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**A Course Design in ESP**  
**The Case of Master's Students in the Department of Biology**  
**University of Tlemcen**

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**in Applied Linguistics and TEFL**

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## **Abstract**

English for Specific Purposes (henceforth, ESP) has grown in leaps and bounds in Algeria in the last few years. Course Design is one of the key stages in ESP. The lack of adequate and appropriate ESP courses at the Department of Biology, Faculty of Sciences, at Tlemcen University, is one of the main problems encountered by both teachers and students in that Department. Another issue to be taken into consideration is the lack of English language teachers in general and ESP teachers in particular. The aim of this research work is to design a course targeted to students of Biology at the University of Tlemcen. The study is based on a needs analysis of the target group (First- year Master's students), an elaboration of a course on biology and a course evaluation. The needs analysis in this action research has been conducted using different tools. The results revealed that almost all students need an ESP course, with the predominant needs which are speaking and listening first, followed by reading, writing and translation as a fifth skill. They also need vocabulary related to their specific knowledge, so that they would be able to comprehend specific scientific texts and articles and be better qualified for their future careers. The final assessment and the course evaluation validated the successful choice of the topics, relevant to the target group's interests, together with a carefully-planned organization, group work and use of multi-media materials, methods and teaching techniques. Moreover, this study proposes a pedagogically oriented framework for an ESP course targeted to Master's students in the Biology Department. The course takes into account the learners' needs, their level and their degree of motivation. Assessment and evaluation have also been included for the purpose of evaluating not only the students' performances throughout the course, but also the ESP course itself and its efficiency.

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## LIST OF ABBREVIATIONS and ACRONYMS

- CDB** : Comprehensive Data Bank
- CC** : Communicative Competence
- CEIL** : Centre d'Enseignement Intensif des Langues
- CLT** : Communicative Language Teaching
- CLIL**: Content and Language Integrated Learning
- CNP** : Communicative Needs Processor
- EAP** : English for Academic Purposes
- EBE** : English for Business and Economics
- EBP** : English for Business Purposes
- EFL** : English as Foreign Language
- EIL** : English as International Language
- EM** : English for Medical Purposes
- ELP** : English for the Law
- ELT** : English Language Teaching
- EOP** : English for Occupational Purposes
- EPP** : English for Professional Purposes
- ESL** : English as a Second Language
- ESP** : English for Specific Purposes
- ESS** : English for the Social Sciences
- EST** : English for Science and Technology
- EVP** : English for Vocational Purposes

**GE** : General English

**IATEFL** : International Association of Teacher of English as Foreign  
Language

**LNA** : Language Needs Analysis

**LSP** : Language for Specific Purposes

**NA** : Needs Analysis

**PSA** : Present Situation Analysis

**PDA** : Pedagogical Needs Analysis

**SPLT**: Specific Purpose Language Teaching

**TBI** : Task-based Instruction

**TEFL**: Teaching English Foreign Language

**TENOR** : Teaching English for No Obvious Reason

**TESOL** : Teaching English for Speakers of Other Languages

**TSA** : Target Situation Analysis

**VESL** : Vocational English as a Second Language



# **GENERAL INTRODUCTION**

---

English has gradually achieved its significant identity as the world language during the globalization process. Why English? The United States achieved its role of the most significant political/ economic power in the world after World War Two, thus its language became commonly perceived as a language of opportunity and empowerment. The world status of English today is also due to several factors; a quarter of the world's periodicals and most academic journals with an international readership are published in English, and more than 90 percent of international organisations carry on their proceedings entirely in English according to Crytal (2005) English has been taught as a foreign or second language in over 100 countries and approximately one out of four of the world's populations are now already fluent or capable of communicating to a useful level in English, and the figure is steadily growing.

As the economy in the globalization process has engendered new knowledge, some problems have arisen, such as transferability from academic to professional contexts. Considerable research in second and foreign languages has shown that individual adult learners have different needs and learn language for different reasons. The teaching of a language should, thus, be carefully prepared to fit students' specific needs and purposes. Accordingly, English for Specific Purposes (ESP) is generally used in circumstances in which the command of English being imparted relates to a specific job, subject, or purpose. Since interest in the teaching of ESP began in the late 1960s, the field of ESP has grown very quickly and become fashionable in the language-teaching world.

English for Specific Purposes (ESP) has become one of the most popular scholarly topics over the last decade, but has so far received less attention from researchers than it deserves. This may be due to the fact that ESP courses are more complex and challenging than most English language teachers perceive at the beginning of their English for Academic Purposes (EAP) teaching. English for Specific

Purposes implies meticulous research undertaken to produce pedagogically suitable materials and exercises for most adult learners defined in a specific context.

There are three aspects of ESP: the taxonomy (i.e. an analysis and classification) of ESP courses; the nature of ‘Scientific English’; and the implications of the principle that ESP should be concerned with the ‘communicative purposes’ of the learner. Based upon the specialist subject matter, ESP is classified into two main branches: “English for Science and Technology (EST)”, a major branch of ESP, e.g. English for Medical Studies, and “Non-EST”, such as English for Economics. Both deal with two major sub-branches: “English for Academic Purposes (EAP)” and “English for Occupational Purposes (EOP)”. In higher education, EAP relates to the study of a discipline, e.g. English for Biological Sciences. EOP deals with a job, occupation or profession, such as English for Secretary.

Most authorities and institutions, among them the Universities of Algeria, are aware that well-organised ESP programme can prepare students for the encounter with globally competitive world. That is, English courses should be designed to meet the requirements of a globalized world. However, ESP practitioners have found that there are underlying problems which make ESP courses problematic and inefficient. Some ESP teachers impute the inefficiency of ESP courses to the poor quality of student language skills. Although low student proficiency levels may lead to poor ESP learning outcomes, negative teacher attitudes towards ESP courses, lack of ESP training, absence of adequate ESP courses and student ignorance or inability to foresee their needs regarding ESP are potential problems.

Therefore, when non-English-speaking students enter higher education in different areas of science and technology, they already know the concepts and procedures in particular disciplines through their own languages and through verbal and non-verbal symbolization of the communicative system of science and other

specialist subjects in their academic field of interest. However, what students need to know is how English is used to realize the discourse of that level of scientific instruction that they arrived at. Widdowson (1978), hence, suggests that knowledge of EST can derive from what the students know of science and other specialist subjects and the functions of their own language in association with what they have learned of English usage.

Since ESP teachers cannot rely wholly either on textbooks or even on their own intuitions and experiences, an analysis of students' specific needs makes one of the most important contributions to specific-purpose language teaching, for ESP in terms of what it is these students in their areas of specialization normally do through language. These parameters enable the course designer or teacher to be much more precise in fitting his or her teaching materials to the needs of the students, and this is an advantage, since it seems that there is a direct relation between how relevant a student perceives his or her course to be and how well he or she learns.

It has been claimed that if EFL instructors do not know about their students and their needs, developing a curriculum gets challenging causing many problems in learning and teaching the foreign language. In order to prevent those problems, teachers' attention should shift to needs analysis which is a process of collecting and analysing information about learners in order to set goals and contents of a language course based on their needs. Needs analysis is important in terms of students' involvement in every phase of educational process. The studies indicate that it is necessary to know about learners' needs in terms of objectives, language attitudes, expectations from the course and learning habits in order to design an efficient syllabus. Those studies are helpful in providing a procedure for using information about learners to inform and guide the course design, syllabus design or curriculum development.

Considerable researches in ESP have shown that individual adult learners have different needs and learn English for different reasons. In addition, it has been experienced that most ESP classes have restricted time to learn English. Accordingly, the teaching of ESP should, thus, be carefully prepared to fit students' specific needs and purposes. The ESP enterprise focuses on the importance and roles of learners both in the design of the course and its implementation in the teaching and learning processes.

Today, the teaching of ESP is gaining popularity throughout the world. Algeria also stresses the importance of English in the educational system in general and higher education in particular. Among other universities, University of Tlemcen offers English courses to equip students in terms of specific needs of English language. In this University, there are various Faculties. Among them, the Faculty of Sciences, students in the Department of Biology need to take English as a compulsory subject for both licence and master studies. Despite the growing demand for ESP instruction within Algerian Universities, ESP courses in the Department of Biology are still limited to learning specific lexicon and translating texts through reading scientific and technical articles. A method which fundamentally ignores the learners' personal interests and weaknesses leads to low motivation in their English studies and, in turn, low performance later when they use English in their future profession. So the main problematic in that Department is the absence of an adequate ESP course that suits the students' need for using English in specific situations. Another issue is the lack of language teachers in general and ESP teachers in particular. In response to these problems and with the continuous expansion and participation in the international journals and conferences, much attention should be drawn to the design of ESP courses which can help to prepare learners for future professional career. Based on the statement above, it is necessary to find out the perceptions of the students in order to investigate their necessities, lacks and wants in the English language module. This

dissertation also discusses the role of needs analysis to identify the gap between what learners already know and what they need to know in order to design an appropriate ESP course. It will also help the course developer to identify course content, methods and teaching materials that are hopefully relevant to the Biology students.

Designing a new ESP course involves issues such as ‘what to teach’, ‘how to teach’ and ‘where to start’. Based on Graves’ approach to course design, this research work suggests a sample ESP course framework for First-year Master’s students in the field of ‘Biotechnology and Nutrition’ in the Faculty of Sciences, Department of Biology at Tlemcen University and uses the main components of ESP course design: needs analysis, course goals and objectives, course contents, materials design, and finally assessment and evaluation.

A needs analysis seems to be effectively employed in order to gather sufficient factual information on the students’ perceived English-language needs prior to the start of an English course. A survey by means of a questionnaire and interviews can also serve as a guide to fit the teaching materials to the actual needs of the learners for specific purpose language teaching in their area of specialization.

This dissertation is, in fact, an action research work divided into three steps. The first step is conducting a needs analysis based on the following research tools: A questionnaire (see Appendix 1) and a structured interview for the students (see Appendix 2); a structured interview for the teachers (Appendix 3); and a pre-test for the students (see Appendix 4) to identify their level before the implementation of the ESP courses. The second step consists of designing a course on the basis of the results of the needs analysis. The last step is to assess the learners’ levels at the end of the courses (see Appendix 5) and the evaluation of the designed course through students’ feedback questionnaire (see Appendix 6). The sample population is First-Year Master’s Student in the Department of Biology, Faculty of Sciences, at Tlemcen

University. The teachers who took part in the investigation are language teachers and subject specialists from the Department of English and the Department of Biology respectively.

English language skills are required in most specific contexts worldwide. Consistent with the purpose of ESP education at the tertiary level, ESP courses should be designed to equip students with adequate English ability to meet their needs and to remedy their weaknesses. It is necessary to understand the expectations of both students and teachers as well as students' needs and difficulties before implementing ESP courses.

The present study aims at investigating the students' perceptions towards their ESP courses at the Department of Biology in relation to the following goals:

- (1) To undertake an analysis of the target needs
- (2) To investigate students' learning needs
- (3) To design appropriate materials
- (4) To assess students' ability and progress in the target situations
- (5) To evaluate the efficiency of the suggested ESP courses

Based on the aforementioned objectives, four research questions are formulated:

- 1- What specific needs do the Master's students in the Biology Department consider as most important in their English course regarding their lacks and wants in terms of: language functions, language skills, language structures and rhetorical categories?
- 2- Which teaching method/approach best suits their needs?
- 3- What type of teaching materials is most appropriate for them?

4- What are the elements needed to effectively assess the students' intake in the one hand, and to pedagogically evaluate the course on the other?

The above questions lead to the following hypotheses:

1. Effective language learning and teaching may be improved after identifying the students' needs and interests.
2. An eclectic method/approach seems to be the appropriate one for both teachers and students.
3. Needs analysis is an important step for the course designer and teacher too, in order to develop teaching materials including course elaboration, organisation, use of visual aids and realia.
4. Students' progress and feedback are fundamental and valuable sources of information to evaluate course efficiency.

The present research work is structured into four chapters. Chapter one explores the relevant literature in the area of ESP. Some definitions are given, followed by an overview about the history of ESP. At tertiary level, the researcher thought it necessary to highlight the difference between ESP and GE taking into account the roles (old and new) that the teacher plays in class within the LMD system and the ESP context. Materials and course design have also been dealt with in this part of the dissertation.

Chapter two identifies the needs analysis using data collection and data analysis as research instruments. The various steps for conducting a needs analysis have been defined, each one with its objectives. The results and the findings have been clearly stated in order to serve the purpose of designing and building an efficient course.

Chapter three deals with the design of the ESP courses themselves, their content and their organization. A sample course for each teaching unit is provided at the end of the chapter as a sound illustration of how a teaching unit could be planned in order to be congruent with the students' needs and expectations.



The fourth chapter sheds light on the assessment and evaluation of the students before and at the end of the course using a feedback questionnaire, the findings of which have helped the researcher make some comments and suggestions in order to improve the teaching/learning situation in that department for the benefit of everyone and all in that department.

# **CHAPTER ONE**

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## **Review of the Literature**

**CHAPTER ONE**  
**REVIEW OF THE LITERATURE**

**CHAPTER ONE : REVIEW OF THE LITERATURE**

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## 1.1. Introduction

ESP, a relatively recent field in the area of the teaching English as a foreign language, has been spreading quickly from the 1950s onwards, as the result of many incentives. Most important ones are: international trade and the increasing interest in Science and Technology throughout the world reaching the developing countries. This chapter will be devoted to the discussion of some definitions, to different types attributed to ESP and to a brief account relating to the historical development of ESP.

The new trend in education has put learner-centeredness in the forefront of the learning/teaching process, where the learner's needs and aims are essential elements in ESP courses; thus, many scholars have tried to set up the most important foundations of ESP. That is why the last part of this chapter will emphasize the different concepts underlying this new approach in language teaching.

## 1.2. ESP: Origin and Principles

The concern to make language courses more responsive to learner's needs has also led during this period to the emergence of the Languages for Specific Purposes (LSP) movement, known in English-language teaching circles as ESP.

The original flowering of ESP movement resulted from general developments in the world economy in the 1950s and 1960s, growth of science and technology, increasing use of English as the international language of science, technology and business and increasing economic power of certain oil-rich countries and increasing numbers of international students studying in UK, USA and Australia (Dudley-Evans and St John, 1998). Hutchinson and Waters (1987:6) state that: **“In ESP context, the effect of the historical occurrences resulted from a mass of people across the globe who wanted to learn English language because of the key language for the fields of science, technology and commerce. This branch of English Language Teaching**

**(ELT) comes from learners' language needs in accordance with their professions or job description.”**

ESP is not a monolithic universal phenomenon. As Hutchinson and Waters (1987) illustrated, it has developed at different speeds in different countries. Examples of the diversity of ESP can be found everywhere in the world at the present time. Although ESP approaches appear to be complex in their practice and development, they are basically language- centered besides being learner-centered.

Throughout the last four decades of the history of ESP, the areas of theoretical development and interest in teaching and learning of ESP, relating to the two main branches of ESP: EST and NON-EST, seem to include an interest in register, discourse analysis, specification of students' needs (and wants), study skills, or in various methodological approaches to the development of communicative competence (Flowerder, 1990). Additionally, the analysis of students' language needs has been considered as a most essential prerequisite of an ESP course design and material preparations by researchers, course designers and practitioners of ESP(e.g. Arden-Close,1993;; Hutchinson & Waters, 1980, 1984, 1987; Johns, 1981; Johns & Dudley-Evan, 1991; Mackay & Mountford, 1978; McDonough, 1984; Robertson, 1983; Shoemaker, 1983; Strevens, 1977a; Swales, 1985; Weddel & Van Duzer, 1997; Widdowson, 1974, 1979; 1998).

The ESP approach to language teaching began as a response to a number of practical concerns, among them;

- the need to prepare growing numbers of non-English background students for study at American and British universities from the 1950s;
- the need to prepare materials to teach students who had already mastered general English, but now needed English for use in employment, such as non-English backgrounds doctors, nurses, engineers, and scientists;

- the need for materials for people needing English for business purposes;
- The need to teach immigrants the language needed to deal with job situations;

in contrast to students learning English for general purposes for whom mastery of the language for its own sake or in order to pass a general examination is the primary goal, the ESP students are usually studying English in order to carry out a particular role, such as that foreign student in an English-medium university, flight attendant, mechanic, or doctor.

There is an obvious confusion between (ESP) and (EAP) English for academic purposes. For this reason we should attempt to distinguish the line of demarcation between the terms. EAP students (English for Academic Purposes) focus on the four skills as well as on grammar using every day English, so as to be more effective in their everyday lives. Orr (1998: 51) states that:

**English for General Purposes (EGP) is essentially the English language education in junior and senior high schools. 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.**

Consequently, it can be said that English for Academic Purposes (EAP) and English for General Purposes (EGP) are one. In fact, what is taught in the general education or private institutions is typically English for general purposes and to some extent what is taught now in our universities under the umbrella term ESP is typical general English.

### 1.3. ESP: Definition and Methodology

Defining ESP has proven to be so problematic to researchers that **“producing a simple and straightforward definition of ESP is not an easy task”** (Stevens, 1987:109). There are almost as many definitions of ESP as the number of scholars who have attempted to define it. Many others have tried to define ESP in terms of what it is not rather than in terms of what it really is.

ESP is a technical name that denotes ESP. It means teaching a specific genre of technical English to students with specific goals, majors or jobs. ESP is in fact a learner-centered approach to teaching English as a foreign or second language. It meets the needs of learners who need to learn a foreign language for use in their specific fields such as science, technology, medicine, etc. or in their future jobs. In contrast with General English (GE), which normally addresses general topics, ESP focuses on specific topics and skills ESP learners need in a particular subject area.

Although ESP is a controversial issue, there is much misinterpretation concerning the exact definition of ESP. Some scholars describe ESP as simply being the teaching of English for any purpose that could be specified. Mackay and Mountford (1978: 2) defined ESP as the teaching of English for a **“clearly utilitarian purpose.”** The purpose they refer to is defined by the needs of the learners which could be occupational, academic, or scientific. These needs in turn determine the content of the ESP curriculum to be taught and learned. Mackay and Mountford (ibid) also define ESP as the ‘special language’ that takes place in specific settings by certain ‘participants’. They stated that those participants are usually adults. They focused on adults because adults are usually highly conscious of the reasons to attain English proficiency in a determined field of specialization, and because adults make real use of special language in the special settings they work. They also argued that there is a close relationship among special settings and adults and the role, usually auxiliary, that English plays in those particular settings for those particular people.



Robinson (1980) defines ESP courses as ones in which the participants have specific goals and purposes (again, academic, occupational, and scientific). In this line of thought, she cited Strevens (1977) to emphasize that the purposes language learners have for using language are of paramount importance. She stated that those purposes must be understood as the driving force of the syllabus in a way that would help teachers and learners not to let irrelevant materials be introduced in the course. She also referred to learners in their role of syllabus designers in order to make the curriculum more learner-centered. In this way, they are made responsible for their own syllabus.

Munby (1978; 1996) defined ESP in relation to ESP courses based on the analysis of students' language needs. His definition of ESP is still current as follows: **“ESP course are those where the syllabus and materials are determined in all essentials by the prior analysis of the communication needs of the learner”** (Munby, 1978:2). The interpretation of the expression ‘learner need’ deals with two different aspects of needs Widdowson (1984:178), referring to:

- 1- What the learner needs to do with the language once he or she has learned it. This is a goal-oriented definition of needs and relate to ‘terminal behavior’, the ends of learning.
- 2- What the learner needs to do to actually acquire the language. This is a process-oriented definition of needs, and relates to ‘transitional behavior’, the means of learning.

In ESP, the ends of learning are as important as the means in spite of being normally goal-oriented (Hutchinson & Waters, 1987; McDonough, 1984; Robinson, 1990), that is, ESP is meant **“the teaching of English, not as an end in itself, but as an essential means to a clearly identifiable goal.”** (Mackay, 1978:92)

Though ESP may be unique, this does not necessarily imply that ESP teaching is different in kind from other forms of language teaching. Thus, it is impossible to

give ESP a practical definition that makes a clear distinction between ESP and other English language instruction. Strevens (1980: 109) stated that **“a definition of ESP that is both simple and watertight is not easy to produce”**. Hutchinson & Waters (1987:19) claimed that they preferred to come to a workable definition of ESP rather than to give a straight answer. In their point of view, ESP must be seen as **“an approach not as a product”**. They also claim that **“ESP is an approach to language learning and it is based on learners’ need”** (ibid). What they mean is that ESP does not involve a particular kind of language teaching material or methodology. They suggest that the foundation of ESP involves the learners, the language required and the learning context, which are based on the primacy of need in ESP.

Nevertheless, ESP can be taught to beginners if careful attention is given to needs analysis and to an appropriate material design addressing the level of students. Dudley-Evans and St John (1998) in their analysis of ESP tried to resolve the debate of what ESP is and what it is not. Dudley-Evans (2000:9) argued that: **“ ESP has tended to be a practical affair, most interested in investigating needs, preparing teaching materials, and devising appropriate teaching methodologies.”**

It is also noticeable that almost all ESP definitions are circled around two areas: the ESP participants or learners’ needs but what seems problematic in describing ESP is the meticulous effort in deciding the kind of discourse, such as vocabulary jargon or register that is to be taught and to reflect accurately the communicative purpose in a specific context the learners need (e.g. patient-nurse talk). Discourse diversity can be so overwhelming and confusing to ESP course designers as the learners’ needs analysis can yield a large numbers of needs, purposes, discourse, etc.

Some workable characteristics of ESP are synthesized from the work of several researchers (Flowerdew & Peacock, 2001; John & Price –Machado, 2001; Strevens, 1980):

1. It is devised to meet the learner’s particular needs.

2. It is related to particular disciplines, occupations or areas of study.
3. It is used in specific teaching situations, a different methodology from that of EGP.
4. It is centered on the activities of the specific disciplines, presenting syntax, lexis, discourse, semantics, and the analysis of the relevant discourses.
5. It is in contrast to General English.

Richards (2001) offered some viewpoints on the ESP approach to language teaching which began as a response to the following needs:

- 1- preparing non-native speaking students for study in the English-medium academic context;
- 2- preparing those already fluent or who have mastered general English, but now need English for specific usage in employment, such as engineers, scientists, or nurses;
- 3- responding to the needs of the materials of English for Business Purposes; and
- 4- Teaching immigrants the English needed to deal with their job situations.

Most definitions of what ESP is, concur on three key topics: the nature of language to be taught and used, the learners, and the settings in which the other two would occur. These three aspects of ESP are closely connected to each other, and can be combined to establish that ESP is the teaching of specific and unique English (specialized discourse) to learners (adult in their majority), who will use it in a particular setting (laboratory, mine, police station, hospital, etc.) in order to achieve a utilitarian goal or purpose, which in turn will fulfill additional personal goals (promotional, economical, etc.). What ESP specialists do not seem to agree on is what type of language should be taught (vocabulary, register, jargon, etc.) and how to teach it (in context with content knowledge, communicatively, collaboratively, etc.) However, even though there is this agreement and discrepancy among ESP scholars, it

is important to note that their many definitions are unequivocally linked to how ESP has developed since it was spoken of in the 1960s.

#### 1.4. ESP vs. GE

ESP is a branch of applied linguistics that focuses on relating the teaching and learning process to learners 'needs. The well-known linguist Widdowson (1981:89), an early pioneer of the approach, describes the general concept of ESP by stating that **“if a group of learners ‘needs for a language can be accurately specified, then this specification can be used to determine the content of a language programme that will meet these needs.”** The difference between ESP and General English is not a matter of the 'existence' of a need; it is rather the 'awareness' of a need. A child at school might have a simple need to pass an exam. However, what influences the content of a language course is the awareness of a need. Hutchinson & Waters (1992) argue that if learners, sponsors, and teachers know why learners need English, that awareness will have an influence on what will be accepted as reasonable content in the language course and what potential can be exploited. The ESP approach uses the needs analysis framework as the main tool to define learners' needs in specific field because the awareness is more recognizable in a specific target situation representing a 'real-life-situation'. As Holmes (1996) pointed it, a language syllabus is usually selective. For instance, an English course for teenagers will contain activities the language of which is that of a stereotypical teenager looking for such activities is a step towards a needs analysis. For this reason, course designers must begin by assessing students' needs. ESP is simply narrowing that spectrum.

