a specific training.

3.5. Analysis and Discussion

Learning English can change students career into the better, because learning English for specific purposes is not a just a matter of communication or professional purposes, it will also give advantages you had never expect. Nowadays, English is considered as a language of science. Most knowledge related to computer science for example in English.

Through the triangulation applied in this study, we can notice that learning ESP is very necessary in their specialties. As Kennedy and Bolitho (1984:6) point out: "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 specialism." The main goal of learning ESP is to be involved in the language understanding and use. Furthermore, students must be aware about the importance of the language in their fields. The poor schedule in ESP timing affects negatively on fulfilling students needs such as their preparation for particular tasks as essays, conference presentation...etc. even though it seems to us that students attitude toward learning English for specific purpose encourage them in a way which make them motivated and vice versa. As Kennedy and

Bolitho mention that (1984:16) "attitudes towards an ESP course may be influenced by a student's previous learning of English." The saying reveals that one may deduce that there could be alternative ways to justify the attitude of the students in terms of needs. For instance, those who have expressed a positive attitude towards English learning might have acquired a valuable experience in their previous English learning they may also feel a further need for learning English because of the specialty of their subject discipline.

What was noticed in students' questioner is the lack of using language in a concrete way creates a linguistic handicap for them. Moreover, the emphasis the language was not associated with the course design as well as students' level and capacities. Computer science cannot master the language unless they are influence by the specialty and aware about their needs and interest because English plays a center role in their educative career. In addition, it seems to us that computer science students need specialized language due to the linguistics tasks including vocabulary and practices.

Students are in need to be engaged in the course through an authentic interaction with their teacher who plays the role of a helper starting from the point "what should my learners have to do?", "what texts they need to read?", and "how can I help them?" The impact of the teacher can offer a fruitful results and advancement; students will love the language and use it for further objective.

Through observation we sort of outcomes related to the topic discussed which are as follow: student depend only on teachers' clarification and translation and they do not try to be problem solvers. Despite that they understand things; they scare from expressing them ideas. The absence of sense of humor during the lesson breaks students' self-comfort. Additionally, many lessons of ESP are presenting in the same style of learning which may not be helpful to students.

A common set of problems we notice it from students' questionnaire, teachers' interview, and classroom observation is mostly related to: First of all, teachers have other duties outside university; this may forbid them from providing regularly ESP courses. Second, unmotivated students talk to each other ignoring the teacher presence, which is considered as disrespect for their ESP teachers and for the subject matter. Third, ESP teachers find difficulty in dealing with specialized terminology related to learners' field of study. At the department of computer science for example, ESP

teacher tries to avoid dealing with specialized terminology; despite the fact that some key-terms existed in the course, escaping students' questions while revolving around explanation of a specific concepts, or simply translating the specialized terms from English to French or Arabic. That was the most prominent reaction. Hence, the lack of knowledge of the subject field in addition to terminology has created a real obstacle for both teachers and learners. Fourth, the lack of suitable published materials, as well as, programs and ESP documentations in library. And finally, some language teachers are not familiar with the use of ICT; this result in their ignorance of these tools which may help them to perform better and facilitate their ESP teaching and learning process.

To sum up, learners can succeed in their aims, fulfilling their needs by obtaining good marks for assignment and examinations, for that the role of English for Academic Purposes (EAP) lecture is to find ways to enable them to do these.

3.6. Conclusion

Lexis is the heart of the ESP learning theories; it impacts positively in promoting students' level. The students become more involved in classroom in the way they will be self-centered learners. From the result found and discussion, it appears that ESP is a crucial part in learning the specialty (computer science). So, learners awareness in acquiring the target language which seems completely new for them plays a key role. Following vocabulary learning strategies automatically help in a basic manner in developing students' vocabulary background in the field of specialty in ESP.

Chapter Four

Suggestions and Recommendations

4.1. Introduction

This chapter refers to the ways teacher can focus on teaching ESP vocabulary in such a way that learner can participate in a confident way, taking into consideration their experience, their knowledge background and their psychological profile. What the author hope to achieve in this chapter is to give and show new techniques and strategies to make teaching ESP vocabulary easier and reaching the learners' needs.

This part aims to discuss the different roles of the ESP teacher and learner and provide suggestions to the results found. However, we take a look about needs analysis as an approach in language learning, in addition to demonstrating the role of Information Communication Technology (ICT) in the learners field of study .Furthermore, we present the ideas of learners empowerment and multiple intelligence, their good impact on the learning process

Furthermore, the chapter gives some suggestions and recommendations that can be beneficial for both teachers and learners. Some of the most important questions that we tackle are as follow:

- What is the role of both teacher and learner in the learning process?
- How can we identify needs analysis?

- What is the role of the ESP learner under the issue of the Learning-Centered Approach (LCA)?

- To what extent could learning empowerment and the multiple intelligence effect in developing student's learning?

- What is the role of ICT as tools to learn ESP vocabulary?

4.2. Teacher's Role

Most students will not engage in an interaction by themselves unless the teachers start first. Obviously, the role of the teacher is very crucial in motivating and creating interest in the topics. The description of an ESP teacher should highlight the fact that "the great majority of ESP teachers have not been trained as they should be. Many of them feel alienated, because of the subject matter they teach. (Hutchinson & Waters, 1987:157-163).

Evans and St John (1998) prefer the term of "ESP practitioner", they describe it under the following key roles: teacher, collaborator, course designer and materials provider, researcher, evaluator.

ESP practitioner as a teacher

the teacher is no longer a" primary knower" his main role is to generate real and authentic communication in the classroom on the grounds of students' knowledge.

ESP Practitioner as a Collaborator

Dudley. Evans & St John (1998) identify this term a cooperating with subject specialist. The teacher should gain information about the subject syllabus (tasks) the students have to carry out in their professional environment, or he should simply collaborate between the specialist studies and the language.

ESP Practitioner as a Course Designer and Materials Provider

One of the most important roles of an ESP teacher is to plan the course and provide materials for its class, and provision does not mean only selecting materials and preparing a suitable number of copies for the class i.e. it means to develop class materials to meet the specific needs of their students.

ESP Practitioner as a Researcher

Any teacher should be a researcher to fulfill students' needs. The research is necessary to design a course, to select teaching materials, and to find out the ESP students' interests in addition to their aims and what they want to achieve.

ESP Practitioner as an Evaluator

Evaluation is actually performed in general English classes. However, in ESP case, the role seems to be very significant, because evaluation is very crucial. This final role of evaluator deals with determining the outcomes of both the course and the students' results and evaluation is an inseparable part of the learning process.

4.3. Student's Role

Students receive knowledge from their moderator and guider (teacher). He should do his best to lead his students on the way of self-studying learning .To realize students' basic role the question to be asked is 'What can he bring to the classroom and what kinds of tasks he will face?

Since students usually will not be familiar most of cases with the topic tackled, students efforts should be focus on understanding new vocabularies and new technical pieces of information which appear in their specialty, they are supposed to feel more interested by it. This in fact, help in increasing students' envy and curiosity toward the English language learning and not being just worry about his needs to be fulfilled .Generally, the ESP students focus is mainly in :

Learning

He should make it as a primary purpose since ESP gives him the chance to be in touch with languages. He will acquire smoothly the target language

through working by materials which are familiar to their fields of study .He should pay more attention to the meaning of words he meet firstly, the subject matter secondly .Here in fact, ESP makes English a mechanical skill to be developed not only a subject to be learned when it is authentically well represented to the student in order to clarify in front of him his needs and interests.

Subject Matter language

Here, learners take the advantage of what they already know about the subject matter and combine it by what they will learn. This drives them to know their purposes, their needs in the target language. Progressively, they will be able to identify vocabularies and structures of the ESP classroom due to the specialty area.

Adult Learning

ESP students are concerned as adults who must work harder then children to learn a language considered as new for them. Adults learning bring some strategies that make

adult ESP learning easy, beneficial and effective. When learning new language, they are constantly learning new language behaviors. Later, they expand their vocabulary and become more involved in the language field; their behavior can be changed depending on the language learned situations.