The main principles that make ESP different from GE can be summarised as follows:

- 1) The first principle is the purpose for learning the language. Harding (2007: 6) assumes that: **“The sense of purpose gives the language work immediacy and a relevance which is perhaps not always found in other sectors of ELT, particularly of the ‘General English’ variety.”**
- 2) Harding (2007:8-9) suggests that **“the type of ESP learners who come to ESP are often demotivated by courses of general English. These learners have entered ESP courses because they expected that language-based work would not owe to practical or manual skills in lessons.”**
- 3) The age of the learners and also the mastery of the language that distinguishes the group of the learners of ESP from general English learners. The age of the learners of ESP is adulthood or early adulthood. Moreover, it is hoped that the learners have reached a reasonable competence in all areas of the language. If not, it is believed that remedial English will be of more purposeful kind than it was before at school and that a young adult wishes to extend or adapt competence in English to their particular field of work.
- 4) Another principle of ESP pointed out by Robinson (1980:9) introduces the factor of time into ESP and discriminates between long-term, whole-life ongoing process of learning English and short-time periods in ESP:

**The very concept of ‘special purposes’ implies that foreign language study in a subsidiary contribution to another main interest, and there will normally be pressure to achieve the required level of linguistic competence in the minimum of time.** (Robinson, 1980:9)

- 5) The last principle but not the least is of narrowing the language contents represented by Strevens (1980, qtd. in Robinson, 1980: 12-13) introduced into ESP restriction in the selection of skills that **“the learners will need; selection of the items of vocabulary, patterns of grammar and functions of language; themes and topics narrowing in order to include only the themes, topics and discourse needed; practice of purposeful communicative needs.”**

In fact, the line of demarcation between ESP and GE is not always clear, Barnard and Zemach (2003) explain that if the level of the students is low, they will need to focus more on GE in order to be able to survive. In this case, this could be classified as ESP since the aims are clearly defined and the learners’ needs identified. This example, however, shows that ESP should not be considered as a discrete division of ELT but simply an area including a limited range of topics.

### **1.5. Subcategories of ESP**

Several researchers speak about two or three major divisions of ESP. Robinson (1991) described two great distinctions: English for Occupational Purposes (EOP), and English for Academic Purposes (EAP) with English for Science and Technology (EST) cutting across the two of them. Kennedy and Bolitho (1984) see EST as a third major division in the ESP family tree. They say that it is important to recognize that EST has contributed to the development of ESP because scientists and technologists needed to learn English to deal with the language specific to the nature of their professions. Celce-Murcia (2001) said that the division of ESP is far from being exhausted and mentions ESP courses even for the incarcerated. She added that a diversity of curricula

and settings is what helps to make ESP courses virtually adaptive according to the contexts and needs of the learners. She went on to classify EST as a branch of English for Academic Purposes (EAP) along with English for Business and Economics (EBE), English for Medical Purposes (EMP) and English for the law (ELP). She called the other big branch English for Occupational Purposes (EOP) and lists two branches under it: English for Professional Purposes (EPP), subdivided in turn into English for Medical Purposes (EMP) and English for Business Purposes (EBP). She called the other branch Vocational English as Second Language (VESL) having Pre-Employment VESL, Occupational Specific VESL, Cluster VESL, and Workplace VESL as its subdivision. Dudley-Evans and St John (1998) in their analysis of ESP tried to resolve the debate of what ESP sections and sub-sections in terms of discipline or profession area which is illustrated in Figure 1.1 below:

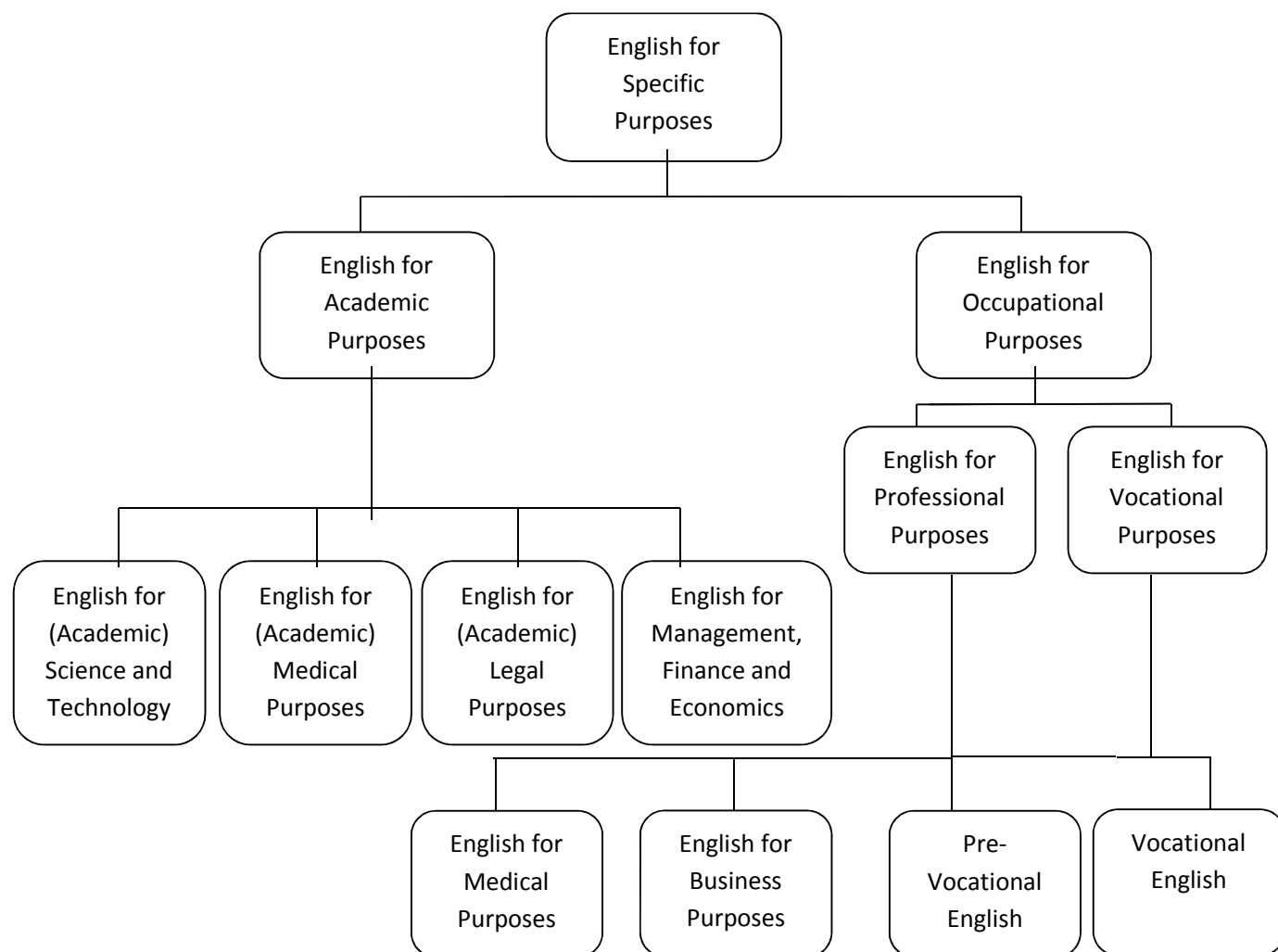


Figure 1.1: ESP Classification adapted from Dudley-Evans and St John (1998:6)

Swales (1988) presents EST subcategories in terms of subject matter including two main groups: “Science” and “Engineering and Technology” (Diagram 1.1). EST most likely falls into the teaching of English for Academic for Purposes (EAP) in order to help the students “survive and succeed” in their academic and professional environments. Trimble (1985: 2) states that the term EST is originally defined by Larry Selinker (1978) as **“the written discourse of English for science and technology.”**



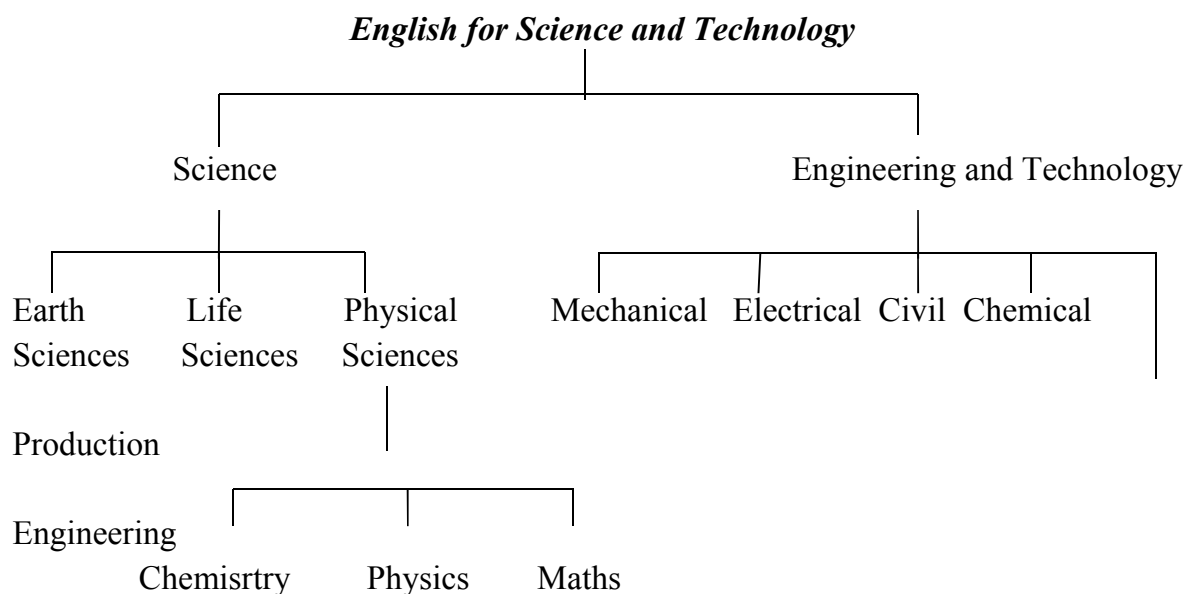


Diagram 1.1 : Subcategories of EST (Swales, 1988: 89)

In the teaching and learning of EST, Swales (1986: 6) argues that **“EST covers the areas of English written for academic and professional purposes and of English written for occupational (and vocational) purposes, including the often informally written discourse found in trade journals and in scientific and technical materials written for the layman.”**

A sketch of the development of ESP will illuminate how ESP at the present time relates to the rest of ELT. English language teaching can be categorized into two main branches, English for General Purposes (EGP) and ESP. ESP can be further divided into two branches, English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). Within these two categories, a number of ESP courses are generated based on the particular needs either for academic purposes or for job requirements.

## 1.6. Diachronic Development of ESP

It is generally agreed that English Language Teaching is categorized into two main branches: English for General Purposes and ESP. The latter can further be divided into English for Academic Purposes and English for Occupational Purposes. Johns (2012) reviewed the history of ESP using her experience as a previous ESP Journal co-editor and researcher by dividing it into four main periods:

*The period from 1962 to 1981* focused on text-based counts and rhetorical devices, using descriptive research, involving statistical grammar counts within written discourses. Later, rhetorical concerns began to be taken into consideration with, for example, inferred devices used in a text.

Then, *the period from 1981 to 1990* witnessed an attempt to widen the scope of ESP and introduce some key concepts, the most important ones being: need assessment; linguistic devices and their rhetorical purposes; use of technology in ESP teaching; genres and rhetorical moves as new concept.

Whereas, the period from 1990 to 2011 is characterized by a number of other more or less new concepts and idea: The idea of intercultural rhetoric; the dominance of 'genre' in ESP research; the appearance of corpus studies.

*From 2011 onwards*, what will be the future being to ESP? According to Johns (2012), there are a number of researchers in ESP such as Swales, Bhatia, Bazerman, Belcher, Dudley-Evans, St John, Candlin, Graves and many others agree on the fact that the future of ESP will bring four essential elements:

- Variety: in topics, methodologies, rhetorics, etc.
- Context: classroom, business, online media, etc as the scope for research becomes diversified.
- Complexity: realized through methodological triangulation
- Critique: not only of researcher's work but of the research himself, through self-reflection.

The history of ESP goes through four main periods starting from 1960s where content-based text was pre-dominant until the 1990s where authentic ESP concepts have emerged. Nowadays, ESP enterprise is gaining popularity all over the worlds in different fields where learners are active participants in the teaching and learning process.

### **1.7. Place of ESP at Tertiary Level**

ESP developed as an independent discipline from General English, and gained popularity throughout the world, especially in tertiary education where students specialize in different areas. For their involvement in academic areas within international society they have to learn to be able to carry out a research or contribute with a paper at a conference in an international language such as English, which came to be accepted worldwide. The common variant of ESP at this stage of university level came to be known as EAP (English for Academic Purposes).

At university level, English language teachers and learners often encounter different issues that might hamper achieving a successful teaching/learning function. One of the important issues is the teacher/learner interaction within specific contexts of English language which is ESP. In this respect, Hyland (2002: 394) argues that **“effective language teaching in the universities involves taking specificity seriously. It means that we must go as far as we can.”** For teachers this means introducing learners to the relevant genres with the purpose of allowing them to

participate in a discourse community organized around specific and purposeful activities.

This can be approached in pragmatic or critical ways, and there has been a considerable amount of discussion about the need to avoid uncritical induction of students into disciplinary discourse and identities (Canagarajah, 2002; Harwood & Hadley, 2004; Pennycook, 1997).

Teachers have to develop the learners' academic English; that is the English needed for reading, writing, speaking, and listening in the content areas (Collier, 1999; Cummins, 2001). They have to ensure that learners develop the specific academic language they need to participate in the content classroom (Chamot & O'Malley, 1994; Echevarria, Vogt, & Short, 2004).

ESP is considered as a goal-directed kind of language; therefore, the students are not learning the English language for its own sake, but because there is a need for its exploitation in the workplace and they are enforced by a certain motivation. ESP is considered as a major field of EFL teaching at present. It has started emerging from the EFL field since the 1960s. EFL teachers nowadays are more aware of the role of ESP in the different modern fields of specialization.

As a matter of fact, ESP development is obvious in the growing number of universities offering an MA in ESP and in the number of ESP courses offered in Great Britain and America. This indicates that ESP is determined by specific learning needs of language learners. Therefore, the teacher's role should not be restricted to mere teaching, but should extend to be a course designer, researcher, evaluator, and an active participant and partner in all of aspects of the teaching/learning process.

### 1.7.1. Role of ESP Teacher

The present analysis concerning the salient features that define the ESP practitioners applies to those teaching-learning situations in which English is learnt as a foreign language. Consequently, English is not necessarily the mother tongue either of teacher or students as regards the different role of teachers whose native or second language is English, as well as that of the students, as opposed to contexts in which teachers are not native speakers of English, and the students learn English as a foreign language.

ESP teachers are basically teachers of English for General Purposes; their switch into this field is sudden (Strevens, 1988). As Donna (2000) explicitly mentions, they get by with some basic guidelines and with a little help which ultimately proves inappropriate. Their task is to analyze students' needs, outline objectives, select and adapt teaching materials, design lessons, create an adult-oriented learning environment, and assess students' progress (Schleppegrell, 1991). Although these might be the usual skills of teachers, and more precisely in the field of English teaching, the ESP teachers' role has still distinctive connotations, namely: it is the teacher who teaches, and as Cunningsworth (1984) eloquently stresses, textbooks are good servants, but poor masters. Students are not only adults, but also experts in their fields. Students' assessment brings together proficiency in English and performance in their professional situation.

The ESP teacher's work is not limited to teaching. Dudley-Evans and St John (1998) prefer the term 'ESP practitioner', as this definition seems to be more detailed and complete. They identified the following key roles of ESP practitioner and each specific role are briefly summarised in the following table:

Teacher	-The methodology in the ESP settings is more specific. His role is to teach the language but not the students' specialty, and the methodology he uses changes as the teaching becomes more specific
Course Designer and Material Provider	-One of the ESP teacher's roles is designing the course and adapting materials for it when published materials are unsuitable, or writing his/her own materials in order to cope with the various levels of the students within the same class.
Collaborator	-It refers to collaborative teaching between a subject specialist and language teacher. It is also worth mentioning the possibility of team work between the English teachers themselves.
Researcher	-He must be able to conduct a research to find out the students' needs and interests in order to design appropriate materials to suit their target objectives. It is very often a language-based and content-based research.
Evaluator	-Evaluation is mainly referred to testing in order to evaluate learners' progress and achievement. However, in ESP setting is

	<p>also referred to course evaluation. As ESP courses are all too often ‘tailor-made’, their evaluation is crucial. Dudley-Evans states that the evaluation should be ‘on-going’: while the course is being taught, at the end of the course, and after the course has finished</p>
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Table 1-1 : The Five Roles of ESP Teacher (Adapted from Dudley-Evans & St John 1998, Harmer 2011).

To sum up, the ESP teacher has additional roles to those of General purposes English teacher. Robinson (1991) stated that the ESP teacher does not only teach, very often, he/she is involved in designing, setting up and administering the ESP course. During and at the end of the course, the ESP teacher is likely to be involved in evaluating and testing.

### 1.8. Challenges for ESP Teacher

One of the characteristics or even a critical feature of ESP is that a course should involve specialist language (special terminology) and content. In the majority of cases ESP teachers are not specialists in the students’ professional fields. That is why the primary issue in ESP teaching is the struggle to master language and subject matter. Teachers find themselves having to teach with texts whose content they know little or nothing about. In addition, the ESP teacher happens to be the syllabus designer and is responsible for the teaching material and evaluation.

Another problem is text selection and adaptation. Not being a specialist in the specific area, the ESP teacher cannot decide by himself/herself how to adapt the text that the most important information in terms of subject matter will remain. The decision has to be made about the texts: on the one hand, the text must not be too

difficult, because neither the ESP teacher, nor the students have such a high level of professional knowledge; on the other hand, the text must not be too popular, because some learners have some confidence in their professional knowledge, and if the text is too easy for them in terms of subject matter, they tend to underestimate it in terms of language as well. In order to avoid such a situation which may lead to demotivation, the text should contain some challenges which will activate the professional knowledge of the students.

So, how can an ESP teacher cope with the issues she meets in her job?

Hutchinson and Waters (1987) provide part of the answer. ESP teachers do not need to learn specialist subject knowledge. They require three things only:

- A positive attitude towards the ESP content
- A knowledge of the fundamental principles of the subject area
- An awareness of how much they probably already know

In other words, the ESP teacher should not become a teacher of the subject matter, but rather an interested student of the subject matter. The lack of close cooperation and coordination between content lecturers and the designers of the study programmes, is a serious problem that require more attention.

### **1.9. ESP Learners**

There are two learner aspects of paramount importance when the topic of ESP learner-centered approaches is the objective of research and discussion: age and motivation. These two aspects will be further discussed as they are established as supporting pillars of ESP curriculum design.

Robinson (1980) stated that ESP curricula needs to be developed based not on requirements imposed by language institutions or work supervisors, but on real needs of real learners in the diverse realm of the sciences and humanities. Learners in ESP



classes vary mostly in terms of age and motivation. For instance, at the tertiary level, highly motivated adults have academic and professional goals they want to reach through the acquiring or improving their linguistic performance.

Sifakis (2003) referred to ESP adult learners in terms of age, educational, professional, and social background. He characterized adulthood in terms of age, social status, and a number of values adults possess.

Curricula developers need to be aware of the fact that adult learners are almost always voluntarily engaged in the learning process; highly motivated both intrinsically and extrinsically, conscious of their progress; reflective on their own learning; and willing to establish a learning contract in which they commit themselves to giving of their time and effort to learn. Curriculum designer will discover that these characteristics will make their curricula learner -centered and one of their very driving forces. Something else that curricula developers need to be aware of, is the fact that learning processes are voluntary and purposeful; so by actively involving learners in the planning process, they would ultimately improve their motivation and commitment to fully participate in the course and improve their language proficiency.

### 1.9.1. Motivation of ESP Learner

The learners in ESP are capable of proceeding in their learning progressively due to the fact that they deal with specialism that they have chosen to study. For 16-18 year old, Harding (2007:8) suggests **“the suitability of work in ESP because they might not know much about their subject specialism”**. This is the point where the introductory use of ESP can find its place in teaching. Students will read texts that are available in English only, in order to get to know about their specialism.

She proceeded to characterize the ESP learner in terms of extrinsic motivation: **“The ESP learner has a further purpose. He or she is learning English in order to achieve something specific beyond the language itself.”**(ibid). These characteristics refer to instrumental motivation. Extrinsic motivation stems from the anticipation of

an external reward, and part of that reward is what the classroom offers (Brown, 2000: 58-59). Echevarria and Graves (2003:45) present Baker's (1992) definition of integrative motivation as stemming from a desire to identify with or integrate into a particular language group. In contrast, **“instrumental motivation describes a situation in which individuals learn language for a practical reason, such as getting a job, enhancing their career possibilities, or passing an exam.”**

On the border between extrinsic and intrinsic motivation, lies next characteristics of the learner of ESP. Apart from language learning which is associated with particular academic skills, **“ESP involves learning practical and manual skills. While learning these, different centres of brain are employed, which is important to offer variety and provide counterpart to typical schooling skills”** (Harding, 2007:9).

Harmer (2007:20) deals extrinsic motivation, which students bring into the class from outside and intrinsic motivation which is generated by things that happen in the classroom. The effects of extrinsic motivation can be lessened by little support for learner's choice from the society, with secondary vocational students, if their prospect of future job in the specialism they study is permeated with doubts and uncertainty, then their motivation will become weaker. On the other hand, intrinsic motivating factors in case of ESP learner, such as atmosphere in the class, can change the former attitude towards the area of ESP. Harding (2007:9) describes the positive effects of ESP courses on learners who have not succeeded as language learners. The learners will develop a desire to learn in new situation, in which they after all overcome their 'tiredness' of language –based work.

Harding (2007:9) in relation with this recalls the new method capable of sustaining both types of motivations, that for language and the motivation for subject specialist area: **“Developing the two motivations in tandem is however an exciting prospect for the teacher and links with recent ELT concepts of CLIL (Content and Language Integrated Learning)”**.

Harmer (2007:21) suggests that one way of helping to sustain their motivation is to give them some agency. He explains imposing the requirement upon student: **“Getting students to do various kinds of homework, such as written exercise, compositions or further study is one of the best ways to encourage student autonomy.”**

Another feature of ESP classes, exploiting the area of language work, will be the use of monolingual learner’s dictionaries. For advanced students who consider continuing their study at university, it will be worth to get hold of the Oxford Student’s Dictionary with an Academic Word List which covers the main technical terminology of courses that are possible to be studied in further education.

As it will be mentioned further, especially in connection with Hutchinson and Water’s description of developments in the field of ESP course design, it is crucial to develop students’ thinking skills. Thinking skills, critical thinking, creative thinking, and mind mapping are very useful procedures to help students to set the goals of their learning.

### **1.9.2. Students’ Competence and Difficulties in ESP Classes**

ESP is designed to meet the specific needs of learners. Learners are expected to perform with adequate language skills in target situations at the end of the ESP courses. However, the performances of ESP learners have been considered unacceptable or poor in many cases (Bacha & Bahous, 2008; Chia et al, 1999; Jasso-Aguilar, 1999; Wang, 2004). Students’ overall English language competence has usually been considered the indicator of the success or failure of English learning (Shi, Corcos, & Storey, 2001; Tsao, Wei, & Fang, 2008). Some teachers imputed the low achievement of ESP to the students’ poor English language skills. They argued that the students’ English language skills were inadequate to cope with the ESP courses, and made ESP courses inefficient.