4.4. Learner-Centered Approach

Learner-Centered Approach (LCA) goes with the students' needs and wishes of what to learn, for which purpose and how the learning process should be. This approach relies more on students' achievements where the learner himself is considered to be the first determinant in identifying his needs behind learning the target language. Whereas, here the teacher is expected to be an external researcher of the course taught. The course design should be based on what students want to achieve. LCA approach ensures students' improved participation and involvement, a high knowledge engagement and promotes problem-solving skills.

4.5. Needs Analysis

Before introducing this approach as a suggestion that teachers should use in their classroom to motivate students and attract their interests and to respond to their needs, it is necessary to define it as a first step before giving its advantages and how useful it can be for both students and teachers.

Needs analysis is a comprehensive strategic planning tool that includes many important factors ranging from people, to budget, to philosophical applications. It is done for serving students as best it can be done. Furthermore, needs analysis should be considered as "*An approach not as a product in language learning in the way it focuses on the learners needs*" (Hutchinson & Water, 1987: 19). Needs analysis is a material aids and teaching led movement (Dudley-Evans & ST. John, 1998: 19). In fact, it is a learner-centered approach because its aim is to specify the needs of a particular group of learners. Needs analysis includes all the activities used to collect information about learners' learning needs, wants, wishes and desires. It can be very formal extensive and time consuming, as it can be also informal, narrowly focused and quick. Moreover, some of resources for conducting a needs analysis may include surveys, questionnaire, tests scores, observation, interviews ...etc. these conducting resources is used to help the teacher to

define program goals that is stated to be a specific teaching objectives which in turn will function as the foundation on which to develop lesson plans, materials, tests, assignments and activities. Essentially, needs analysis will help the teacher to clarify the purposes of language program.

The modern needs analysis of nowadays in collecting data can pass through some basic stages. First, it is looking at the previous literature and results. Second, is looking for ESP teaching materials. Third, gathering other ideas who had such an experience before, and finally studying those types of materials to introduce the regarded subjects. When we talk about needs analysis we take into consideration the following points. Firstly, TSA (Target Situation Analysis) which is related to objective, perceived, and product oriented needs. Secondly, LSA (Learning Situation Analysis) which is related subjective, felt and process oriented needs, and finally PSA (Present Situation Analysis) in which estimates strengths and weaknesses in language, skills, and learning experiences. Based on these points of view we can understand how types of needs are preferred, ordered, and participated.

To sum up, needs analysis aims to find out what language skills a learner needs, it also hope to determine if an existing course adequately addresses the needs of potential students. It identifies the change of direction that people in preference group feel is important. Needs analysis fills the gap between what students are able to do and what they need to be able to do. In addition, to collect information about particular problem learners are experiencing.

4.6. Students' Empowerment

Empowerment refers to giving learners / students the power to make their own decisions about learning rather than the teacher having all the control. According to Houser and Frimier (2009); "being empowered learner is likely a result of internal factor such as responsibility and the empowering behaviors of teachers". This opportunity to make decisions is part of what can make a learner autonomous or independent for instance the learners identify what they needs and help design a suitable attitude in the course.
Chapter Four

Frimier also see that empowerment is a: "process of creating an intrinsic motivation by providing an environment an environment and tasks which increases one's sense of self-efficacy and energy".

Empowerment brings the learner to the center of learning experience. It is about recognizing and realizing ability to take actions. It enables the learners to:

- Co-operate and take the ownership of their learning
- To participate in a self-directed way
- Enables him to be reflective and to be a critical thinker
- To take the ownership of their learning
- Empower students to be creative and flexible
- Encourage meaningful technology use in the classroom
- Give students decision-making
- Involve your students in real situation

- Give students the opportunity to choose their homework, assignments, and tests (with reason).

4.7. ICT as Tools to Learn ESP

Information communication technology (ICT) has the potential role to enhance ESP learning. Researchers have reported that Computer Assisted Language learning (CALL) programs offer ESP learners opportunities to practice specific /academic/ occupational vocabulary and the language skills. (Flowerdew,1995). Other researchers have found Computer Mediated Communication (CMC) effective in encouraging oral discussions, nurturing cooperative learning and facilitating core-cultural awareness. (Al-Jarf ,2004; AL-Salem 2006).

CALL in ESP courses motivate students to:

- Explore specialized English websites
- Interact with people of the same field through communication
- Encourage students to practice conferencing, online discussion

- Enables students to go beyond the limits of conventional learning materials to make contact with the world outside

Kutti (1996) view that CAL learning offers ESP teachers and students two different opportunities by:

• Linking the participants by networks and system

• Enhancing an activity to have an object that would otherwise have been impossible to grasp

4.8. Multiple Intelligence

Organizing teaching with multiple intelligences can increase students' interest in their studies. To use these intelligences there is a chance for everyone to feel comfortable during the class hours. It is important that institutes value what the students can do and support their strongest intelligence as well as improving the others. Implementing the Multiple Intelligence Theory in English language classroom can mean a better outcome for students as well as teachers because there is so much variety involved. Teachers should do these things for a better result:

a- Keep a running record of the intelligences you use regularly and of those you avoid. When a particular form of assessment does not work, offer the student another choice from another part of menu.

b- When students conduct research, either individually or in groups, show them the menus and allow them to choose the product or approach that appeals to them. They should choose the best product for communicating their understanding of the topic or text. Students thus discover not only the meaning of quality, but also something about the nature of their own interests, concerns and intelligences.

Based on that, we conclude that Multiple Intelligence Theory can play a vital role in creating an attractive, encouraging and motivating atmosphere in English language classroom.

4.7. Further Recommendations

In addition to the previous suggestions, we try to make learning in the target language easier and teaching more effective and enjoyable. Teachers should focus on students' interaction (student-centered) which may create an interactive atmosphere, create opportunities for the learners to be more involved and motivated. We suggest the use of technologies in classes to allow learners achieve their goal using the target language limited by their study domain. Moreover, there should be a variety of suitable activities with ESP demands which is unlimited as a survey for instance a class activity asks your learners about their interest ad needs (make notes), presentations (exposes), problem solving, role-play...etc. generally, exercises enable learners to attain communicative objectives of the curriculum, engage learners in communication, require the use of communicative process like information sharing, negotiation of the meaning and interaction (free talk for example, what is your view about computer science, written expression related to the specialty). Whatever essentially minimizes learners' problems in the target language and maximizes learners' self-confidence, linguistic background and improve their level. In addition to this, we observed the absence of Institution that can impact greatly on students and workers developmental English learning far from the classrooms .Institution has a big influence on individual's academic learning in a way that it helps the teacher in facilitating his mission, it's contribution infers the goals pursued by both target language teachers and students activities. Furthermore, giving much importance to teacher training and being aware that not only GE teacher is considered by this but also ESP teacher especially those who teach for the first time. Therefore to obtain a successful teaching career (pre-service teaching) and learning process.

We do believe that if our suggestions are seriously taken into consideration, they will realize the promotion of ESP teaching learning at all the department especially computer science department.

4.7. Conclusion

The fourth chapter is a kind of wide range of suggestions, in which we try to suggest new ideas in teaching ESP vocabulary, new roles for both teachers and students. However, the teacher has the most important role in helping the learner to acquire the new target vocabulary, because of the purpose of needs analysis. Furthermore, we suggest Eclecticism as a new approach to be adopted in our classes.

The purpose of this chapter is to make learners active in the classroom and more focused in the course, and to make the teacher aware about the specific courses and students' needs.

General Conclusion

General Conclusion

Learning a foreign language jargon can be frustrating and a complex experience, as many of second language learners certify. For that, the purpose of this paper is to clarify a number of important issues in the area of ESP learning. Throughout, we have tried to display the implications of research on second language learning for computer science departments' students. In preparing this research, we have tried to present a survey of what is known about learning English in an ESP context.