By contrast, the students often declare themselves to be suffering from learning difficulties, which makes them perform badly in an English class. Some researchers also reported that students suffer from learning difficulties relating to the content of ESP (Gatehouse, 2001), the instruction of ESP (Bacha & Bahous, 2008; Leki & Carson, 1994), and the tasks involved in the ESP courses (Ferris & Tagg, 1996a/b). The students have difficulties participating in class discussion, asking and responding to questions, and general listening comprehension. Learners have difficulty coping with ESP courses because of weak English skills (Jackson, 2004). The weakest language skills are reported more often in the previous studies, such as inadequate vocabulary (Tsao, et al, 2008); and grammar (Chang, 2000).

The content of ESP is also regarded as one of the factors affecting the ESP learning; the difficulty level of the content should be accessible and acceptable to learners, as most learners lack general English skills (Basturkmen, 1998; Chang, 2004; Huang, 1997; Huang, 2001; Jackson, 2004, Tsao, *et al.* 2008; Wang, 2004). Further, the activities in the ESP class should be applied based on the learning goals and should be meaningful in relation to the specific purpose of their subject area (Flowerdew & Peacock, 2001).

### **1.10. LMD System and ESP in Algeria**

Algeria is an African country, concerned with ‘Globalization’ as any other country. For that reason, the Ministry of Higher Education and Scientific Research tried to propose adequate programmes and systems which will serve this openness to the external world.

The educational reform at the level of higher education (i.e. university level) is intended to make the educational system and scientific research go hand in hand with the international ones. Thus, this reform is an illustration of how the authorities try to apply the systems used in most developed countries to Algeria.

The implementation of the LMD system in Algeria is considered as a step towards globalization because this Anglo-Saxon programme has proved its success and it has been adopted by most countries in the world. Most of the engaged partners (where students have been associated in some cases) did their best to make this enterprise succeed just for the sake of encouraging the future well being of the Algerian university. This would allow considerable changes to occur within the teaching cooperation first and within the universities later in a decade time.

The LMD system is made up of the licence with 6 semesters (three years of study with the equivalence of Bachelors' Degree), and a Masters' Degree with two years (4 semesters) and the Doctorate with three years of research work (6 semesters) at the end of which the student has to submit a dissertation. The system is based on the so-called "Fundamental units" which the students should collect by the end of each semester. Moreover, there is a new element which is the system of "Credits" which means that if students do not get the needed credits, they may pass to the next semester with modules in-debt.

The LMD system was implemented in Algeria in 2004 but not all universities adopted it at once. It spread out progressively in Bejaia, Constantine and Mostaganem, then in Tlemcen at the Department of English in the academic year (2009-2010).

The rationale behind changing the system in our educational policy, at the tertiary level, is to create an overall innovation within the Algerian universities and to allow them follow the flow of real foundations adequate with the evolution of not only scientific research and educational techniques, but the world as well.

This new reform tries to emphasis on the acquisition of different foreign languages since Arabic is the national language and English and French are considered as foreign languages. All subjects are taught in Arabic and French in most universities, with English included in the curriculum as a compulsory subject. The purpose is to

raise the students' proficiency in different settings as well as to prepare them for successful communication in their future profession and career.

The importance of English as an international language continues to increase as more and more people are wanting or being required to learn English, that is why the Algerian government is introducing mass education programmes with English as an important foreign language to acquire. In fact, in the new world order, discourse is grounded on one and only consideration- Globalization.

All these demands and requirements have resulted in the expansion of one particular aspect of English Language Teaching namely the teaching of ESP, making the teaching-learning of English meaningful in the university context. Content, teaching materials and methodology are determined by the interests, the social context and the previous knowledge of the learners. In this way, the language is not the object of learning, but the result, the product of mutual interaction between the learner and the outside world, which in the case of English is a really wide world full of challenges and unforeseen demands and constraints.

In Algeria, the teaching of ESP has started within a limited number of universities and higher institutions such as Biology Department, and technical sciences, where the LMD system first emerged in Tlemcen. Nevertheless, it is worth mentioning the fact that an attempt to teach ESP or rather EST at secondary school level was made during the late 70s and early 80s. The inspectorate of English, under the instructions of the Ministry of Education at that time, thought it necessary to devise teaching material specific to the sciences, technology and management streams. Appropriate syllabi and textbooks were written for each stream by the body of inspectors and some teachers. The experiment lasted a few years with a great deal of success, but it gradually encountered some difficulties for its generalization through the country. Among them :

- The lack of coordination between the ‘content’ teacher and the ‘language’ teacher.
- The textbook was not made available in all technical schools and colleges (middle school).
- Students did not master the basis of English (General English).
- Lack of specific training for the language teacher teaching scientific, technical or management streams.
- Lack of motivation from the part of students who considered the subject of ‘English’ as a literary one that is, secondary as compared to other subjects.
- The endless migration of teachers and pupils from and to ESP classes and General English ones.

The experience gradually declined and was finally abandoned by the educational authorities. Only the General English textbooks remained valid and used by all streams.

However, if the teaching of ESP has well developed in the Europe, in Algeria, things are gradually developing due to the recent increase in the number of institutions of higher education, on the one hand the number of students on the other. This growing number is, unfortunately, not accomplished yet by any development in teaching programmes in general, and those of English in particular. The current situation regarding the teaching of this specialty at vocational faculties in the non-Arts institutions is characterized especially by a lack of human resources, training and adequate teaching material. In addition, it is the administrators who decide the amount of time allocated to the English module, and it is up to the teacher to set up the relevant programme.

However, an attempt has been made by Ministry of Higher Education and Scientific Research to improve the ESP status in Algeria. Three ESP centres were set

up in the country: Oran, Blida and Constantine with the following three objectives for the first two years (Benyelles, 2009)

- 1- Provide in country ESP courses for both teachers and post-graduate training research at Ph.D. level in the UK.
- 2- Develop a professional ESP advisory service for key tertiary institutions in Algeria.
- 3- Train pedagogic staff operating at local level.

The three ESP centres had to train teachers in charge of giving ESP lectures in various Algerian institutions. In 1999, the ESP centre of Oran launched an ESP review 'Newsletter' to offer support to post-graduate students, to provide them with bibliography and to allow teachers trained in UK and the USA to operate a transfer of knowledge to the students. Despite the positive results, the ESP centres did not receive a legal status and continued to act under the supervision of the CEIL (Centre d'Enseignement Intensif des Langues). Several attempts have been made to save the centres from this unfortunate situation and get an official status, in vain. The Ministry of Higher Education and Scientific Research has always responded negatively. The consequence of this is the cancellation of two ESP centres, Blida and Constantine. The centre of Oran is still running but with a different mission that of dealing with post-graduation teaching programmes (Benyelles, 2009)

However, despite the great importance of English for students' future, these are not motivated due to the fact that there are no prescribed programmes, and this remains a serious problem for teaching of ESP in Algeria. These factors are important but they may be completely inefficient if the structure, the energy and the mission are not well established.



### 1.11. Language of ESP

ESP is a sphere of teaching English language including Business English, Technical English, Scientific English, etc. ESP is taught in many universities around the world. Many professional associations of teachers of English (TESOL, IATEFL) have ESP sections.

ESP concentrates more on language in context than on teaching grammar and language structures. It covers subject varying from accounting or computer science to tourism and business management. The ESP focal point is that English is not taught as a subject separated from the students' real world (or wishes); instead, it is integrated into a subject matter area important to the learners.

The language used by all branches of ESP has many commonalities. It concentrates on lexis and useful structures. Maley (2005:3) proceeded in stating the similarities and differences within the area of ESP and concluded with typical situations of the need to use English: **“specialist vocabulary, operating visual and numerical displays and use of instructions and phrases to operate equipment efficiently and safely.”**

Applied linguists identified the changes and tendencies that the ESP approach brought to English Language Teaching. In a similar way to the simplified language of EIL or EFL, the restricted use of the language, e.g. the language of science can be introduced into an English course. The main simplification for students will be in that the register and discourse of appropriate disciplines can be clearly defined and identified and therefore practiced by working with authentic sources, such as magazines, reports, which include language features of procedures and processes, two most common genres in scientific language. Moreover, Widdowson (1979 as cited in Robinson, 1980, 24-25) talks about the incorporation of learner's mother tongue into science content.

The language of ESP can be narrowed to the point of view of vocabulary, as it forms the essential part of the ESP course. Grammar of the texts in ESP will work according to the rules of general English, however, specific technical words, and semi-technical vocabulary will be necessary for the user in order to name things appropriately. (Harding, 2007:53).

Vocabulary can be divided, as outlined above into technical and semi-technical vocabulary; however it is sometimes difficult to discriminate between the two areas. Semi-technical vocabulary could occur in any of academic type specialisms due to their common features, such as formality, the presence of linking devices etc. On the other hand, technical vocabulary identification will be a key element of syllabus design of subject specialisms. In that case EST calls for English equivalents to name engineering materials, testing of materials, metal working. (Janata, 1981: 91).

Harding (2007:53) warns teachers and course designers that **“the words students are learning should be the words they will actually need in their specialism.”** However, in the activities she suggests the transferability among individual specialisms, based on the fact that the same type of activity can be applied for more specialisms. She thus concludes with teaching of general characteristics of specialist technical words, which counts to be the grammar of the words applied in the form of activities, e.g. dealing with prefixes and suffixes in order to form a new word part, or negative prefixes to form antonyms.

The three areas of special language varieties will be of significant importance to secondary school students. They will be EAP, as students are potential university students, Business English because of its relevance for the world of work, and EST in the case of scientific students.

### 1.11.1. International Language of ESP

The language of ESP refers back to international English (EIL), the language which is presented as an internationalization of structures of general English for the purpose of their application. (Harding 2007). EIL serves ESP and, reciprocally, ESP provides action research for the linguistic field of EIL. Harding (2007:7) comments on their mutual relationship: **“ESP is the production line of EIL.”** The growth of EIL dates back to 1980s and is connected with the phenomenon of Globalization. (Jenkins 2000).

Apart from the linguistic point of view of EIL variant of English, Jenifer Jenkins has emphasized on the growth of intercultural awareness which, according to her, owes a lot to the factors of internationalization of English (Jenkins, 2000 cited in Harding 2007:7).

Another theoretical concept that served the development of ESP was introduced in the world in consequence of dominant position of the US in business. Linguistically, English as a Lingua Franca (EFL) is language used by non-natives that has developed its own rules of pronunciation, and of other linguistic areas. The variants of “Englishes” (a term used by linguists, Jenkins in 2009 among others) can be considered to mark the transition between ever-growing general English and the discipline of ESP that historically appeared before the need for general English in Middle Ages when students had to study the content texts in Latin or other language (Stevens as cited by Robinson, 1980:15).

Secondary school students, especially those of vocational schools can benefit from the new variant of English. The justification of use of EIL is not only that it may be easier and more understandable to all users of EIL, but also because of its contribution for their future profession where they will need to name things appropriately . Reflecting the other area of its use, students need to get knowledge in

the global topics, as science, environment, and culture regardless of their subject specialism.

### **1.11.2. Language of EST**

Within the development of ESP, EST has been assigned a leading role in that it was distinguished from other ESP load at first. The name of the author responsible for the earliest work in this field is Swales. Most of his work is associated with register analysis as a concept of special language. The courses in EST were built around lexical specifications which included field's terminology and grammar patterns. As it was already mentioned above, another important stage in the development of ESP was discourse analysis, which pervaded EST syllabuses. For discriminating between the two subject specialisms, the genre of the texts will be one distinctive feature, but for our study, more important would be to analyse the two texts at the syntactic level (using register analysis) and discourse level (by means of discourse analysis).

The theorists discriminate between register analysis that look at the specifications at sentence level, and discourse analysis that takes into account longer stretches of discourse, of text. Since 1960s and early 1970s prominent descriptive pioneers as Lattore, Swales, Selinker and Trimble have tried to describe the language for science and technology. (Hutchinson and Waters, 1987: 7).

### **1.11.3. Rhetorical characteristics in EST Discourse**

Some scholars such as Lackstorm, Selinker & Trimble, 1973; Selinker, Todd Trimble & Trimble, 1976; Selinker *et al.* 1978; Trimble, 1985 identify two major rhetorical characteristics that the native and non-native speakers of English need to learn and understand prior to learning how to read and write EST discourse which are specific "rhetorical functions" and the specific "rhetorical techniques". The rhetorical functions are the basic elements used for analyzing written EST discourse and include

*description, definition, classification, instruction, and visual-verbal relationships between a visual aid and its accompanying text*(e.g. the linking of text and a diagram, graph, etc.).

The techniques that are considered by the majority of ESP scholars as rhetorical, in fact, refer to the rhetorical elements that relate together the information in an EST text. According to Kittidhaworn (2011:19), they consist of two major categories: (1) the “natural patterns (orders)” of *time order, space order, and causality and result*; and (2) the “logical patterns” of *causality and result, order of importance, comparison and contrast, analogy, exemplification and visual illustration (graphics)*. The textual elements that build up a scientific piece of writing such as connectors, references and ellipsis are frequently found in written EST discourse, such as, first, then, finally, so that, hence, as result, consequently, and so on. These different strategies are of compulsory need for the ESP learners, depending on the students’ academic levels and English proficiency. Besides, the cohesion and the coherence of scientific texts are of paramount rhetorical elements in any attempt lead by ESP students.

Furthermore, another basic rhetorical act to the analysis of written EST discourse that must be taken into consideration is the concept of “generalization”. It is important to the understanding of the idea of a paragraph in **“a unit of written English discourse that presents the reader with a selected amount of information on a given area of a subject”** (Trimble, 1985: 14). Trimble(ibid) states that **“the generalization of an EST paragraph can be stated neatly in a single sentence at the beginning, or can be made up of parts of two or more sentences or a short phrase buried somewhere near, or sometimes, at the beginning of a paragraph.”**

Additionally, Strevens (1977:154) argues that the particular selection items employed by the scientist on any given occasion, whether in speaking or writing, **“can be roughly categorized as being those of *description, analysis, classification,***

*generalization, hypothesis, theory-building, argument, etc.*”He may use some rhetorical elements as suggested by Mackay and Mountford (1978: 139), *are definition, classification, generalization, description, prediction and observation, etc.* **“These rhetorical acts can be used to organize the language of scientific and technical English in the preparation of teaching materials.”**These can help the ESP learners to write an appropriate concept in an appropriate target situation. They enable them to master and understand a given scientific instructions.

### **1.12. Language Curriculum Design**

Curriculum design can be seen as a kind of writing activity and as such it can usefully be studied as a process (Nation and Macalister ,2010:1).The typical sub-processes of the writing process (gathering ideas, ordering ideas, ideas to text, reviewing, editing) can be applied to curriculum design. The curriculum design model in Figure 1.2 consists of three outside circles and a subdivided inner circle.

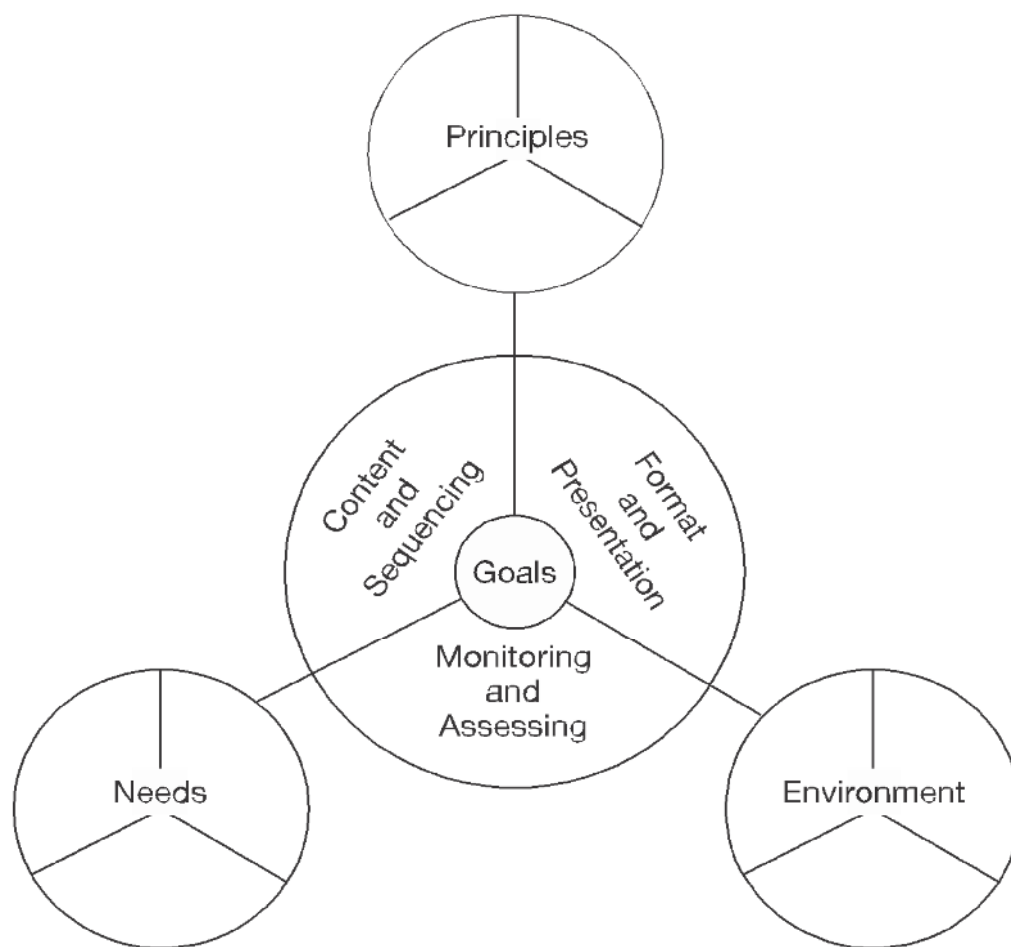


Figure 1-2: A model of the parts of the curriculum design process (Nation and Macalister, 2010:3)

The outer circles (principles, environment, needs) involve practical and theoretical considerations that will have a major effect in guiding the actual process of course production. There is a wide range of factors to consider when designing a course. These include the learners' present knowledge and lacks, the resources available including time, the skill of the teachers i.e: language teacher or subject specialist), the curriculum designer's strengths and limitations and principles of teaching and learning. In the curriculum design process these factors are considered in three sub-processes, environment analysis needs analysis and the application of principles.

The inner circle has goals as its centre. This is meant to reflect the importance of having clear general goals for a course. The content and sequencing part represents the items to learn in a course, and the order in which they occur. The format and presentation part represent the format of the units of the course, themselves divided into lessons, including the techniques and types of activities that will be used to help learning (this is the part of the course that the learners are most aware of).

The “monitoring and assessment” part of the inner circle represents the need to give attention to observing learning, testing and analysing the results of learning, and providing feedback to the learners about their progress if necessary. It is possible to imagine a large circle drawn completely around the whole model. This large outer circle represents “evaluation”. Evaluation can involve looking at every aspect of a course to judge if the course is adequate and where it needs improvement; but as it was pointed by Macalister & Nation (2010: 2): **“It is generally a neglected aspect of curriculum design.”** Evaluation is usually left to the teacher to devise it according to a number of criteria: the level of the learners, the period of the year, whether it is summative or formative etc.

When designing a course, the teacher may consider other factors in addition to this process:

- amount of time
- size of the classes
- appropriate material available
- teacher’s experience and training
- way of leading the learner(s) to be autonomous

### **1.12.1. ESP Course Design**

The growth of the ESP movement is a result of the rapid development of the world economy and has been greatly influenced by ELT methodology and the



development of Applied Linguistics. The first dominating approach to ESP course design focused on the grammatical and lexical items of a particular field of English. With the growing popularity of Communicative Language Teaching (CLT), language use became the key emphasis in the ESP world, known as the “functional-notional approach”. In the early 1980s it was found that there was a certain need underlying a particular language use and in addition, the process of learning and learning skills needed to be taken into account. (Dudley-Evans & St John, 1998).

Hutchinson and Water (1987) emphasized on the fact that ESP teachers are concerned more with designing appropriate courses for various groups of learners. There are three factors affecting ESP course design: Language description, Learning theories, Needs Analysis. The interdependence of these factors in the course design process is very important; the course design must bring the learner into play.

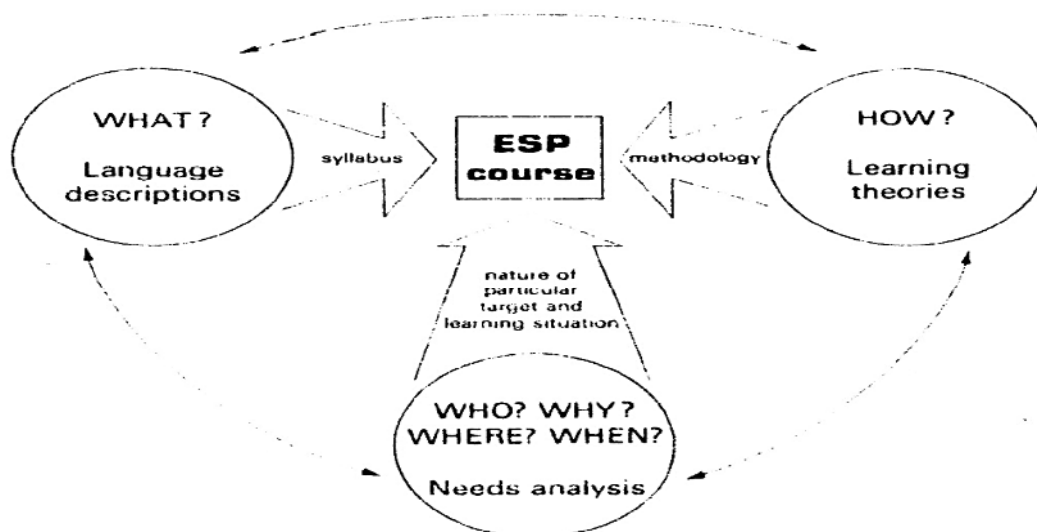


Figure 1-3: Factors Affecting ESP Course Design (Hutchinson & Waters 1987:22)

The task for the ESP developer is to ensure that all three of these factors are integrated into syllabus. This is a difficult task due to the incredible amount of research required. Because ESP requires comprehensive needs analysis and because the learning-centered syllabus is not static, it is impossible to expect that the developer be

in a position to identify the perfect balance of the abilities noted above for any particular group of learners.

### 1.12.2 Steps in Designing an ESP Course

Graves (1996, qtd. in Xenodohidis, 2006, ¶ 1) suggests a systematic syllabus design consisting of six steps. Those steps are:

- 1- Conducting needs assessment, followed with needs analysis (both of the process sometimes just called needs analysis).
- 2- Determining the goals and objectives of the course.
- 3- Conceptualizing the content.
- 4- Selecting and developing materials and activities.
- 5- Organising the content and activities.
- 6- Evaluating.

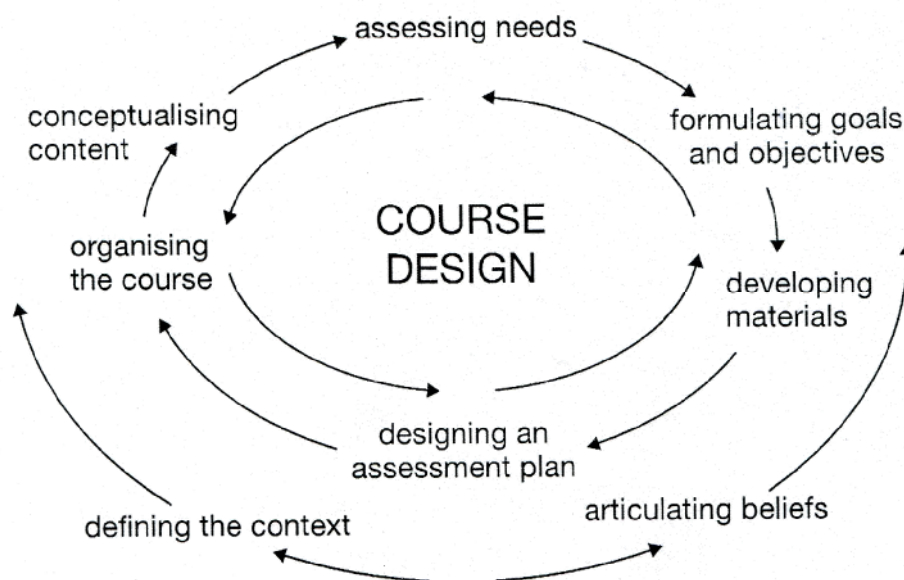


Figure 1-4: Graves' Model of Syllabus Design (2000) (cited in Nation and Macalister, 2010: 136)

### **i) Step1: Conducting Needs Analysis**

One of the primary questions that can be included in a questionnaire while conducting a needs analysis is whether students will use English to pass the exam as a university requirement or in workforce after graduation. Indeed, in this case our intention is to prepare learners for the future not for passing exams because we rely on the results of the needs analysis, which has to be done before designing the ESP course. ESP needs analysis positions a solid foundation for a stable ESP syllabus. Since needs analysis has been run for the targeted group to collect data about their learning needs, then, the process of core courses designation will take place. Designing a course for any ESP system needs a considerable amount of general English along with an integrated functional terminological language matted in the targeted ESP course which is based on the needs analysis.

Needs analysis is neither unique to language teaching nor within language training but it is often seen as being **“the corner stone of ESP and leads to a very focused course”** (Dudley-Evans & St. John, 1998: 122). Although there are various ways of interpreting ‘needs’, the concept of ‘learner needs’ is often interpreted in two ways:

- What the learner *wants* to do with the language (*goal-oriented* definition of needs) which relates to terminal objectives or the end of learning; and
- What the learner *needs* to do to actually acquire the language (a *process-oriented* definition) which relates to transitional/means of learning.

Traditionally, the first interpretation was widely used and accepted. However, in today’s globalized teaching and learning contexts, ESP courses tend to relate to both at the same time but tend to focus on the process-oriented approach in aligning students’ needs with present working scenarios.

In view of these concerns, Dudley-Evans and St John (1998:145) discuss criteria for ESP course design and put forward useful steps for ESP teachers and course designers to consider. They list these concerns surrounding course design in the form of the following questions:

- Should the course be *intensive* or *extensive*?
- Should the learners' performance be *assessed* or *non-assessed*?
- Should the course deal with *immediate needs* or with delayed needs?
- Should the role of the teacher be that of the *provider* of knowledge and activities, or should it be as *facilitator* of activities arising from learners' expressed wants?
- Should the course have a *broad* focus or *narrow* focus?
- Should the course be *pre-study* or *pre-experience* or *run parallel* with the study or experience?
- Should the materials be *common-core* or *specific* to learners' study or work?
- Should the group taking the course be *homogeneous* or should it be *heterogeneous*?
- Should the course design be *worked out by the language teacher* after consultation with the learners and the institution, or should it be *subject to a process of negotiation* with the learners?

By asking these questions prior to planning course design, the ESP teacher can be better prepared, more so if the teacher has to balance out some of these parameters which are linked to institutional and learner expectations (Dudley-Evans and St John, 1998).

In most instances, the content of any ESP course should be determined by a comprehensive needs analysis as this first step is seen as being absolutely crucial if ESP practitioners wish to design a course that will maximally benefit their learners (Wright, 2001). In the literature of needs analysis, some of the following aspects are often recommended by experts:

- Placement testing (administering tests designed to assess general English ability and ability to perform adequately in work contexts – this might help determine the starting level of courses in the ESP course)
- Linguistics needs analysis (to identify skill development, linguistic structure, lexical items, language functions and levels of formality)
- Learning needs analysis (identify learners’ attitudes towards different kinds of methodology, learning tasks and activities); and
- Learner perceptions analysis (discover learners’ perceptions of themselves and others as part of their company culture, and their relationships with people from other company cultures). (Adapted from different sources)

The notion of needs analysis in ESP has been expanded in different ways by different scholars. Chambers (1980, qtd. in Basturkmen 2010 : 18) for instance, states that: **“Needs analysis should be concerned with establishment of communicative needs and their realisations, resulting from an analysis of the communication in target situation - what I will refer to as target situation analysis.”**

Dudley-Evans and St-John (1998: 125) also offer a ‘current concept of needs analysis’:

- A. Professional information about the learners: The tasks and activities learners are/will be using English for – ***target situation analysis*** and ***objective needs***.
- B. Personal information about the learners: Factors which may affect the way they learn such as previous learning experiences, cultural information, reasons for attending the course and expectations of it, attitude to English – ***wants, means*** and ***subjective needs***.
- C. English language information about the learners: What their current skills and language use are – ***present situation analysis*** – which allows us to assess (D).
- D. The learners’ lacks: The gap between (C) and (A) – ***lacks***.
- E. Language learning information: Effective ways of learning the skills and language in (D) – ***learning needs***.

- F.** Professional communication information about (A): Knowledge of how language and skills are used in the target situation – *linguistic analysis, discourse analysis, genre analysis*.
- G. What is wanted from the course.
- H.** Information about how the course will be run – *means analysis*

## ii) Step 2: Determination of Goals and Objectives of The Course

The curriculum design model in Figure 1.7 has goals as its centre. This is because it is essential to decide why a course is being taught and what the learners need to get from it. Goals can be expressed in general terms and be given more details when considering the content of the course. (Nation & Macalister 2010: 6). Here are some examples of goals that have been set for language courses.

1. The aim of communicative teaching is to encourage students to exploit all the elements of the language that they know in order to make their meanings clear. Students cannot be expected to master every aspect of language before they are allowed to use it for communicative purposes. Harrison and Menzies (1986, qtd. in Nation & Macalister 2010: 6)
2. aims to
  - (a) Encourage students to communicate in a wide range of everyday situations.
  - (b) Sustain interest and motivation....
  - (c) Help students understand and formulate the grammatical rules of English.
  - (d) Develop students' receptive skills beyond those of their productive skills.
  - (e) Give students insights into daily life in Britain.
  - (f) Develop specific skills, including skills required for examination purposes.
  - (g) Contribute to the students' personal, social and educational development.

Radley and Sharley (1987, qtd. in Nation & Macalister 2010: 6)

3. students' communicative competence by developing their ability to:
  - Expand the range of topics they can discuss and comprehend in English.
  - Speak English fluently (express a wide range of ideas without unnecessary pauses or breakdowns in communication)
  - Speak English accurately (use an acceptable standard of pronunciation and grammar when communicating). Richards and Sandy (1998, qtd. in Nation & Macalister 2010: 6)
4. Students continue to develop speaking and listening skills necessary for participating in classroom discussions with an introduction to oral presentation and critical listening skills. Roemer (2006, qtd. in Nation & Macalister 2010: 6)

Having a clear statement of goals is important for determining the content of the course, and in guiding assessment.

On the area under discussion of an ESP course for Greek students, (Xenodohidis, 2002, ¶ 4) confirms that: **“the goals should be realistic; otherwise the students would be de-motivated.”** Concerning, another ESP course for employees at the American University of Beirut, Shaaban (2005) explains that the core course development and its content focus on a common core for the learners from various workplaces. This content contains basic social English communication, following directions, giving instructions, along with specialized terminologies and expressions. Developing a course for health science, Gatehouse (2001) also integrates general language content and acquisition skills for language.

Referring to the previously mentioned cases of ESP, it can be concluded that General English language content, grammar, functions and skills acquisition are the dominant aspects in any core course plan, while terminologies and specific functions of a particular content are integrated in the course to meet the learners 'specific needs. Hutchinson and Waters (1987) compare ESP to the leaves and branches of a tree to a language tree. Without any roots to absorb water, leaves or branches would not grow

up; so do the leaves and branches ESP language. They will not flourish, if they lack essential language support such as general English grammar, lexis and functions. Gilmour and Marshal (1993) argue that the ESP learners' difficulties are not attributed to the lack of technical terminology but mostly due to the shortage of general English vocabulary. These essential items must be matted in the prescribed course for the ESP learners with relevancy to the field of specialization. Moreover, in designing any ESP course, attention should be paid to the four learning styles, using a range of combinations of knowledge, reflection, conceptualization, and experimentation. Different experiential elements should be used in the classroom, such as sound, music, visuals, movement, experience, and even talking.

Goals are represented in the small inner circle of the curriculum design diagram (7.1). This is because the whole purpose of the language course is centred around what the learners need to learn. Goals are central to any curriculum design.

### **iii) Step 3: Content Conceptualization**

It is important for teachers to consider the following questions:

- What reading passage will I use?
- What vocabulary will I get the learners to focus on in this activity?
- Which items shall I use for the blanks in this blank-filling activity?
- How can recycle the language items used in the previous lessons?
- What topics should I get the learners to talk about in my discussion activities?

These questions are directly related to content in order to have an idea about what will be in the course and how it will be organized. Then, the course designer must pay attention to the choice of a reading passage which involves two kinds of content – the topic of the passage and the language items which occur in it. These two kinds of content are related, but one big problem teachers face in any lesson is to focus on language features which are as important, if not more as the lesson itself.



The choice of ideas in the content of a course can involve the application of several principles. Firstly, a focus on the content matter is necessarily a message-focused approach to language learning. The focus is on the content matter of the material. It is important in such courses that language-focused learning is not neglected. That is, there should be some deliberate focus on language features in such courses (Langman, 2003). Language-focused learning has a very important role to play in language course. Secondly, a focus on a particular subject area can mean that more generally useful language items might not be met often in the course. Content –based instruction, however, can be a very effecient way of improving content matter, knowledge and language proficiency.

There are two different ways to organize the courses, either to use courses that follow the same themes or to move from one topic to another with no particular connection, except perhaps the desire to attract the learners' interest. Keeping the learners motivation is a crucial principle in language learning. However, using a wide variety of topics inevitably results in a very large amount of different vocabulary occurring, often with little repetition. Teachers, however can deal with this issue if they are aware of it.

According to Reilly (1998, cited in Xenodohidis,2006 ¶ 20) there are some practical guidelines to content choice and design:

- Define what the students should be able to do as exactly and realistically as possible, as the result of the instruction;
- Rank the syllabi in order of importance according to desired outcomes;
- Evaluate available resources and match them with the syllabi;
- Designate one or two syllabi as dominant;
- Review how combination and integration of syllabi types can be achieved and in what proportion;
- And translate decisions into actual teaching units.

Content conceptualization is often related to needs analysis and course goals and objectives. In this stage, it is necessary to identify language function and language expression in relation to the needs and objectives of the learners either for academic or professional purposes.

#### **iv) Step 4: Selection and Development of Materials and Activities**

Language instruction has five important components – students, a teacher, materials, teaching methods, and evaluation. Why do we use materials in language instruction?

Allwright (1990) argues that materials should teach students to learn, that they should be resource books for ideas and activities for teaching/learning, and that they should give teachers rationale for what they do. From Allwright's point of view, textbooks are too inflexible to be used directly as instructional material. O'Neill (1990), in contrast, argues that materials may be suitable for students' needs, even if they are designed specifically for them, that textbooks make it possible for students to review and prepare their lessons, that textbooks are efficient in terms of time and money, and that textbooks can and should allow for adaptation and improvisation.

Both Allwright and O'Neil (1990) emphasizes the fact that materials control and help learning and teaching. O'Neill emphasizes that they help learning and teaching. It is true that in many cases teachers and students rely heavily on textbooks and textbooks determine the components and methods of learning, that is, they control the content, methods, and procedures of learning. The educational philosophy of the textbook will influence the class and the learning process. Therefore, in many cases, materials are the centre of instruction and one of the most important influences on what goes on in the classroom.

Since the end of 1970s, there has been a movement to make learners rather than teachers the centre of language learning. According to this approach to teaching,

learners are more important than teachers, materials, syllabus, methods, or evaluation. As a matter of fact, syllabus, materials, teaching methods, and evaluation should all be designed for learners and their needs. It is the teacher's responsibility to check and see whether all the elements of the learning process are working well for learners and to adapt them if they are not.

In other words, learners should be the centre of instruction and learning. The syllabus is a statement of the goals of learning, the methods of learning, etc. The role of the teachers is to help learners to learn. Teachers have to follow the syllabus and provide, make, or choose materials. They may adapt, supplement, and elaborate on those materials and also monitor the progress and needs of the students and finally evaluate students.

Materials include textbooks, video and audio tapes, computer software, and visual aids. They influence the content and the procedures of learning. The choice of deductive vs inductive learning, the role of memorization, the use of creativity and problem solving, production vs. reception, and the order in which materials are presented are all influenced by the materials.

Technology, such as Digital slide show, video and audio materials, video cameras, and computers, supports and enhances instruction for the learning to take place.

Choosing the appropriate materials to suit the learners' interest is a very difficult task, however, Harding (2007: 10-11) offers some useful advice in this respect:

- Use contexts, texts and situations from the students' subject area. Whether they are real or simulated, they will naturally involve the language the students need.
- Exploit authentic materials that students use in their specialism or vocation- and do not be put off by the fact that it may not look like 'normal English'.

- Make the task authentic as well as the texts. Get the students doing things with the material that they actually need to do in their work.

According to Graves (1996, cited in Xenodohidis, 2006 ¶ 12), in order to select materials, the following issues should be taken into account:

1. Effectiveness in achieving the course purposes
2. Appropriateness of the materials, so that the students will feel comfortable. This means that the material will be relevant to their interests and language level.
3. Feasibility, so that the material will be in accordance with students' capabilities and the course will not prove too difficult for them.
4. Choosing materials may mean development of new material, collection of various materials or adaptation of existing ones. The source of materials can be from published materials (textbooks, journals, magazines).

Some beneficial suggestions are given by Xenodohidis (2002) for this stage. According to him, any task aimed at activities should enable the students to deal with situation related to their future employment. The lack of materials can be prevailed by giving certain tasks related to the future career. Using semi authentic materials is suggested. Moreover, communication situations need to be involved since they give a different dimension to language learning. The four language skills need to be related to the real situation activities. Tasks aim at activities, which would enable students to deal with situations related to their future employment.

One of the key characteristics of ESP is that teachers and course developers value the use of authentic texts and tasks. The term 'authentic' denotes that the texts were written for purposes other than language teaching and learning. For example, for developing a course for medical sciences, the teacher would try to include texts written by doctors or scientists and then to include tasks replicating those doctors in the

workplace might carry out, such as a conversation between a doctor and his patient, a medical prescription, etc.

#### **v) Step 5: Organization of Content and Activities**

The format and presentation of content and activities are the most common decisions made by a teacher. Every day teachers have to consider questions like the following:

- What activities will I get the learners to do today?
- Shall I get the learners to do this activity individually or in pairs or groups?
- Should I pre-teach these items before the learners meet them in the reading passage?
- Shall I write this on the blackboard or by using handouts?
- Should I have a pre-reading discussion or should I get the learners to talk about the text after the reading?
- Have I got a good balance of activities in this lesson?

All the above questions are related to organization of content and activities, because they involve what the learners do in the lesson and the order in which they do them. This step is mainly influenced by needs analysis and environment analysis.

The choice of an activity depends on environment analysis factors. Does the physical arrangement of the classroom make it easy to do group work? Is there enough time to complete the activity? Are the learners well-behaved enough to be able to work quietly and independently? Have the learners done this activity before or will they need to be taught how to do the activity properly? Most teachers will make these decisions intuitively. However, if the technique or activity is unsuccessful, it is always worthwhile looking at the environment factors to see if changes can be made so that the activity will work well. For example, group work might not be successful simply because the learners are not sitting in a good group work arrangement. Changing the

seating arrangement could make the activity successful. Similarly, pair work may be unsuccessful because learners are not working with an appropriate partner. Changing the way the learners form pairs could make the activity successful. Some activities may be seen by the learners to be too much like a game and not serious enough to be considered as opportunities for learning.

The choice of activity also depends on needs analysis factors. Some activities may be asking the learners to do things they are not yet able to do. Some activities may be too easy. Fluency development activities should involve easy material that the learners are already familiar with. This means of course that the learners either have to be aware of why they are doing the activity, or there is some other challenge to the activity such as an increase in speed which adds an element of difficulty to it.

Course organization is important since it provides the teacher and the students with a clear idea of what will be taught (Xenodohidis, 2006). In addition, he mentioned two principles underlying the concept of sequencing material; building and recycling. Building can follow the process of the simple to the more complex, from concrete to more open ended, while recycling means that the students deal with taught materials in a new way. Another way to consider course organization is as a cycle or as a matrix. In a cyclical approach, the teacher introduces a cycle of activities following a consistent sequence. In a matrix approach, the teacher works with some activities and as time passes, decides with which ones to continue (Graves, 1996, cited in Xenodohidis, 2006 ¶ 16). The content and activities may also be sequenced based on the standard operational procedure of the related job. The tasks performed in each duty need to be identified. Those identified tasks are then sequenced based on the operational procedure. The sequenced tasks are again analysed to reveal the language functions and language expression needed for those tasks. Certain information related to the culture understanding and standard performance required for those tasks can also be assessed and analysed. This approach is known as Task-Based Approach. Task based

approach to language teaching is a recent view which is based on the findings of linguists and psychologists. This approach is against traditional approaches such as PPP (presentation, practice, production) model of teaching (Foster, 1999, cited in Songhori,2007). Task based syllabus which is the cornerstone of TBA is defined by Richards,et.al. (1992, cited in Songhori,2007 ¶ 10) as:

**A syllabus which is organized around TASKs, rather than in terms of grammar or vocabulary. For example, syllabus may suggest a variety of different kinds of task which the learner are expected to carry out in the language, such as using the telephone to obtain information; drawing maps based on oral instruction; giving orders and instructions to others, etc.**

#### **vi) Step 6: Assessment and Evaluation**

The last step but not the least, assessment and evaluation is an integral part of the development of any model of a course which comes after the implementation stage of the course. These processes should also be integrated into the design process to ensure that these goals and objectives are achieved.

##### **a) Assessment**

Every day teachers have to consider questions like the following:

- Is this activity going well?
- Are some learners participating in the activity?
- Are some learners doing more work than others?
- Have the learners learnt anything from that activity?
- Should I give the learners a test to encourage them to keep on learning?

Assessment can provide a teacher and learners with information about the learners' present knowledge, progress and level, and it can also be a means of

encouraging involvement and participation. Assessment can also be done for many different purposes; it can be used to encourage learning, to find areas of difficulty, to place the learners in the right group or class, to measure learning from the course, or to measure how much their language proficiency has improved.

Macalister & Nation (2010:205) explain that: **“monitoring is a process that can be related to assessment. It probably plays a much bigger role in most courses than assessment does.”** Monitoring occurs whenever the teacher observes what the learners are doing or what they have done in order to see if things are going as they should. This happens many times in any lesson and can take many forms. Most monitoring is informal and does not involve testing. The teacher is the main guider in this process, since he/she is the only one who can feel if something is going well or wrong. He/She is always good to check this with some guided or focused observation.

The purpose of assessment and monitoring is to make sure that the learners will get the most benefit from the course. This involves carefully observing the learners and the course, and suggesting changes to the course and the way it is run.

### **b) Evaluation**

Evaluation examines at all aspects of course design to check if the course is the best possible. It requires looking both at the results of the course, and the planning and running of the course. That is why, every day teachers have to consider questions like the following:

- Is the course going well?
- Are the learners happy and satisfied with the course?
- Am I happy with the course?
- Can I find ways in which I can improve the course?
- Did today’s lesson go well?
- Is the course preparing the learners properly to reach the needed objectives



All these questions relate to evaluation because they involve making a judgment on whether the course or some aspect of it is good or not. In the curriculum design diagram (see Figure 1.3), evaluation is a large circle which includes all of the parts of the curriculum design process. This is because evaluation is very wide-ranging and can focus on any aspect of curriculum design. It can be processed through different steps

### **b.1) Steps in Evaluation**

All of the early steps in evaluation aim at deciding why the evaluation is being done and if it is possible to do it.

- 1) Find who the evaluation is for and what kind of information they need.
- 2) Find what the results of the evaluation will be used for – to improve the course, to decide whether to keep or get rid of the course.
- 3) Decide if the evaluation is necessary or if the needed information is already available.
- 4) Find how much time and money are available to do the evaluation.
- 5) Decide what kinds of information will be gathered.
  - Amount of learning
  - Quality of learning
  - Quality of teaching
  - Quality of curriculum design
  - Quality of course administration
  - Quality of support services – library, language lab, etc.
  - Teacher satisfaction
  - Learner satisfaction
  - Later success of graduates of the course.
- 6) Try to gain the support of the people involved in the evaluation.
- 7) Decide how to gather the information and who will be involved in the gathering of information.

- 8) Decide how to present the findings.
- 9) Decide if a follow-up evaluation is planned to check the implementation of the findings.

A further step would be to evaluate the evaluation. Was the evaluation reliable, valid and practical? (Nation & Macalister, 2010: 123-124)

### **b.2) Purpose and Audience of Evaluation**

Kiely and Rea-Dickens (2006: 225-271) make a useful three-way scope distinction: (1) large-scale evaluations which “**tend to focus on major educational innovations with significant financial backing with an underlying agenda**”, (2) teacher-led evaluations, and (3) management-led evaluations. A course evaluation can be an expensive and time-consuming procedure. For example, an evaluation of an intensive English programme involved talking to each of the thirty-six teachers on the programme for at least half an hour each and in some cases for five or more hours. Most of the really important work in an evaluation is done before the data gathering begins. As in experimental research, you cannot fix by statistics what has been spoilt in design.

The first critical step is to find out who the evaluation is for and what kind of information they value. There are several reasons why this step is very important. Firstly, it helps determine the degree of confidentiality of the evaluation. Secondly, it helps determine what kind of information should be gathered and what kind of information should not be gathered. Thirdly, knowing who the evaluation is for is useful in determining whether the data to be gathered will be provided willingly or reluctantly. At the same time, it is important to know why the evaluation is being done. Is it being done to improve the course or to guide a decision whether to maintain or get rid of the course? It is at this point that the evaluator should be most cynical.

### b.3) Type of Evaluation

A distinction is made between formative evaluation and summative evaluation. A formative evaluation has the purpose of forming or shaping the course to improve it. A summative evaluation has the purpose of making a summary judgment on the quality or adequacy of the course so that it can be compared with other courses, compared with previous summative evaluations, or judged as being up to a certain criterion or not

	<i>Formative</i>	<i>Summative</i>
<i>Purpose</i>	Improve the course	Judge the course
<i>Type of data</i>	More likely to look at causes processes, individuals	More likely to look at results, standards, groups
<i>Use of data</i>	Used for counseling, mentoring, professional development, setting, goals, adapting material	Used to make decisions on adequacy
<i>Presentation of findings</i>	Presented to and discussed with individuals	Presented in a report

Table 1.1: Formative and Summative evaluation compared (Nation & Macalister, 2010 :126)

The formative/summative distinction is important when informing the people who are the focus of an evaluation about the purpose of the evaluation, in helping the evaluator decide what kind of information will be most useful to gather, and in using the information gathered. Table1.1 compares formative and summative evaluation deliberately contrasting the differences to make the distinction clear.

Deciding whether the evaluation is summative or formative is one decision. Deciding if it is to be long term or short term is another (Beretta, 1986a,b). Most evaluations are short term. Some are conducted over a few days and others may take a long period.

#### **b.4) Gathering information**

Curriculum development involves planning a course at the outset but it also involves ongoing course revision. In deciding whether to revise a course, the developer first needs to know how effective the present version of the course is. One key source of information is student course evaluation. Different teachers in different contexts in every part of the world are familiar with the kinds of during end-of-course evaluations by using questionnaires or interviews to identify students' and sometimes teachers' perceptions of the effectiveness of the course.