The aim of the study was to check whether vocabulary strategies have an efficient role in acquiring and using English in specific purposes. Later than, the results proved truly that vocabulary strategies have a positive effect on learning English for specific and deeply on learning g purposes. The fact that gives students the ability to know, understand and use the computer science jargon successfully which may help them in a big deal fatherly to interact with others and communicate using the target language.

The finale conclusion that can be drowned is that vocabulary shapes the basic surface of foreign language learning. Computer science students should identify what kind of problems they do face while dealing with the language. In order to be able to overcome these obstacles, they are ought to follow some steps, strategies and methods of ESP learning vocabulary.

Furthermore, the most important thing they should bury in mind is that primarily they must be aware about what they really needs when meeting the target language. Secondly, Computer science departments' students should make real efforts in this issue, by frequently getting in touch with new vocabularies that appears in their subjects by reading related field documentations, which may nourishing their minds , develop students' skills and their critical thinking as well.

Appendices

Appendix 01:Student Questionnaire

Dear Students

Your answers to the questions are very important for the aim of the study; we are trying to do a research on vocabulary learning strategies in the ESP English Classes specialties. We need to know your correct answer for each question. Therefore, please be honest in answering the questionnaire below, it will be strictly confidential.

Thank You.

1. Do you consider	r English important f	or your studies	?	
- Yes		- No		
1. Evaluate your le	evel of English:			
- Poor		-good	- 6	excellent
3. What are is attitu	ide towards English l	anguage?		
- Positive attitude	es	Ň	legative attitudes	
4. Do you use bool	ks/ documents in you	r field printed	in English?	
- Yes		-No		
5. Do you find the	number of hours pro	vided for Engli	sh learning?	
- Sufficient	-reason	able	- not sufficient	
6. What are the main	n problems faced by	you in English'	?	
Difficulties in speakin	g			
Grammatical problems	S			
Spelling problems				
Luck of self-confidence	ce			
Difficulties in understa	anding			

- 6. Please tick the methods you used in English vocabulary learning:
 - Listening
 - Reading English books
 - Using bilingual dictionaries
 - Memorization
 - Studying the spelling



7. Put in the box () which most describes your Use of strategies to learn English vocabulary:

1.	Always.
••	

2. Sometimes

3. Never

Strategies	1	2	3
Use bilingual dictionaries.			
Ask the help of the teacher.			
Interact with native speakers.			
Interest in learning English countries			
culture.			
Learning by listening/ recording			
English vocabulary from audiovisual			
media.			
Using online tests to test students'			
vocabulary level.			

Appendix 02: Interview for ESP Teachers

Dear teachers

Your true responses are very crucial in the success of this research. Thus, you are cordially requested to provide real responses to the questions we ask. You are granted the confidentiality of your responses. Thank you very much for sparing your valuable time and efforts in this interview.

Q/01: which degree do you have?

• BA(license) degree					
Magister/ Master degree					
• Others, (please specify)?					
Q/02 : What is your status as a teacher?					
a- Fully-edged (permanent) b- part-time(vocational)					
Q/03: Do you use needs analysis before designing your lectures?					
- Yes - No					
$\mathbf{Q}/04$: What are the parameters you take into consideration when designing your lectures?					
a- Mixed EGP to EGP ESP					
Q/05: What are the contents you teach in the course?					
A-Vocabulary b-Grammar c- Pronunciation					
Q06 : Which of the following types of vocabulary do you teach?					
a- Technical b- Semi-technical c- General					
Q/07: How do you teach vocabulary?					

Q/08: Are the texts, tasks, activities and examples ... etc related to your students field of study and level?

	- Yes		- No			
Q/09 :	Do you think that the cont	tent of the cou	urse is relevant to	students' level?		
	- Yes		- No			
Q/10 :	What teaching aids do you	uuse to assist	teaching?			
a-	Classical aids (chalk and	board)		b- Technological aids		
Q/11: How you find the students interests in your course?						
a-	High	b- average		c- Low		
Q/12 :	Have you any specific	training in	the teaching of	English as foreign or se	cond	
langua	.ge?					
	- Yes			- No		

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