The course developer needs to consider *did the students like the course and did they learn anything from it?* The subject of evaluation has been relatively lacking in the ESP literature (Gillet and Wray, 2006; Cheng, 2006). Gillet and Wray (2006:8) argue that **“there has been little discussion of success in EAP, specifically the extent to which EAP programmes actually help their students to succeed in their chosen fields. These writers argue there is a need to ‘fill the gap by looking at research that has attempted to provide evidence that EAP courses are helpful.’”**

A number of interesting ideas for evaluation EAP courses can be found in the reports in the volume edited by Wray and Gillet (2006). The following examples from this volume were concerned with evaluating pre-sessional EAP courses and programmes in university settings. Atherton (2006) reports using mixed methods which included comparing students' entry and exist test scores, an end-of-course questionnaire which asked students to rate how well they felt they have achieved the main course objectives and the 'acid test' to find out how students felt they performed once they had joined their academic programmes. The 'acid test' took the form of a

questionnaire sent to the students some months after they had finished the EAP programme.

By far, most evaluation of courses is done by the teacher and by the learners, often independently of each other. Their opinions are very important since both of them have a great impact on the course. However, it is always useful to check these points of views in addition to more valid measures. That is, very enjoyable courses may be achieving very little in terms of language development and courses that students complain about with heavy workloads and demanding tasks may be achieving a lot or they may not. When a teacher says that a course is going well, this is useful, but not very convincing. Using some measurable form of evaluation may be more convincing by using formal evaluation at various periods during courses such as brief questionnaires, examples of students' work, and records of improvement.

### **1.13. Conclusion**

While not fundamentally different from teaching English as a foreign language, ESP has often provided the opportunity to test out and develop innovations prior to their more general use. The use of need analysis, task-based learning, the use of authentic materials, genre analysis, the teaching of language and content combined represent the core of an ESP course programme.

The present chapter has shown that the learner is the centre of interest in ESP. It is for that reason that ESP is a learner-centred approach. The chapter has also tried to draw a clear distinction between General English teaching and ESP teaching since the development of ESP has both encouraged and has been to a great extent helped by the parallel urge to introduce, elaborate concepts, notions, functions and communicative purposes.

In sum, the main steps for course design that have been described in this chapter will represent the theoretical framework for this research. Thus, the second part of the chapter is to define what an ESP course is as well as the conception of the idea of learner participation in the selection and production of course materials. The purpose of the subsequent chapter will be to consider some of the major issues facing both ESP teachers and students in the Department of Biology at the University of Tlemcen and the methodology used for data collection and analysis to describe students' needs.

# **CHAPTER TWO**

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## **NEEDS ANALYSIS** **Data Collection, Analysis & Interpretation**

**CHAPTER TWO**  
**NEEDS ANALYSIS**  
**Data Collection and Analysis**

**CHAPTER TWO : NEEDS ANALYSIS Data Collection and Analysis**

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## 2.1. Introduction

When teachers intend to develop teaching materials, it is helpful to understand and consider learners' needs and get data from them. It is also necessary to know what learners' objectives are, what they are expecting from the course, and the characteristics of their learning habits. Based on this conception, learners' needs need to be analysed and based on consideration of those needs, learning objectives can be selected and precisely defined, so that university administrators and teachers of the university and teachers can use the results as a basis for constructing a specific syllabus in order to best suit the learners.

The present study identifies both teacher, and students' perceptions of ESP teaching and learning in Department of Biology. This chapter illustrates the instruments for data collection used in this research, the procedures of the study are then described and the statistical methods for analysing the research data are the first analysed quantitatively and then qualitatively. This chapter concludes with an attempt to discuss and interpret the findings of the present research.

## 2.2. Needs Analysis

Needs Analysis (also known as Needs Assessment) is a means of defining as precisely as possible the learners' language needs and understanding what they think they can obtain from the language course. It has a vital role in the process of designing and carrying out any language course, be it English for Specific Purposes or a General English course, and it centrally has been acknowledged by several scholars and authors (Munby,1978; Richterich and Chancerel,1987; Hutchinson and Waters, 1987; Berwick, 1989; Brindley, 1989; Tarone and Yule, 1989; Robinson, 1991; Johns,1991; West,1994; Allison *et al.* (1994); Seedhouse,1995; Jordan,1997;Dudley-Evans and St.John, 1998; Iwai *et al.* 1999; Hamp-Lyons, 2001; Finney,2002). The importance of

carrying out a needs analysis for developing EAP tests is emphasized by Fulcher (1999), McDonough (1984), and Carroll (1980, cited in Fulcher, 1999).

According to Iwai *et al.* (1999), the term needs analysis generally refers to the activities that are involved in collecting information that will serve as a basis for developing a syllabus that will meet the needs of a particular group of students. It also gives the teacher more of an idea about how to adapt the course to students' needs, rather than the student having to adopt the course; it also helps the students become more aware of their role in the learning process.

The idea of focusing on learners' needs originated in the 1970s resulting from the interest in the design of a language course that could satisfy individual and social needs (Palacios, 1992); its development evolved in association with the teaching of languages for specific purposes. The term needs analysis has been the principal method for determining what to include in ESP/EAP curricula (Bensch 1999). Richards (2001: 51) defines the term needs analysis as: **'procedures used to collect information about learners' needs.'**

Clearly, the role of needs analysis in any ESP course is indisputable. Language Needs Analysis (LNA) has traditionally been a pillar of ESP course design. As Hyland (2007) argues the use of systematic means to define the specific sets of skills, texts, linguistic forms, and communicative practices that a particular group of learners must acquire is central to ESP, in forming its syllabi and materials and underlining its pragmatic engagement with occupational, academic, and professional realities.

Needs analysis is an inseparable part of any ESP programme. In fact, ESP is defined as an approach to course design which starts with the question 'Why do these learners need to learn English?' But what courses? Hutchinson and Waters (1987:53) argue, **'What distinguishes ESP from General English is not from the existence of a need as such but rather an awareness of the need.'** Accordingly, **"if learners, sponsors and teachers know why the learners need English, that awareness will**

**have an influence on what will be acceptable as reasonable content in the language course and, on the positive side what potential can be exploited”** (ibid). Thus, needs analysis is associated with ESP. This means that an ESP programme scaffolds on needs analysis of learner (Abu-Zahra & Shayeb,2011).

Dudley-Evans and St-John (1998: 125) defined Needs Analysis (NA) as **“professional information about the learners: The tasks and activities learners are/will be using English for [...] target situation analysis and objective needs.”** They also consider NA as the process through which personal information such as wants, means and subjective needs are retrieved. In addition, they regarded NA as the process of deciding the learners’ English language skills, finding information related to linguistic, genre, discourse, determining what is expected out of the course, and finally establishing how the course will be administered and run. Needs Analysis can be detailed to include many important factors. One of the current theoretical frameworks of needs analysis was presented by Dudley-Evans and St-John (1998).



Figure 2.1: Needs analysis Components Adapted from Dudley-Evans and St John (1998: 125)

They believe that an environment situation plays a major part and it seeks to comprehensively inform the course designer about the learners. The figure illustrates

the theoretical framework suggested by Dudley-Evans and St-John (1998). This model can be viewed as the most comprehensive model for ESP needs analysis. This model of ESP needs analysis (1998: 125) focuses on (1) learners' professional information, (2) learners' personal information, (3) learners' language information about the target situation, (4) learners' lacks, (5) learners' needs from course, (6) language learning needs, (7) communication information in the target situation, and (8) environmental information.

Another way to look at needs is to make a clear cut division between present knowledge/required knowledge, objective/subjective needs, and perceived/felt needs (Dudley-Evans and St-John 1998). The difference between present and required knowledge goes back to the gap between present know-how and exigencies of the target situation. The difference between objective/subjective and perceived/felt needs lies in the nature of data based on the nature of sources used to collect the data required for NA, using outsiders and/or insiders views Dudley-Evans and St-John (1998). For example, tests are used to elicit objective needs and interviews to subjective ones. Very roughly, lacks fit into present knowledge, necessities fit into required knowledge, and wants fit into subjective needs.

In order to put forward a balanced argument on NA and the steps taken to conduct Needs Analysis, a framework has been proposed by Brown (2009) and explains the stages of a comprehensive Needs Analysis. This framework consists of three general stages with ten steps. Brown's framework can be illustrated as follows :

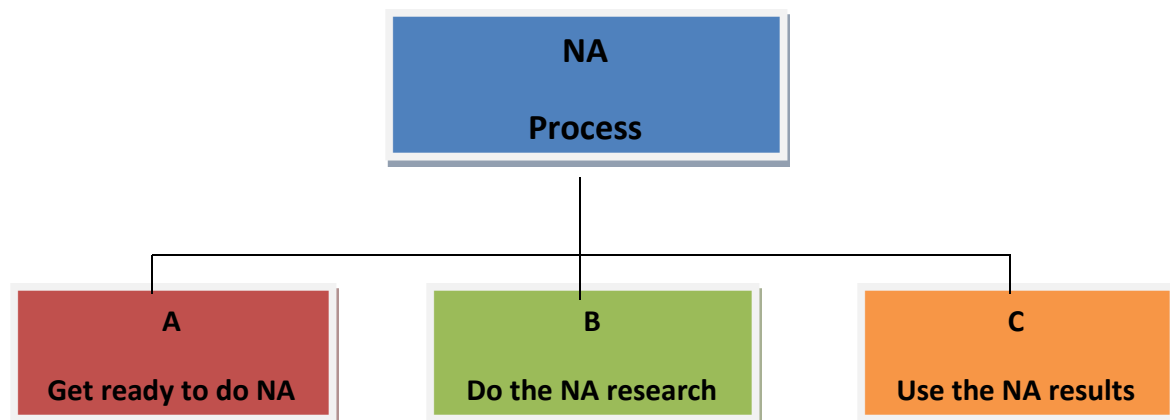


Diagram 2.1: A Framework for doing NA (Adopted and adapted from Brown, 2009: 269).

In fact, Brown presents his framework in a linear fashion, but a cyclical shape was adapted by Mohammadi & Nacer (2013). The logic behind this modification goes back to the time of NA and the interaction among its different stages. A needs analysis might be done before a course starts, at the beginning of a course, be ongoing during the course or at the end of a course if it is going to be repeated with a different group of learners (Nation and Macalister, 2010). It is especially at this point that NA tends to be circular, shaping and reshaping the future courses and adding to their efficacy. The framework goes as follows:

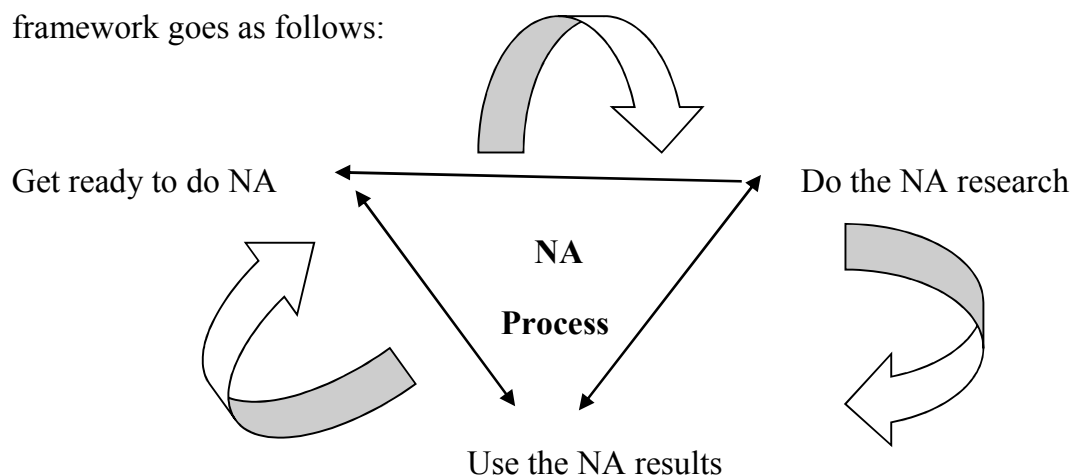


Figure 2.2: A Framework for doing NA (Adapted by Mohammadi & Nacer, 2013:1015)

This figure exposes the major and general stages of doing a needs analysis. These stages come along with ten steps:

**A. Get ready to do NA**

1. Define the purpose of the NA
2. Delimit the student population
3. Decide upon approach(es) and syllabus(es)
4. Recognize constraints
5. Select data collection procedures

**B. Do the NA research**

6. Collect data
7. Analyze data
8. Interpret results

**C. Use the NA results**

9. Determine objectives
10. Evaluate the report on the NA project (Mohammadi & Nacer, 2013:1016)

### **2.3. Needs Analysis and its Components**

There have been several surveys about the different approaches to NA in EFL since the term was first introduced by West in the 1970s, but almost all of them concern ESP mainly because of two reasons:

1. Early NA focused on English for Occupational Purposes (EOP) which later changed to Academic (EAP). (West, 1994:1)
2. The belief that GE learners' needs cannot be determined (Seedhouse, 1995: 59) because it is taken for granted that GE learners learn the language in a

TENOR (Teaching English for No Obvious Reason) situation. (Abbott & Wingard,1981).

Nowadays NA is an umbrella term covering several components.

### 2.3.1. Target Situation Analysis

The term, “Target Situation Analysis” (for short TSA) was first introduced by Chambers (1980: 29). For him TSA is **“communication in the target situation.”** TSA is a form of Needs Analysis, which focuses on identifying the learners’ language requirement in the occupational or academic situation they are being prepared for (West, 1994). Robinson (1991:8) argues that **“a needs analysis, which focuses on students’ needs at the end of a language course can be called a TSA.”** In his work Munby (1978) introduced Communicative Needs Processor (for short CNP). As Hutchinson & Waters (1987: 54) claims: **“with the development of the CNP it seemed as if ESP had come of age. The machinery for identifying the needs of any group of learners had been provided; all the course designers had to do was to operate it.”**

In Munby’s CNP, the target needs and target level performance are established by investigating the target situation, and his overall model clearly establishes the place of needs analysis as central to ESP. He presents a Comprehensive Data Bank (for short CDB), comprising a set of parameters within which information on the students’ target situation can be plotted. The model formulated by Munby has widely been studied and discussed. Comprehensive data banks are among its useful features. For example, micro-skills and attitudes can be used as checklists for the resultant syllabus.

Dudley-Evans and St-John (1998: 125) define TSA as: **“ Tasks and activities that learners are/will be using English for target situation.”** TSA generally uses questionnaire as the instrument. According to them (1998:124),**“TSA includes objectives, perceived and product-oriented needs.”** They explain that the objective



and perceived needs are derived by outsiders from facts, from what is known and can be verified. Therefore, “to be able to spell English words correctly” is an objective/perceived need. Product-oriented needs are derived from the goal or target situation.

### 2.3.2. Present Situation Analysis

Present Situation Analysis (for short PSA) may be posited as a complement to target situation analysis (Robinson, 1991; Jordan, 1997). If target situation analysis tries to establish what the learners are expected to be like at the end of the language course, present situation analysis attempts to identify what they are like at the beginning of it. According to Robinson (1991:8), **“PSA seeks to establish what the students are like at the start of their language course, investigating their strengths and weaknesses.”** Dudley-Evans & St-John (1998: 124) state that **“PSA estimates strengths and weaknesses in language, skills, learning experiences.”** If the destination point to which the students need to get is to be established first. The starting point has to be defined.

The term PSA was first proposed by Richterich and Chancerel (1980). In this approach the sources of information are the students themselves, the teaching establishment, and the user-institution, e.g. place of work (Jordan, 1997). For each of these, an ESP practitioner seeks information regarding their respective level of ability; their resources, and their views on language teaching and learning. The PSA can be carried out by means of established placement tests or Diagnostic test. However, the background information, e.g. years of learning English, level of education, etc about learners can provide us with enough information about their present abilities which can thus be predicted to some extent.

According to McDonough (1984), PSA involves “*fundamental variables*”, which must be clearly considered before the TSA. In practice, one is likely to seek and find information relating to both TSA and PSA simultaneously. Thus, needs analysis may

be seen as a combination of TSA and PSA and within the realm of ESP, one cannot rely either on TSA or PSA as a reliable indicator of what is needed to enhance learning and reaching the desired goals. Consequently, other approaches to needs analysis have been proposed.

### **2.3.3. Pedagogic Needs Analysis**

The term “pedagogic needs analysis” (for short PNA) was proposed by West (1998) as an umbrella term to describe the following three elements of needs analysis. He states the fact that shortcomings of target needs analysis should be compensated for by collecting data about the learner and the learning environment. The term ‘pedagogic needs analysis’ covers *deficiency analysis*, *strategy analysis* or *learning needs analysis*, and *means analysis*.

#### **2.3.3.1. Deficiency Analysis**

What Hutchinson and Waters (1987) define as lacks can be matched with deficiency analysis. According to Allwright (1982, cited in West, 1994), the approaches to needs analysis that have been developed to consider learners’ present needs or wants may be called analysis of learners’ deficiencies or lacks. From what has already been said, it is obvious that deficiency analysis is the route to cover from point A (present situation) to point B (target situation), always keeping the learning needs in mind. Therefore, deficiency analysis can form the basis of the language syllabus (Jordan, 1997) because it should provide data about both the gap between present and target extralinguistic knowledge, mastery of general English, language skills, and learning strategies.

#### **2.3.3.2. Strategy Analysis or Learning Needs Analysis**

This type of needs analysis has to do with the strategies that learners employ in order to learn another language. This tries to establish how the learners wish to learn

rather than what they need to learn (West, 1998, cited in Songhori, 2008:12). Allwright was the first to make a distinction between *needs*, i.e. the skills which a student sees as being relevant to him/herself; *wants*, i.e. those needs on which students put a high priority in the available limited time, and *lacks* i.e. the difference between the student's present competence and the desired competence. His ideas were adopted by Hutchinson and Waters (1987), who advocate a learning-centred approach in which learners' learning needs play a vital role. Arguably, they advocate a process-oriented approach, not a product-or goal-oriented one. What learners should be taught are skills that enable them to reach the target, the process of learning and motivation should be considered as well as the fact that different learners learn in different ways (Dudley-Evans & St-John.1998).

Jordan (1997:26) quotes Bower (1980) who had noted the importance of learning needs: **“if we accept....that a student will learn best if what he *wants* to learn, less well what he only *needs* to learn, less well still what he either wants or needs to learn, it is clearly important to leave room in a learning programme for the learner's own wishes regarding both goals and processes.”**

Finally, as Allwright (1982, cited in West, 1994) says that the investigation of learners' preferred learning styles and strategies gives us a picture of the learners' conception of learning.

### **2.3.3.3. Means Analysis**

Means analysis tries to investigate those considerations that Munby's (1978) Communicate Syllabus Design excludes; that is, matters of logistics and pedagogy that led to debate about practicalities and constraints in implementing needs-based language courses West (1994, cited in Haseli, 2008: 15). Swales (1989, qtd. in Haseli, 2008: 15) lists five factors which relate to the learning environment and should be considered by curriculum specialists if the course is to be successful. These considerations are:

- Classroom culture
- EAP staff
- Pilot target situation analysis
- Status of service operations
- Study of change agents

Means analysis is mainly used for the purpose of designing a curriculum rather than a syllabus design.

#### **2.4. Reasons for Conducting a Needs Analysis**

A needs analysis (or needs assessment) is a systematic approach for studying the state of knowledge, ability, interest, or attitude of a defined audience or group involving a particular subject. It is used by professionals to learn about important issues and problems faced by our learners in order to design effective educational programmes.

A needs analysis also provides a method to learn what has already been done and what gaps in learning remain. This allows the teacher to make informed decisions about needed investments, thereby extending the reach and impact of educational programming.

The goals of need analysis are nearly always the same. The first goal is to learn what our audience already knows and thinks, so that we can determine what educational system is needed. A second goal is to understand what we can do to make our educational system more accessible, acceptable, and useful to our learners. A Needs Analysis, thoughtfully performed by Cawley (2009: 3), provides the following:

- **Impact:** Insights about how education and training can impact the audience;

- **Approaches:** Knowledge about educational approaches that may be most effective;
- **Awareness:** of existing programmes and of gaps in available training to enable efficient use of resources;
- **Outcomes:** Information about the current situation that can be used to document outcomes;
- **Demand:** Knowledge about the potential demand for future programmes and textbooks
- **Credibility:** that the programme is serving the target audience, an important part of communicating greater competence and professionalism to funding authorities who want to know a programme or textbook's impact.

A needs analysis is conducted so the target audience can verify its own level of knowledge and skill, its interests and opinions, or its learning habits and preferences. Collecting and analyzing needs analysis data allows the investigator to describe the “gap” between what exists and what is needed in target situation. Filling that gap becomes the purpose of the next generation in education in general and the aim of syllabus course design in particular.

## 2.5. Steps in conduction Needs Analysis

There are different steps to follow while conducting a needs analysis in order to have reliable and valid results

- a) Defining the purpose of NA, i.e.** defining the aims and what is it that you want to learn from NA
- b) Delimiting the student population, i.e.** who is the target audience? Whose needs are you measuring, and to whom will you give the required information?
- c) Deciding upon Approach(es) and Syllabus(es), i.e.** the how and what the students need to learn in the course of a particular programme of language instruction (Brown, 1995). The content or the syllabus of the programme can be everything from structural to functional to task-based and so on (Long and Crooks, 1992; White, 1988; Wilkins, 1976).

- d) Recognizing Constraints**, i.e. the framework imposed by learners, teachers, and the situation.

## **2.6. English Courses at the Faculty of Sciences, Department of Biology**

The Department of Biology is part of the Faculty of Sciences. English at the Department of Biology is a compulsory subject. Students are taught Reading Comprehension through different scientific articles in the target language. Here, the students are expected to be able to comprehend the reading materials and understand the meaning of the text, and to grasp the different technical words used in the article. As a second step, the lecturer teaches the students how to translate articles from English into French in order to use them as updated resources for their future scientific research. Unfortunately, no lecturer tries to include tasks that involve communicative skills within the sessions.

### **2.6.1. Teaching Load**

One important feature in the teaching context is the time; the teacher needs to use this time efficiently. Thus, the question of time needs to be seriously taken into consideration, since, the timing that is set for the English module in that Department is not sufficient to reach the appropriate objectives. At the Department of Biology, the English module is introduced officially within the curriculum during the three first years of study in the LMD System, where only one hour and half per week are devoted to this module from the first to sixth semester. Then, two hours per week during the first and second semester at the Master level.

### **2.6.2. Lecturers' Profile**

A typical ESP teacher is a General English teacher who is employed to teach an ESP course. It is only in 2011 that an ESP programme has been introduced in the Department of English at the University of Tlemcen, for Masters' students who wish to

study this specific field but the majority of teachers are not ESP specialists; most of them have not been trained to teach ESP. They are part-time teachers and paid hourly, all working in different departments other than the English Department.

Within the Department of Biology, there are three lecturers teaching English. They have different backgrounds. Two of them come from the Faculty of Sciences, they belong to the Biology Department and are considered as subject specialists; and only one who comes from Department of English and is considered as a language specialist but there is no collaboration between subject specialist and the language specialist. In this department, the teachers are expected to teach English in order to minimize the language difficulties in English faced by students. The Department offers the lecturers space to use their teaching programmes and methodologies.

### **2.6.3. Course Objectives**

The different objectives are set by the administration on the basis of a ministerial decree<sup>1</sup>. At the end of the year, the students of Biology are supposed to be able to read and translate scientific articles in English as a first step. It also emphasizes the way to prepare ‘International Communications<sup>2</sup> in their field of research as a second step. As a last step, they should also be able to attend and participate in different national and international conferences. Masters’ students are obliged to prepare a ‘Master dissertation’ to obtain their “Master Degree”. Yet, to fulfill this research they should rely on different up-to-date articles mainly written in English either published ones or from the web.

### **2.6.4. Teaching Materials**

Concerning the teaching materials, which are the aim of the present work, there is no specific syllabus in the Department of Biology; the teaching materials selected by the teachers are either courses from General English textbooks or some scientific articles chosen from their specific fields of research. Most of the books about Biology

are available in French at the library. Teachers also prepare numerous additional materials such as exercises containing specific language problems that have arisen in a particular group of students. The teachers use the translation and structural method. Some of them, therefore, teach the students the basis of English language which includes, sentence structure, tenses and vocabulary.

### **2.6.5. Learning Context**

The structural method dominates the learning context in the Department of Biology. The students are taught how sentences are formulated within scientific articles, followed by different exercises of reading comprehension to explain the difficult words and the technical ones; they are expected to memorize as many words as they can. Then, they are instructed to make sentences by using the words they have learnt. As a final step, the students are instructed to read and translate scientific texts from English into French.

### **2.6.6. Learners Testing**

In the Department of Biology, the English module is officially included in the programme. Two or three examinations plus a tutorial mark are given at the end of each semester during the year to assess the students who are supposed to have acquired some basic rules in English, the proper terminology used in Biology as well as the ability to read and use general and specialized materials.

The content of the exam includes a complete scientific text or gap filling activities to assess their level in English. Some questions about the text, and scientific terms are also included. An important part of the exam is also devoted to translation. The content of the tutorial is also considered as important step to evaluate the learners' competence in reading and writing skills. It consists of reading an article in their field of research and to translate it from English into French.



## **2.7. Data Collection**

Needs analysis does, inevitably, involve data collection. Methods of collecting data for these various types of analyses are numerous indeed. Some of them used in this research are explained in detail in the following section.

### **2.7.1. Methodology**

The present study aims at conducting a Needs Analysis to investigate both teachers and students' perceptions of ESP teaching and learning at the Department of Biology. The result of this needs analysis will serve as a basis for the design of a course for Master students.

To conduct this research, the strategy of “triangulation” has been used. Triangulation is a crucial step in needs analysis. This strategy was a good choice for the research because it allowed the researcher to cross-check the information for validation of the “Needs Analysis”. In this regard Long (2005) has stressed the importance of cross-checking of data provided by at least three of the resources, as it adds to the validity of the needs analysis. Three tools namely, a structured interview and questionnaire for the students, a structured interview for the teachers. In addition, a test at the beginning of the semester (Diagnostic test), was used in the present research for two reasons: First, to identify the students' level before the course and compare it once the course is completed. Second, to select students with different scores to take part in the interview.

### **2.7.2. Participants**

The participants in this study were 40 first-year Master's students from the Department of Biology, and three teachers; one is a language specialist from the department of English and two subject specialists from the department of Biology.

These first-year Master's students were enrolled in their academic programmes during the first semester of the 2012-2013 academic year since it is the only semester in which the English courses are scheduled. They were studying in a specific field of research which is "Physiology and Biochemistry of Nutrition". They were divided in two groups; one consisted of 25 students and the other had 15 students but for the purpose of the study they were gathered in one class for two sessions per week. Both English courses were scheduled in the first semester from mid-October 2012 till the end of February 2013.

### **2.7.3. Instruments**

Both qualitative and quantitative data were collected for this study. Data included a pre-test for the purpose of identifying the level and interview with students for the purpose of preparing a questionnaire in order to identifying their needs in terms of linguistic competence, lacks and wants. Another interview with the teachers was organised for the purpose of analysing the overall situation in the Department of Biology. Before collecting the data, the researcher described and explained the purpose of the study to the participants and their respective roles.

#### **2.7.3.1. Pre-Course Test (Diagnostic Test)**

This instrument was a Diagnostic test that consists of two parts: Part A includes General English test and Part B deals with scientific English test. (See appendix4). Each part is described in details in chapter four (see 4.2.1.1)

The purpose of the first part was to discover the respondents' level of proficiency in English. Additionally, the test was used to confirm or correct the self-assessment they had provided in the questionnaire regarding their level of English proficiency. The test had ten grammar items that ranged from very beginners to advanced levels of difficulty; ten reading comprehension items in three reading passages that ranged from beginners to advanced levels of proficiency. The items were all multiple choice with

four alternatives to choose from. They were not able to pass an oral exam test since they asked the researcher to translate most of the questions in the oral interview. This confirms their low level of oral English proficiency.

The second part of the test (Part B in Appendix 4) was to determine the participants' knowledge of scientific English vocabulary, comprehension of texts in biology and their ability to summarize and translate small passages about topics in their specific field of research. The test had ten items with multiple choice and questions for which respondents had to choose between different options.

The scores obtained through this test were analysed in order to evaluate their English language proficiency.

The test was administered to the first-year master's students at the beginning of the semester before the starting of the courses. It was done at the Department of Biology in an amphitheatre, supervised by four teachers (language teachers and subject specialists), and lasted two hours for each part.

### **2.7.3.2. Structured Interview for Students**

The questions of this structured interview were developed for First-year Master's students (see Appendix 1). It was designed as a pilot study in order to elaborate and develop a comprehensive questionnaire for investigating the linguistic needs of the learners. Witkin and Asltshuld (1995) suggest we would use more than one data collection method to have a more reliable understanding of students' needs to develop a course. Richards (2001) proposes that an in-depth analysis of students' levels and needs can be made by means of interviews

The interview questions included open and close-ended questions based on the theoretical framework of the needs analysis of the study (see 2.3 and 2.5). The

questions in the interview were formulated on the basis Present Situation Analysis (PSA), Target Situation Analysis (TSA) and Language Situation Analysis (LSA) components of the needs analysis of the study. The interview is divided into three parts: **Part 1** is to have an overview about the role of the English language in the Department of Biology as well as the language needs of the students. **Part 2** is to describe how the English courses were running before, and **Part 3** is to investigate the teaching materials available and identify the students' wants and suggestions to improve the situation in that department.

For the structured interview with the students; the sample chosen for the purpose of needs analysis study were ten students out of forty belonging to the same field of research (Physiology and Biochemistry of Nutrition). The interviewees were selected on the bases of the scores obtained in the pre-test; six of them were top scorers, two others got the medium scores and the rest two students got the poorest scores.

An appointment at the beginning of the semester was made with those students prior to the interview; it was conducted at the Department of Biology and most of the questions were translated in French since the interviewees were not able to understand them well in English.

### **2.7.3.3. Questionnaire for the Students**

According to various research conducted on needs assessment in ESP, this questionnaire has been adopted from the research work of Kittidhaworn (2011) about assessment of the English-Language needs of Thai undergraduate engineering students which is an attempt to observe and analyse the needs, language attitudes and learning styles of students coming from different cultural backgrounds in a community college for future curriculum development for 2<sup>nd</sup> year ESP programme in engineering then adapted to the Algerian context, the case of First-year Masters' students in Biology Department at the university of Tlemcen. The aim of this study is to analyse the target

and learning needs to design an appropriate course that suit their academic and professional needs and to evaluate the suggested ESP course for Master Biology students. The sample population in ESP setting is nearly the same all over the world since students are effective and active participants to conduct a needs assessment for course design. This questionnaire was used as a quantitative and qualitative technique for data collection method after conducting an interview with them. The way that this questionnaire has been adapted is by adding other parts (Part A, B, C, and E) to seek information based on theoretical framework of the study, which covers TSA, PSA, and LSA as well as other aspects according to the theoretical framework of the needs analysis of the study (see 2.3 and 2.5). The only part that was adopted from Kittidhaworn (2011) and Richards text (2001) is Part D of the questionnaire since the questions are consistent with TESOL standards in order to be used as a framework for ESP course design.

The questionnaire was composed of five parts, namely parts A, B, C, D, and E (see Appendix 2).

**PART A** of the questionnaire deals with general background information regarding the subjects' age, gender, first language, medium of instruction and speciality, together with years of studying English at the university, their English levels before and after the entrance to the university. Question five seeks to self- evaluate their English proficiency in the four skills. The last question in this part helps to know the learners basic knowledge in their main field of research as well as their motivation for taking an ESP course.

**PART B** consists of 5 items which are designed to identify their wants and the areas in which they need English. They were also asked to classify their priorities in the four skills. The two last items were set to identify their language difficulties and their lacks

for that, they were requested to select from a list of options including grammar, vocabulary, communications, pronunciation, reading comprehension, etc.

**PART C** was developed to investigate PSA and language information about student-present needs in order to elicit the subjects' perception regarding the appropriateness of the current English language course. Four questions were asked in that section, the participants were requested to specify their preferences of the type of English teacher they would like to have as well as their roles within the classroom.

**PART D** deals with the English language needs in four major areas. The part D of the questionnaire has been adopted from Kittidhaworn (2011) for the sake of using linguistic concepts (Language Function ; Rhetorical Categories ; Language Structures and Language Skills) as a framework to design a ESP course for Biology Master students based on pedagogical methodology consistent with TESOL standards. Most of the questions were: 1-point scale (Likert scale type) ranging from (1- "very important", 2- "important", 3- "slightly important" and 4- "not important").

**PART E**, the last section of the questionnaire was devoted to the different suggestions to improve the English language course. It consists of 5 questions, aimed at identifying students' learning preferences by proposing different learning styles, instruments and activities.

Before administering the questionnaire, the researcher met with the teacher in charge of the module and a class time was given to the researcher to conduct the study, during which the students of each group were informed of the objectives and the significance of the research. They were also requested to state real and honest responses. They gave them the time of a session (1h30) to fill up the questionnaire.

Moreover, the participants were allowed to ask for any clarifications they might need. Then, 40 copies of the questionnaire were distributed. Once, they finished answering the questionnaire, they were requested to check their responses for incompleteness or missing answers. The total number of copies was returned back at the end of the session.

#### **2.7.3.4. Structured Interview for the Teacher**

The second tool was an interview with the teachers in charge of the module of English in the Department of biology (see Appendix 3). The interview consists of 22 close and open-ended questions. The total number of English teachers in that department is three. One is language specialist holding a licence degree in English; he was graduated from the department of foreign languages- English section and they are not trained to teach ESP. The two others are biologist, holding a doctorate degree in the field of Physiology and Biochemistry of Nutrition. One of them received a training in her field of research at the United States, that is why she is in charge of the English course as a subject specialist due to the lack of English teachers in that Department.

The interview was done separately with every teacher and lasted for about an hour and focused on what the teachers expected from the students in terms of English language ability in their classes, in addition to the students' lacks and weaknesses in the four skills. They were also asked to describe the teaching and learning situation and on which aspect of the language they focus more to enhance their level and motivation. The interview tried to examine students' needs and wants. The last four questions examined different options to check whether the teachers agreed on them or not. The purpose of the interview is to examine the teaching and learning situation in the Department of Biology.

## **2.8. Data Analysis**

This section reports the results of data analysis of the present study. These instruments were administered to provide data for the findings of the study. The objective of the analysis is the design of ESP courses that suit the learners to improve their levels in English language, and to offer a linguistic support to the teachers in that Department. The results were analysed quantitatively and qualitatively by using Excel windows 7.

### **2.8.1. Analysis of the Pre-Course Test :**

Concerning the scores obtained from the pre-course test ( part A and B), they are presented in the table (2.2). They will be analysed in depth in the next chapter (see. 4.2.1.1) where they are compared with those obtained in the mid and post tests for the sake of analysing students' potential progress from beginning to end of semester. The latter will summarize the obtained scores from this test and the mean. At first glance the scores are listed in disorder then in 'ordinal variable' then in level of frequency:



Students	Test Scores/40		Best scores in decreasing order Scores/40		Frequency
1	24,5		36		1
2	27		34		3
3	25		33		3
4	18		31		3
5	13.25		31		1
6	22		30		1
7	28		30		1
8	16		28		1
9	18.5		28		1
10	18		28		3
11	16		27		3
12	28		27		3
13	09		27		1
14	11.5		27		1
15	09		26		1
16	22.5		25.5		2
17	30		25		2
18	13		24.5		2
19	27		23		2
20	20.5		22.5		1
21	33		22		3
22	23		22		3
23	08		20.5		3
24	28		18.5		1
25	27		18		1
26	22		18		1
27	12		16.5		1
28	08		16		1
29	31		16		3
30	31		13.25		3
31	25.5		13		3
32	30		12.5		3
33	34		12		1
34	36		11.5		2
35	16.5		10		2
36	10		09		1
37	12.5		09		1
38	09		09		1
39	26		08		1
40	27		08		1
<b>MEAN</b>	<b>21.156</b>				

**Table 2. 2: The Obtained Scores from a Pre-Course Written Test**

### 2.8.2. Analysis of Results of Students' Structured Interview

Each part of the interview has been analysed separately. The students were asked to state whether they were satisfied with the time allocated to the English language course, they were requested to specify their answer with yes or no. The questions sought information about their wants and suggestions to improve the learning/teaching situation

**PART1:** According to the results, most of the participants had no ideas about what the acronym 'ESP' means and did not grasp the difference between GE and ESP; and the total number of respondents agreed about the fact that English language plays an important role in their field of study stating the following reasons:

*"The English language is very important in the scientific stream since most of the update research and available articles retrieved from the internet are published in English"* (Students A , B,C ,D,...J).

*"We consider English as a key for scientific development"* (Students A , B,C ,D,...J).

*"But we are completely demotivated to learn English in spite it importance, and this is due to our poor level in English and we prefer to stick on Arabic or French"* (students I , J).

Six students in the group had English courses during their Licence Degree (14 semesters). Whereas, two students studied English only for 7 semesters and the two last students indicated that:

*"We totally forget the English language since we belong to the 'old generation' and they studied English from 1996 in the classical system, we were integrated to the new system (the LMD system) to carry on our post-graduate studies."*

The last question of this part was dedicated to their immediate needs in the English module. Six students need to be able to listen and understand lectures in their specific field of study in English as well as to be able to translate easily from English to French and vice versa, taking part in oral presentations, reading scientific articles or texts in

English, and to master English in the four skills mainly the speaking skill since they stated that:

*“We need English not only in our academic studies but also to be able to communicate in English via the internet and to participate in oral presentations.”*

The last four students stated that their immediate needs were to pass exams and to succeed in their studies.

**PART2:** The total number of students received the same English lectures which consisted of reading and translating articles, they say that:

*“Translating articles, is adapted to one of our needs but it seems difficult because we don’t have an appropriate bases in English to achieve our objectives and also for the fact that one hour and half per week during one semester is not sufficient to reach the necessary level.”*

Reading, listening, and writing are the most relevant skills to their needs.

**PART3:** All the interviewees have confirmed that the only books available in the library are published in French but there are no official textbooks to learn English in their field of research. The absence of adequate teaching materials was also pointed by them like the integration of the audio-visual materials for the oral presentations. Eight of them have emphasised the fact that the English course must be taught by a collaborative teaching between subject specialists and language teachers. Only two of them believed that the language teachers were more appropriate to manage the class, they added:

*“Teachers should be a facilitator, a friend with whom students can communicate freely and easily and also a helper who can take into consideration their levels as well as their needs. He/she should be able to explain the point clearly that can arose their interests”.*

The last point of the interview was about suggestions, the results showed that the students proposed to give more consideration to the English course by implementing a programme adapted to their needs and priorities, to have more tests, to include grammar and finally to have more time to achieve their desired objectives.

### **2.8.3. Analysis of the Results of Students' Questionnaires**

The analysis of the data from the students questionnaires (see Appendix A) reported by the first-year Master's students in the Department of Biology during 2012-13 academic year is presented in five sections. The first part deals with demographic variables from students' responses to part A of the questionnaire: gender, age, first language, medium of instruction, speciality, number of EFL learning at the university, and reported their current level in the English language as well as their proficiency in listening, speaking, reading and writing. The other sections present the analysis of the students' responses to 15 items from part B to D of the questionnaire in relation to their lacks, their wants and their needs in the four major areas of their English-language needs: Language structures, Rhetorical categories, Language functions, and Language skills. The last part (part E) focuses on the different suggestions to improve the learning content in that department.

The frequency distributions of students' responses to the administered questionnaire was calculated using Excel for Windows XP and tabulated. These quantitative results include descriptive statistics including means, minimum values, maximum values, and percentages. The majority of the results are first presented in a form of tables then within graphs. These results will be discussed in more depth in discussions section (see 3.10- b).

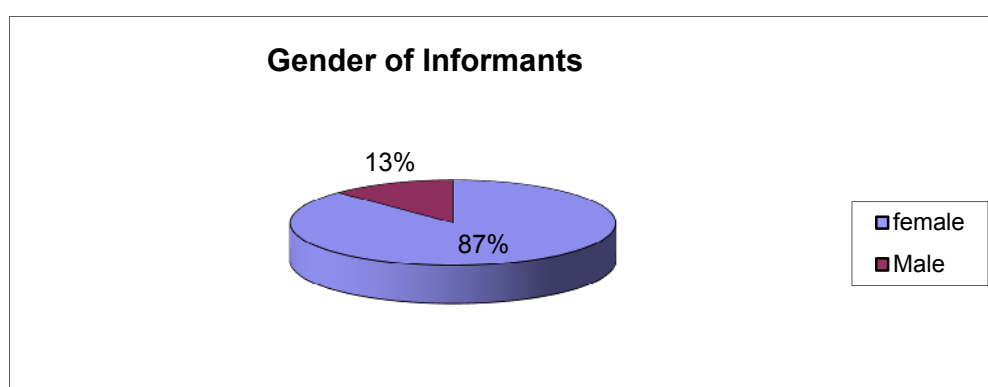
**PART A: *Demographic Variables***

The obtained data from part A of the students' questionnaire provide a profile of the respondents: gender, age, first language, medium of instruction at Biology Department, speciality, years of studying English at the university, their current level in English before and after the entrance to the university and their proficiency in the four skills.

The analysis of this section is presented in Table 1 through 6. As shown in Table 2.A-1, 87% of the first-year Master's students (number= 40) were female and 13% were male aged between 20 and 38. Their specific field of research is "Physiology and Biochemistry of Nutrition", their first language is Arabic and the medium of instruction is French.

Gender of Informants		
Group*	n	Percentage
Female	35	87%
Male	5	13%
* Total number of informants		40

**Table 2.A- 1. Gender of Informants**

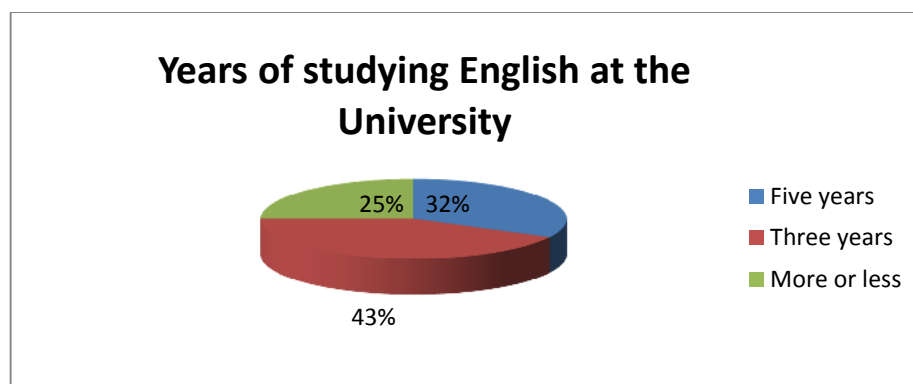


**Pie Chart 2.1: Gender of Informants**

Table 2.A-2, the informants who had studied English for only three years constituted the largest group (43%), due to the absence of a language teacher for two semesters.

Years of studying English at the University		
Group*	n	percentage
Five years	13	32%
Three Years	17	43%
More or less	10	25%
*Total number of informants	40	

**Table 2.A-2. Students' Learning Experience in English**



**Pie Chart 2-2: Students' Learning Experience in English**

However, the number of informants who studied English for five years is thirty two (32%). This result is basically related to national curriculum in the Algerian educational system for six compulsory years at the tertiary level (Licence Degree) within the LMD system. In addition, there were a few informants (10%) who reported that they had learned English at university level between 2 and 5 years since they

belong to the previous generation that studied English within the classical system (five years of Bachelor Engineering).

Level of English*	High		Intermediate		Low	
Before the entrance to university	n:7	17%	n:28	68%	n:5	12.5%
After the entrance to university	n:2	5%	n:23	56%	n:15	37.5%
* Total number of informants for each level 40						

**Table2.A-3. Students' English Level before and after entrance to University**

As shown in Table 2.A-3, the majority of the informants had an intermediate level in English before and after the entrance to the university with 68% and 56% respectively. However, the results show that the number of the students with low English level considerably increased after the entrance to the university from 12.5% to 37.5%. These results are related to the lack of students' motivation due to inadequacy of English courses in the Department of Biology as well as the lack of ESP language teachers.

	Levels of Reported English-Language Proficiency		
Language skills*	High	Intermediate	Low
Listening Count Percentage	8 20%	27 67%	5 13%
Speaking Count Percentage	1 2%	15 28%	24 60%
Reading Count Percentage	9 22%	28 70%	3 8%
Writing Count Percentage	3 7%	27 68%	10 25%
* Total number of informants for each skill was 40			

**Table 2.A- 4. Students' English Level in Language Skills**

Table 2.A-4 presents the informants' self-assessment of English-language proficiency in Listening, Speaking, Reading and Writing in terms of "High", "intermediate", and "Low". As expected, many students perceived themselves to be most proficient in reading, writing, and listening skills with the highest percentages of response frequencies (70%), (68%), and (67%) respectively to the levels of English-language proficiency were "intermediate". As a result, the reading, writing and listening skills are likely to be the only skills that the Master's students in their EFL learning situations. Conversely, as English is not their first language and is generally taught as a foreign language in secondary and tertiary levels, 60% of the total informants reported that they were the least able in speaking skills and this was due to the lack of time and practice during the lectures.

Students' Specialist Knowledge in their main field of study*		
Options	Number	Percentage
Very much	6	15%
Basic knowledge	23	57%
Not much	11	28%
* Total number of the informants was 40		

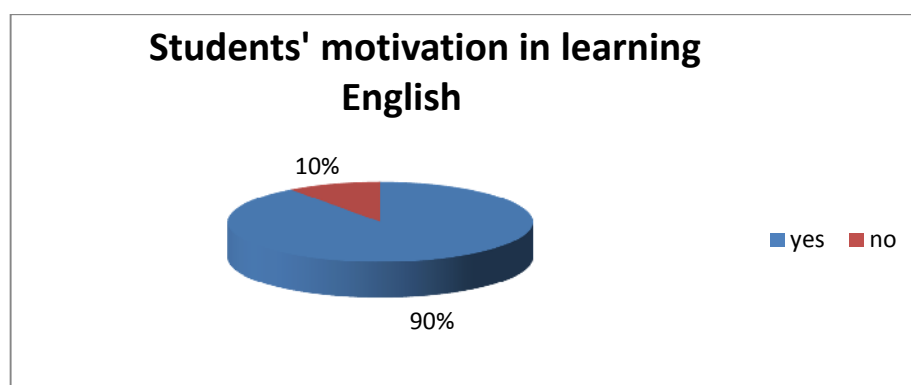
**Table 2. A- 5. Students' English Level in their main field of study**

Both Tables 2.A- 5 and 2.A- 6 illustrate the technical vocabulary that the students master in their field of study as well as their motivation to take an ESP course. The informants possess a basic knowledge with 57% and 28% had a limited vocabulary since English is not their medium of instruction.



Are the students interested in taking a ESP courses*		
Options	Number	Percentages
Yes	36	90%
NO	4	10%
* Total number of the informants was 40		

**Table 2.A-6. Students' Motivation**



**Pie Chart 2.3: Students' Motivation**

However, approximately the total number of informants was really motivated in taking an ESP course; this result indicates that students are really aware of the importance of English in their academic studies.

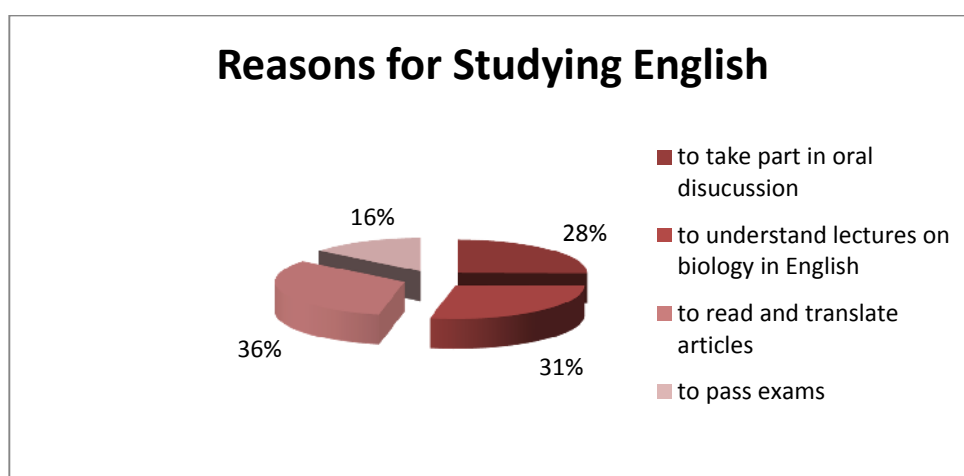
## **PART B:**

### *Students' wants and lacks in English*

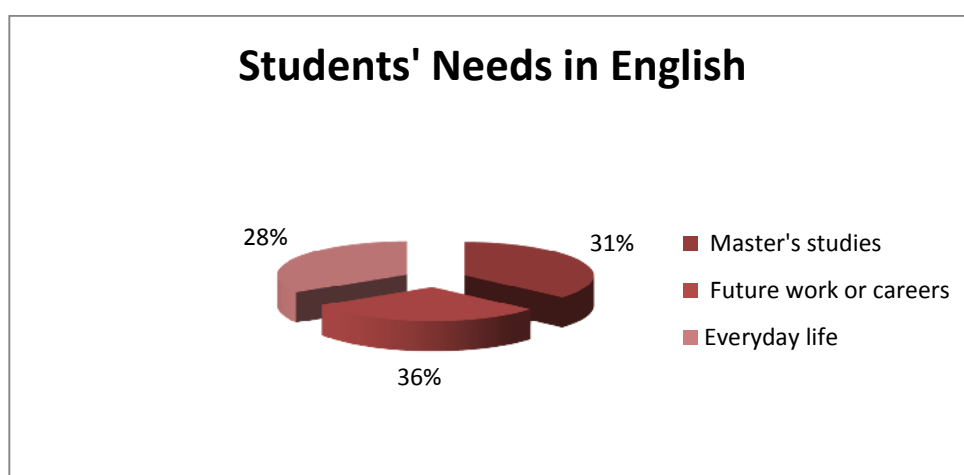
In this section the collected data from the multiple-choice questions help in determining the present and the target needs of language use. The present use of language was also taken into consideration, as being students. They not only need to continue further language learning in the subsequent years of studies, but at the same

time, are required to use the language learnt so far according to academic, social and other demands of day to day life.

The analysis of this section is presented in Graph 4 through 6. Graph 2.4 shows that the majority of the informants with 36% and 31% respectively consider understanding their lectures, reading and translating scientific articles in English as their reasons for studying English. Whereas, passing exams (16%) and taking part in oral discussions (28%) comes in second and third position, respectively.

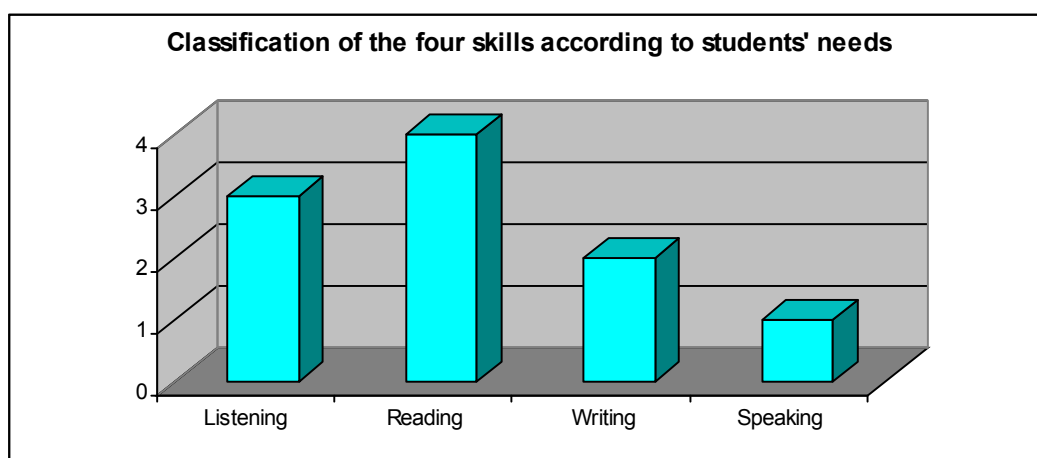


**Pie Chart 2.4: Reasons for Studying English**



**Pie Chart 2.5: Students' Specific Needs**

As shown in figure 2.5, the informants consider English as a prominent language to take into consideration as their target needs for their future life. 36% of students need English in their Master's studies, 31% for their future work or careers and 28% need English in everyday situations. These results showed the great impact of the English language on the Master's students.



**BarGraph 2. 1: Students' Needs in the Language Skills**

In Graph 2.1, students have classified the four skills according to their needs and the results illustrate well those obtained in section A, where they were asked to evaluate their levels in the four skills. The reading and listening skills are their top priorities for improvement. Whereas, the writing and speaking skills were rated at the low levels.

In this section, one question with multiple choices was asked to identify students' lacks in the English language. The results are shown in the following table:

	Students' difficulties in the EFL	
Options	Number	Percentage
Communication	34	85%
Speaking	26	65%
Grammar	24	60%
Pronunciation	20	50%
Vocabulary	19	47.5%
Listening	18	45%
Writing	9	22.5%
Reading	9	22.5%

**Table 2.B -1: Students' Weaknesses in the English Language**

These results can be considered as a confirmation of what has already been analysed in part A, since most students held a negative attitude towards their English competence in Speaking. The great majority of the informants with 85% felt that they had learning difficulties in expressing themselves orally in English; grammar and pronunciation are also considered by students as major lacks with 60% and 50% respectively. 47.5% of the students admitted that they did not have adequate and enough vocabulary in English, however, they considered writing and reading as the skills they master most with 22.5%.

## **PART C:**

### *Present Situation Analysis*

The questionnaire of this section also posed a number of questions to get an insight into students' attitudes, beliefs and some diagnostic questions about the actual content of the English course in the Biology Department.

At first, students were asked (question C -1) about the contents of the present English course, 62.5% of the students agree on the fact that most lectures focus on terminology and translation and from time to time some sessions are dedicated to grammar and vocabulary (12.5%). Whereas, 25% of the informants have specified the total absence of lectures due to the lack of English teacher in comparison to the great number of students in that Department. The results are illustrated in the following table:

Course Content	Number	Percentage
Terminology & Translation	25	65.5%
Vocabulary & Grammar	5	12.5%
Listening & Speaking	0	0%
Reading & Writing	0	0%
Other*	10	25%
* Total absence of English sessions		

**Table 2.C-1: Present Course Contents**

Although terminology and translation are the main contents of the English courses, the answer to the question C-2 (How do find the content of your course?) 40% of the students had no idea about the objectives of the courses. However, 30% were of the opinion that the lesson follow a monotonous pattern, there is no variety in lessons or activities. They all focus on translation, terminology and grammar. The same percentage of students (30%) thought that the contents of the course is relevant to the immediate needs and use as Master students

	Students' opinions about the course content*	
Options	Number	Percentage
Interesting	12	30%
Boring	12	30%
Do not know	16	40%
* Total number of the informants was 40		

**Table 2.C-2: Students' Opinions about Course Contents**

Loss of interest and decline in the quality and level of contents result in little improvement of the language; an overwhelming majority of the students (87.5%) have expressed their disagreement about the redundancy of the sessions. This confirmed the assumption that the present English courses did not meet the students' expectations to reach the desired level as summarized in the following table:

	Students' perception of improvement in their level of English*	
Options	Number	Percent
Yes	35	87.5%
No	5	12.5%
* Total number of the informants was 40		

**Table 2.C- 3: Students' Perception of Improvement of their English Level**

The last two items in part C of the questionnaire aim at exploring the role of an ESP teacher. Both Tables 2.C-4 and 2.C-5 represent students' opinion about the importance of collaborative teaching between a subject specialist and language specialist to design a course that suits best the students' needs and interests.

Students' perception of teachers' profile*		
Option	Number	Percent
Subject Specialist	4	10%
Language Teacher	7	17.5%
Both	29	72.5%
* Total number of the informants was 40		

**Table 2.C-4: Types of Teachers' Profile**

Thus, 72.5% of the participants strongly agree that both teachers must work hand in hand to improve the learning process. The students have also pointed out the role that an ESP teacher plays to arouse learners' interest by acting as a facilitator and a guide (80%) rather than being a person who controls everything in the class (20%). Thus indicating a greater importance attached to teacher's methodology in the class in improving the present level of language proficiency of the learners.

The role of an ESP teacher*		
Options	Number	Percent
A person who helps and guides you in learning	32	80%
A person who controls everything in class	8	20%
* The total number of the informants was 40		

**Table 2.C-5: Role of an ESP Teacher**

**PART D:***Students' Needs in English*

The analysis of the data gathered from part D of the questionnaire has given answers to one major question in this research. It aims at knowing the perceptions of the first-year Master's students (Physiology and Biochemistry of Nutrition) about their English-language needs in relation to their proposed-future ESP course content of Faculty of sciences, Department of English. This section is divided into four main items:

Language structure, rhetorical categories, language functions and language skills; the analysis of these four aspects of the language will be used for the design of the new ESP course adapted on the students' English language needs. The frequency distributions of the students' responses to the 54 items from part D of the research questionnaire are presented in Appendix 5. In addition, the tabulated frequencies and percentages of students' responses to combined categories of "Very Important" (VI) and "Moderately Important" (MI) are shown in **Tables 2.D-1** through **2.D-4** and the ranking data in every table are reported in descending order.

**Language structure (item 1 to 6)**

The ranking data (as presented in **Table 2.D-1**) show clearly that five out of a total of six items of Language Structures were perceived to be strongly important to learn in their English courses as indicated by very high percentages from the combined categories: "Very Important" and "Moderately Important", ranged from 50% to 85%. Two items with highest percentages of responses frequencies ranging from 75% to 85% are **Item 3** (Technical terms in your area of specialization), **Item 1** (Technical terms used in scientific text) respectively. Additional three items with more than half of the informants' frequency responses ranged from 50% to 57.5% are **Item 2** (General terms used in scientific texts), **Item 4** (Word structures, e.g. compounding, affixation, nominalization), and **Item 5** (Grammatical structures used in scientific discourse, e.g. present participles, passives, conditionals, etc.), respectively. Only one item as



perceived by these Biologist students to be less important to learn in their first- year Master English courses is **Item 6** (Signaling syntactic boundaries using punctuation marks); they felt that this point has already been acquired in the secondary school. This result is indicated by a lower percentage of students' responses (40%) obtained from these two categories.

<b>Responses to the First Two Levels of Importance*</b>			
<b>Language Structures</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Technical terms used in scientific texts	1	34	85%
Technical terms used in area of specialization	3	30	75%
Grammatical structures used in scientific discourse	5	23	57.50%
Word structures	4	21	52.50%
General terms used in scientific texts	2	20	50%
Signaling syntactic boundaries using punctuation marks	6	16	40%
*Two Levels of Importance are "Very Important" (VI) and "Moderately Important"(MI)			

**Table 2.D-1: Rank Order of Six Items of Language Structures**

### Rhetorical Categories (Item 1 to 6)

The data seek to discover what rhetorical categories they consider important in their field of research. It may be noted that most of the six items of rhetorical categories were not perceived to be important to learn in their first-year Master English course. Nevertheless, more than half of informants (57.5%) and (52.5%) have reported more important for only two items: **Item 2** (Classification, e.g. consist of, is divided into, is composed of, etc.) and **Item 1** (Logical connectors used to link clauses and sentences, e.g. therefore, hence, consequently, as result, etc.) respectively as shown in **Table 2.D-2**

<b>Responses to the First Two Levels of Importance*</b>			
<b>Rhetorical Categories</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Classification	2	23	57.50%
Logical Connectors used to link clauses or sentences	1	21	52.50%
Chronological sequence	6	19	47.50%
Generalization	5	19	47.50%
Exemplification	4	18	45%
Definition	3	17	42%
*Two Levels of Importance are “Very Important” (VI) and “Moderately Important”(MI)			

**Table 2.D-2: Rank Order of Six Items of Rhetorical Categories**

### Language Functions (Item 1 to 9)

First-year Master's students of Physiology and Biochemistry of Nutrition have reported that seven out of a total of nine items of language functions in the questionnaire are important in their English courses, indicated by the moderate to high percentages of the students' responses ranged from 54.5% to 67% (presented in **Table 2.D-3**). Only two items in this area of the English-language needs (**Item 7 & 8**) had a percentage of response frequencies below 40%. Thus these two items seem to be perceived by students as being less important.

<b>Responses to the First Two Levels of Importance*</b>			
<b>Language Functions</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Reporting information from other sources	3	27	67.50%
Giving instructions or directions	2	25	62.50%
Describing processes and procedures	1	25	62.50%
Summarizing the results of a group project, a technical report, or a scientific text	5	23	57.50%
Making an outline for a presentation, report or project	9	22	55%
Describing an object in terms of contrast and comparison in dimension	4	22	55%
Using tables, diagrams and graphs to summarize data	6	21	54.50%
Understanding and verbalizing numbers e.g. fraction, decimals	7	18	45%
Understanding and verbalizing numbers ex addition, division	8	15	37%

\*Two Levels of Importance are "Very Important" (VI) and "Moderately Important"(MI)

**Table 2.D-3: Rank Order of Six Items of Language Functions**

### Language Skills (Item 1 to 23)

The 23 items in this part turn around one main question which was “*What sub-skills from each of the four language skills do they consider important in these English courses?*” The frequency data show that these biologist informants perceived all the items for Listening, Speaking, Reading and Writing to be important in their first- year Master’s English courses. The results are indicated by moderate to very high percentages of students’ responses of those 23 items (52.5% to 75%). As can be determined from **Table 2.D-4** through **2.D-7**, five items these informants probably considered less important to focus on in their English courses. These five items are **Item 1** of Reading Skills (50%), **Item 13** of Writing Skills (40%), **Item 18 & 19** of Speaking Skills (45%) and (40%) respectively and **Item 20** of Listening Skills (42.5%) as shown in **Tables 2.D-4 to 2.D-7**, respectively. These items are Reading textbooks, writing e-mails, speaking to foreign visitors, small talk and following lectures.

<b>Responses to the First Two Levels of Importance*</b>			
<b>Reading Skills</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Reading text on biology	4	29	72.50%
Reading technical articles	2	28	70%
Reading instructions for laboratory	5	25	62.50%
Reading course handouts	3	23	57.50%
Reading study notes	6	21	52.50%
Reading textbooks	1	20	50%

\*Two Levels of Importance are “Very Important” (VI) and “Moderately Important”(MI)

**Table 2.D-4: Rank Order of Six Items of Reading Skills**

With respect to the frequency data of the students' responses to those 23 items of Language Skills, the results reveal that if **Items 1, 13, 18, 19, and 20** as mentioned earlier are less considered, the other items of the four sub-skills of Language Skills were perceived to be strongly important with very high percentages of students responses: Reading Skills (52.5% to 72.5%), Writing Skills (52.5% to 70%), Speaking Skills (55% to 75%), and Listening Skills (52.5% to 67.5%).

<b>Responses to the First Two Levels of Importance*</b>			
<b>Writing Skills</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Writing a report	11	28	70%
Taking notes in class	7	25	62.50%
Writing articles	12	25	62.50%
Translation	9	25	62.50%
Summarizing & writing abstracts	10	23	57.50%
Writing texts/ exams answers	8	21	52.50%
Writing e-mails	13	16	40%
*Two Levels of Importance are "Very Important" (VI) and "Moderately Important"(MI)			

**Table 2.D-5: Rank Order of Seven Items of Writing Skills**

It should be noted that the first-year Master's students of Physiology and Biochemistry of Nutrition at the University of Tlemcen perceived their English-language needs for all these four sub-skills of Language Skills to be almost equally important.

<b>Responses to the First Two Levels of Importance*</b>			
<b>Speaking Skills</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Taking part in conferences	14	30	75%
Giving spoken presentations	15	27	67.50%
Asking questions in class	16	26	65%
Speaking to English foreign colleagues	17	22	55%
Speaking to English foreign visitors	18	18	45%
Short talks	19	16	40%
*Two Levels of Importance are “Very Important” (VI) and “Moderately Important”(MI)			

**Table 2.D-6: Rank Order of Six Items of Speaking Skills**

<b>Responses to the First Two Levels of Importance*</b>			
<b>Listening Skills</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Listening to teacher talk	23	27	67.50%
Following oral questions/answers	21	22	55%
Listening to spoken presentations	22	21	52.50%
Following lectures	20	17	42.50%
*Two Levels of Importance are “Very Important” (VI) and “Moderately Important”(MI)			

**Table 2.D-7: Rank Order of four Items of Listening Skills**

**Table 2.D-8** presents the ranking orders of the top ten items of perceived language skills according to the percentages of the students' frequency responses to combined categories of "Very Important" and "Moderately Important". As can be seen from **Table 2.D-8**, *Taking part in conferences* (75%) and *Reading text on Biology* (72.5%) both seem to be perceived as most important among these 23 items of English-language skill needs in the research questionnaire. Furthermore, more than half of the top-ranked language skills involve speaking followed by reading. The three top-ranked Reading Skills include *Reading text on Biology* (72.5%), *Reading technical articles* (70%), *Reading instructions for laboratory* (62%). Also, *Writing a report* (70%), *Taking notes in class* (62.5%) and *Writing articles* (62%) are identified as the top-ranked Writing Skills in the list. Three of Speaking Skills and one from Listening Skills are additionally identified among the top ten items of this present survey: *Taking part in conferences* (75%), *Giving spoken presentations* (67%), *Asking questions in class* (65%) and *Listening to teacher(s) talk* (67.5%).

<b>Responses to the First Two Levels of Importance*</b>			
<b>Listening Skills</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Taking part in conferences	14	30	75%
Reading text on Biology	4	29	72.50%
Reading technical articles	2	28	70%
Writing a report	11	28	70%
Giving spoken representation	15	27	67.50%
Listening to teacher talk	23	27	67.50%
Asking questions in class	16	26	65%
Reading instructions for laboratory	5	25	62.50%
Taking notes in class	7	25	62.50%
Writing articles	12	25	62.55

\*Two Levels of Importance are “Very Important” (VI) and “Moderately Important”(MI)

**Table 2.D-8: Rank Order of Top Ten Items of Language Skills**



All in all, among the items that tackle the English-language needs in the research questionnaire, **Table 2.9** presents the ranking orders of the top ten items of the perceived English-language needs with respect to the findings of this study. The frequencies and percentages of students' responses of combined categories between very important and moderately important on each item from Part B & D of the questionnaire shown in **Table 2.9** are reported in descending order. These top ranked items include two items of **Language Structure**: *Technical terms used in scientific text and Technical terms in your area of specialization*; one item of **Rhetorical Categories**: *Classification*; two items of **Language Functions**: *Reporting information from other sources and Giving instruction and Direction*; four items of **Language Skills**: *Taking part in conferences, Reading texts on Biology, Reading technical articles and Giving spoken presentations* and one item from **Part B** of the questionnaire of classification of skills according to students' needs: *The Speaking Skill* is ranked among the ten top items of English-language needs.

<b>Responses to the First Two Levels of Importance*</b>			
<b>Perceived English Language Needs</b>	<b>Item No</b>	<b>Count</b>	<b>Percentage</b>
Technical terms used in scientific texts	1	34	85%
Technical terms in your area of specialization	3	30	75%
Taking part in conferences	14	30	75%
Reading texts on biology	4	29	72.50%
Reading technical articles	2	28	70%
Giving oral presentations	15	27	67.50%
Reporting information from other sources	3	27	67.50%
Giving instructions or directions	2	25	62.50%
Speaking skills	3 (Part B)	23	57.50%
Classification	2	23	57.50%

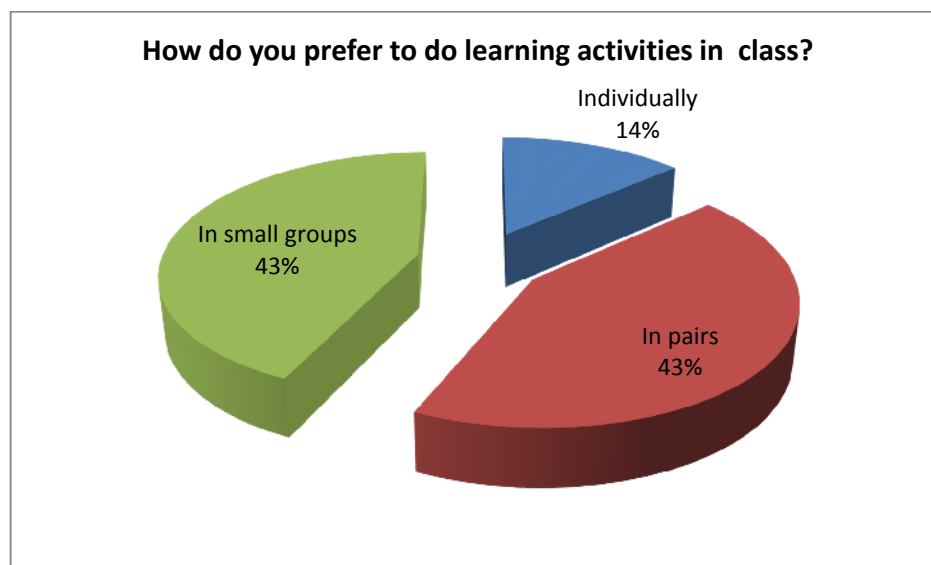
\*Two Levels of Importance are “Very Important” (VI) and “Moderately Important”(MI)

**Table 2.D-9: Rank Order of Top Ten Items of Perceived English-Language Needs**

**PART E***Students' Learning Preferences or Suggestions to Improve English-Language Courses*

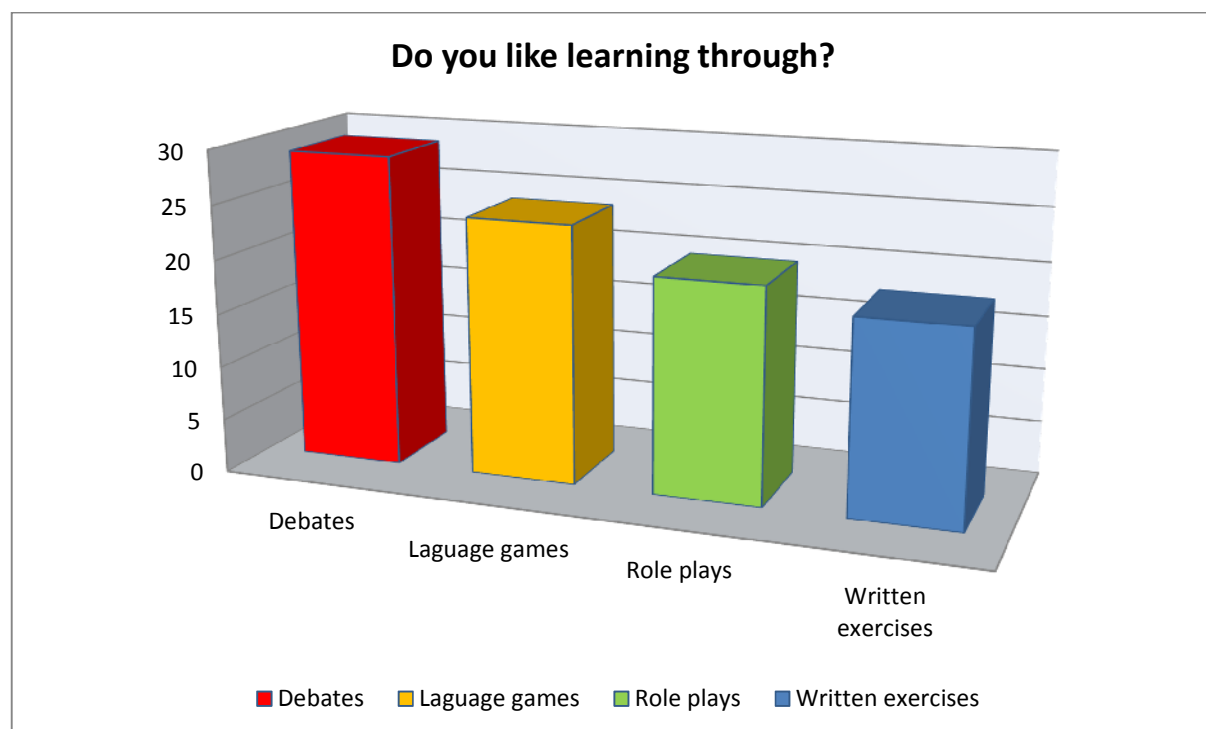
The last part of the questionnaire (Part E) intended to find out students' preferred learning styles and strategies. This part contains one main item which is divided into five sub-items. The analysed data are presented in Figure 2.E-1-1 through 2.E-1-4.

The sub-item 1.1 investigated the preference for classroom interaction patterns. The same percentage of the informants (47.5%) preferred pair and group work interaction pattern as compared to working alone. (**Pie Chart 2.E-1-1**)



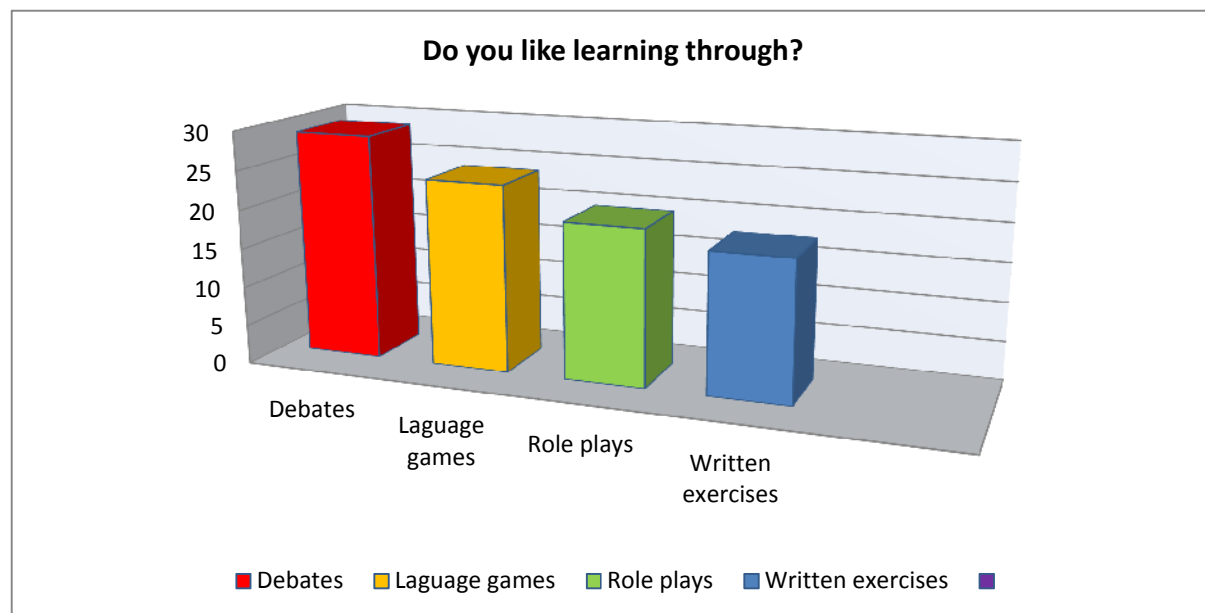
**Pie Chart 2.E-1-1: Patterns of Learner-learner Interaction**

**Bar Graph 2.E-1-2** elicited that most of the students with 65% of informants are more interested to get information by listening to the teacher and taking notes in order to develop the listening techniques and 45% of responses for learning involving problem solving activities. 40% of students for a learning style where the learner prefers to get information by himself and 35% preferred copying from the board. Whereas, only 12.5% of informants preferred learning without taking notes.



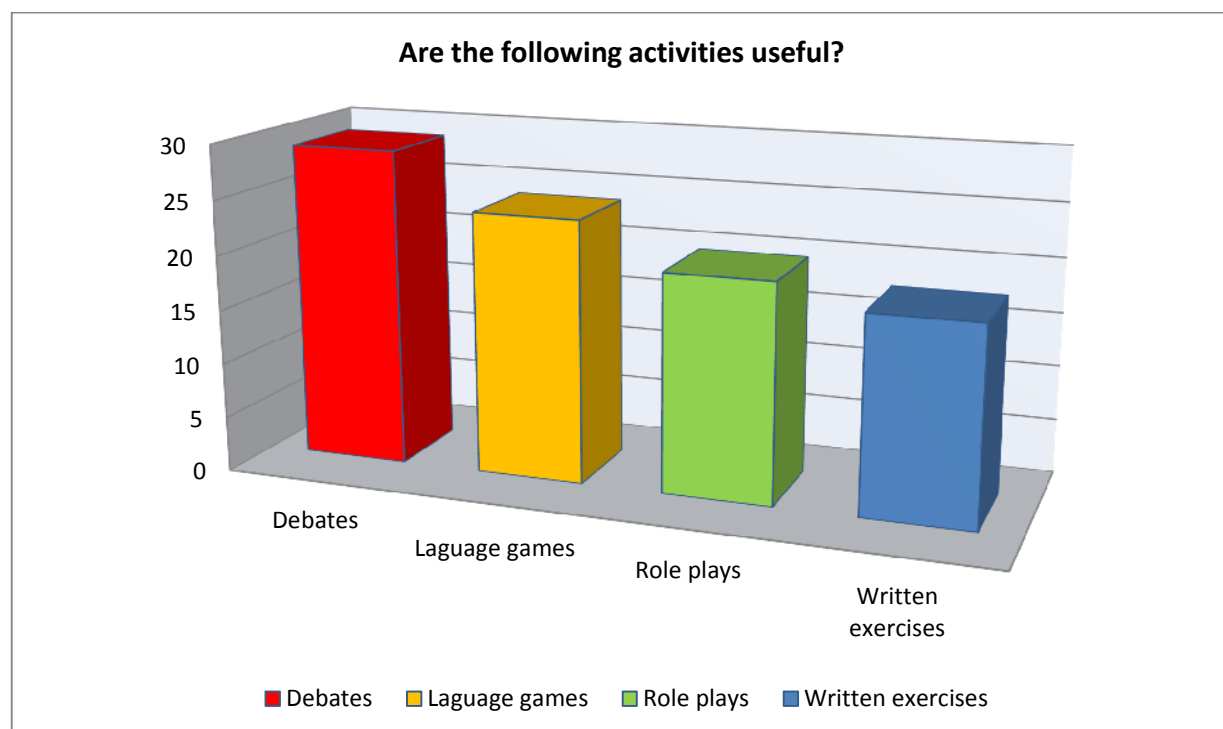
**Bar Graph 2.E-1-2: Students' Preferred Learning Styles and Strategies**

The third sub-item of this part of the questionnaire (Part E) in a form of multiple-choice questions examined students preferences for teaching materials used in the classroom. The two top options selected by respondents were *Internet* and *Videos* with 70% and 60%, respectively. Using the *Pictures and the board* during lectures elicited the same percentage (45%). Only 22.5% opted for integrating audio files (*CD/Tape*) (**Bar Graph 2.E1-3**). Some students suggest the use of data show (7.5%).



**Bar Graph 2.E1-3: Students' Preferred Teaching Materials**

Sub-item 1-4 established the omission of students' preference for teaching/learning activities. 72.5% of informants preferred oral activities "debates"; the kind of classroom interaction where students are involved in oral tasks. The other activities like language games, role play and written exercises are types of activities that students want to perform regularly during the lectures with 60%, 50% and 45%, respectively. **(Bar Graph 2.E1-4).**



#### **BarGraph 2.E1-4: Students' preference for Teaching/ Learning Activities**

The last sub-item of part E of this questionnaire (Sub-Item 1-5) examined further students' suggestions to improve English language course at the department of Biology for Master's level. In spite the fact that this questionnaire proposed a multiple option for informants to ameliorate the English language teaching and learning in that Department, the purpose of this open-ended question (Sub-item E1-5) is to give them an opportunity to express their points of view about the English language courses.

The total number of informants is satisfied by the diversity of the questionnaire since it tackled the necessary aspects to take into consideration to design appropriate courses that suit their needs except for some comments such as:

*“We need more grammar in writing and more vocabulary for speaking”*

They have also pointed out the facts that they need to work with scientific articles earlier, starting from the license degree for more practice. They suggested some exercises in phonetics to improve their weaknesses in pronunciation.

#### **2.8.4. Analysis of the Results of Teachers' Interview**

Teachers' perceptions of ESP teaching and learning as well as their attitudes play a crucial role in determining the implementation of a course. An interview with a total of 22 items analysed the teachers' opinions about ESP courses in the Department of Biology in the teachers' interview.

The language specialist who are originally EFL teachers, declared that he started teaching English at the department of biology from 2005 and due to the great number of students in that department with different specialities, biologists have been asked to carry out English courses, so another teacher (subject specialist) was in charge of the English module for Master's students since 2008.

All the teachers were not satisfied with the time allocated to the English courses since two hours a week is not enough. They suggested at least two sessions per week during all the semesters of the post-graduate studies in order to tackle the whole programme.

The problem of demotivation was also pointed out by all the informants. According to them, the great majority of students are poorly motivated may be because they feel that the study of the language was imposed upon them by the institutions or they may not appreciate the value of their ESP course. In addition, the students' lack of interest in learning English causes a lot of problems in the teaching process, the teachers stated that they cannot develop their students' motivation and try to find ways to encourage the students' intention to learn.

All the teachers agreed on the fact that students had an intermediate level in English and they were not satisfied with their students' overall English competence. Furthermore, the participants reported that the classes are exceedingly mixed in terms of linguistic level, as students are regrouped by specialism and not by language level or competence.

According to the participants, there is no pre-determined syllabus or course book they are required to follow and the ESP course content is not clearly specified. The selection and organization of the materials are entirely left to the teachers who noted that they faced many difficulties. In that case, all teachers stated they had to determine the students' language needs as well as the themes arising from these contexts. The problem of materials was also pointed by the three teachers since the only materials used during the lectures were handouts and articles in their field of research due to the lack of audio-visual materials to carry out the English lectures. In addition, the available libraries are not equipped with specialized references and there are limited resources when setting up an ESP course since they have access either to course book purchased by them or articles retrieved from the web.

Another problem faced by the teachers, is the content of the course. The language teacher, not being specialist in the specific area cannot decide by himself how to adapt the text in terms of subject matter; in that point he emphasised on the importance of working hand in hand with the subject specialist to select the appropriate courses. The decision has to be made about the texts: on the one hand, the texts must not be too difficult, because neither the language specialist, nor the students have such a high level of professional knowledge; on the other hand, the text must not be too popular, because some learners have some confidence in their professional knowledge, and if the text is too easy for them in terms of subject matter, they tend to underestimate it in terms of language as well. Therefore, there is an agreement among all the participants on the fact that they mainly emphasize their courses on reading comprehension and translation rather than on grammar, writing, pronunciation and speaking. They all relied on two main aspects to organise their courses: the first one is according to students' level of difficulty in English and the second one is related to their field of study. In addition, all the teachers insisted on the fact that they used English during the lectures and from time to time they explained some words in French when necessary.



According to them, the present courses were interesting but redundant that is why it helped the students to develop some skills but not all of them.

When teachers were asked about students' difficulties in studying content subject (Physiology and Biochemistry of Nutrition) in English; ESP teachers coped with mixed-ability groups in terms of both level of language competence and professional competences. Some students are very good at English and others are very good at professional areas i.e., know specialized content very well but do not possess good command of English and vice versa for the subject specialists who participated in this research since the group of students who feels confident in their professional field have much stronger motivation for studying ESP.

Within the interview, the participants were asked to evaluate students' lacks in English; they all classified the students' lacks as follow: speaking was ranked at the first level, writing at a second level, tenses and vocabulary as the last one.

Focusing on the students' language needs, all interviewees expressed their agreement about all options proposed by the interviewer; according to them paying attention to students' needs is considered as the starting point for ESP teaching an understanding of how and why adult students learn since learning and teaching are determined by the learners. Most of the participants claimed that students need to read specialized knowledge in target domain language which they are supposed to learn as well as giving presentations and participating in international conferences. The teachers felt that the students need to work harder on writing by being able at least to write an abstract in English and to translate from English into French and vice versa. The lack of audio-visual materials pointed out by all the participants in that Department, leads to the idea that listening to presentations and lectures in the target language is also of paramount importance. They were also asked to specify other options in addition to the proposed ones; two of them suggested that students should be

able to write a scientific article in English and to improve their speaking abilities as well as pronunciation to cope with ESP courses.

Teachers declared that the courses must be specifically oriented towards the subject content and language structure related to specific discipline. Furthermore, the participants reported that classes are exceedingly mixed in terms of linguistic levels, as students are grouped by specialism and not by language level or competence. As such, all the participants stressed on the fact that collaborative teaching between subject specialist and language specialist is a problem with no obvious solution as to how these multilevel classes should be taught.

The four last items of the interview were about methodology and the content of the course since the teachers consider themselves as facilitators for knowledge transmission; they all strongly agreed to encourage students to communicate in class and to focus on developing all four skills by integrating different activities and methods like role play, games, projects, pair and group work. The last question was dedicated to further suggestions to improve the teaching/learning process in that department; the main constraint provided by the teachers was that of time since it was reported that the lack of time is the main problem that hinders all the course objectives discussed earlier in the interview. Nothing can be achieved without more sessions in the English course in addition to the lack of audio-visual materials

## **2.9. Discussion of Research Findings**

The discussion of the needs analysis in this study relies on the main research tools; a diagnostic test, interviews and a questionnaire. Testing at the beginning of the semester helps the researcher to assess learners' performances and assignments can be an effective means in ascertaining their real problems in the English course. Furthermore, analysing the feedback and end of semester examination are also important to check their progress, since this shows what they already know as well as

what they do not know and the readjustment needed in the subsequent course is useful for both teachers and students (see 4.2.1 and 4.2.2).

The students' interview was used as a pilot study to elaborate the questionnaire. The use of that questionnaire produced a large amount of information about students' background, their English language competence. It also shed light on the different issues, needs and attitudes. That particular research questionnaire was initially used to elicit information about learners' attitudes towards the actual English course, and what they want to learn in this compulsory English course at the Department of Biology before the semester started in terms of language functions, structure and skills.

Interviewing the language specialist in that Department enables the course designer to gain insight into the learners' current English situation, their English language proficiency, their specific weaknesses and strength in the language skills.

So, the analysis of the obtained results from the needs analysis helped define Master students' lacks and wants for studying English at university, and their suggestions for the improvement of the process which could be of great help in a course design. Therefore, the analysis of research tools described above helped to reach the following insights.

- *Demographic variables and students' English language competence*

The survey started by describing the teaching/learning situation. The sample population is Master's students in the field of Physiology and Biochemistry of Nutrition of the Faculty of Sciences- Department of Biology. The students were aged between 22 and 40years old; 75% of the sample population belong to the LMD system whereas, 25% came from the classical one. Most of the informants were female with more than five years of study at university.

All this led us to conclude that our students were experts in their field (*see* Table 2.A-5), and that if they had studied at the university, most of them had not studied

English due to absence of language teachers since one or two teachers in the Department are not enough to cope with the great number of students in different fields. These expectations prove at the same time that, although there were mixed levels of language abilities, most students had an intermediate level in English before and after entrance to university (*see* Table 2.A-3).

Concerning the students' level of proficiency English language which is usually regarded as the indicator of success or failure of English learning in previous studies. Among the major findings of the present study, both teachers and students perceived the students' overall English competence to be inadequate, considered as a critical factor in their poor outcomes in ESP learning. Table 2.A-4 presents the students' self-assessment of English- language proficiency in the language skills. As expected, many students perceived their level in reading, writing, and listening as intermediate whereas, more than half of the respondents were the least able in the speaking skill in spite of their needs to improve their basic English language skills; and this was due to the lack of time and practice during the lectures; another reason behind such poor level in speaking was their weak English background in oral production at the middle and secondary schools.

It can be concluded, that ESP students perceived their weaknesses in English mainly in listening and speaking and most of them showed a high degree of awareness (*see* table A-6) to improve their English language skills to obtain better learning outcomes than in their current ESP learning situation.

- *Students' perceived English language necessities, wants and lacks*

In addition to students' English competence, most students noted that ESP is important and beneficial not just for their academic studies but also for their future careers. The findings of this section (part B) revealed that there are some English language sub-skills that the students have to master in order to function effectively in

the target situation. Both teachers and students (*see* Graph 2.4) indicate that the main reasons for studying English as an immediate need are:

- To understand lectures on biology in English
- To read and translate scientific articles
- To take part in oral discussion

This was evident from the results of the data collected which presented the importance of English language skills and their classification according to students' needs (*see* Graph 2.6). Interestingly enough, all the language skills have been perceived by both subjects and teachers to be important to acquire regardless of being used frequently or not. However, there was an agreement among students in perceiving reading and listening to be number one in terms of needs more than writing considered as the most important for students' major studies, and most involved during ESP classes. On contrary, the speaking skill is taken as a crucial skill which would benefit the students' future professional careers.

In terms of lacks in the English language, multiple choice questions investigated the subjects' self-rating in Table 2.B-1, which is indicative of their general feeling that they did not have an adequate level of English ability. The results showed that while the students perceived themselves as being at an average level in reading, writing, vocabulary, and listening skills; they rated themselves to be weak in pronunciation, grammar, speaking and communication skills. Compared to teachers' view about the students' lacks, the findings indicated that speaking and writing were seen as the most difficult tasks by the teachers. These learning difficulties mostly resulted from the lack of fundamental ability of English such as vocabulary and grammar. Another reason may be due to the lack of practice in the English language.

Finally, the results of this section indicated the students' wants for training to develop their ability in the English language. Consistent with the self-ratings of their

ability in performing the English language skills, the students demonstrated greater interest in receiving training in speaking, pronunciation and grammar more than writing and reading.

- Students' perceptions of the actual course content

ESP is more problematic and complicated than its counterpart (EGP) in English education. In the present study, both teachers and students agreed that ESP courses has positive effects on students' professional careers and field of study, though there are potential problems with ESP course as well. In the present study, the teachers encountered several difficult situations, such as insufficient student language skills, insufficient instruction hours and mixed level class. On the other hand, students also were confronted with problems other than insufficient English language skills, such as low achievement in ESP, the mismatched teaching materials and methodology since most of the lectures focused on terminology and translation, and from time to time on grammar and vocabulary on top of the absence of audio-visual aids during the lectures. They also insisted on the major role of ESP instructors as a person who helps and guides them in learning to encourage autonomous learning rather than as a teacher who controls everything in class.

As a conclusion, lack of interest and decline in the quality and level of contents result in little improvement of the language; an overwhelming majority of students expressed their disagreement about the redundancy of the sessions which proved the assumption that the present English courses are not improving the desired students' language proficiency to their desired level (*see* Table 2.C-3).

- Students' perception of the English- language needs

Concerning the perceived English-language needs of the first-year Master's biology students at the University of Tlemcen, the findings are related to four major

areas: Language Structures, Rhetorical Categories, Language function and Language Skills in order to propose an adequate course to respond to their needs.

The results to the question “what language structures do these biology students consider important for their study in these future English courses?” revealed that **Technical Terms** are perceived as being most important by the participants since these are two lexical areas frequently used in science and technical English. They are technical vocabulary and sub-technical one, referring to those “common” words that occur with special meaning in specific fields. The students consider vocabulary essential for comprehension of scientific texts and in their area of specialization (terminology and scientific discourse) since it is one of the main sources of difficulties (see Table 2.B-1) from which a Master’s student is likely to encounter when dealing with scientific English texts, regardless of his/her level of English proficiency.

The findings of the present study also show that **Grammatical Structures used in Scientific Discourse** (57.5%) e.g. present participle, passives, conditional, etc. **Word Structures** (52.5%) e.g. compounding, affixation, nominalization, etc. and **General terms used in Scientific Context** are perceived to be important to learn in their English courses. Lexical and linguistic structures frequently used to specify rhetorical-grammatical relationships in ESP discourse are compounding, articles, nominalization, tenses, passives, and rather long complex sentences with many dependent clauses and much embedding. The results are not surprising as those lexical and linguistic structures are essential language structures that ESP students at the tertiary level need to learn in their English courses in order to be able to write coherent pieces of writing such as abstracts, scientific articles, etc.

With regard to the language structure of **signalling syntactic boundaries using punctuation marks**, only 40% of participants considered as important since the students are not really aware of the importance of punctuation in the comprehension of scientific English texts. Correct punctuation is essential for ease of comprehension.

The possible explanation for this result is most likely due to the fact that large majority of participants (70%) (*see* Table 2.A-4) reported that their most English proficient skills were reading skills. Hence, they probably have had some acquired knowledge in this area from their English practice in reading comprehension during their first years of study at the university (Licence Degree) as well as the use of translation in their actual English course content.

In addition, it is interesting to note that the percentages of the students' responses to *technical terms in their specialized areas* (85%) seemed to be higher than *grammatical structures* (57.5%). It is possible because these participants have had some prior knowledge of grammatical rules from their previous English courses at middle and secondary schools as well as from the first year of compulsory English courses. As a consequence, vocabulary emerged as the cause of most difficulties for ESP students and specific difficulties referred to using them in appropriate context; own lack of vocabulary; and confusion between similar sounding/ looking words. Moreover, these results confirm that both technical terms and sub-technical ones usually occurring in specialized texts are normally considered to be the responsibility of language teachers to prepare their students to cope with them in academic reading and writing activities.

The findings to question "What rhetorical categories (e.g. definition, classification, exemplification, etc.) do they consider important in their study?" showed that all the six items of rhetorical categories were not perceived to be important to learn as Master's students. Nevertheless, more than half of the students (57.5%) considered *Classification* (e.g. consist of; is divided into; is composed of; etc.) and *Logical Connectors used to link clauses and sentences* (52.5%) (e.g. therefore; hence; consequently; as a result; etc.) as important to know in their scientific language backgrounds.



Therefore, the students possibly assumed that the rhetorical elements seemed to be less frequently used in their level of study as Master's students. In addition to the fact that biology students possess a basic knowledge in their main field of study (51%) (see Table 2.A-5). However, language specialists should not take into consideration rhetorical categories to include them within English courses except for some notions about classification and connectors.

Regarding question "What language functions do they consider important to learn?", the results showed that eight among nine items of language functions were perceived as being important in their study of their English courses. The results are not surprising, however, some participants seemed to consider the item of *Understanding and verbalizing Number* (45%) to be less important than the remaining items: *Reporting information from other sources* (67.5%); *Giving instruction or direction* (62.5%); *Describing process and procedures* (62.5%); *Summarising the results of a group project, a technical report or scientific text* (57.5%); *Making an outline for a presentation, a report or project* (55%); *Describing an object in terms of contrast and comparison in dimension* (55%) and *Using tables, diagrams and graphs to summarize data* (54.5%). The possible explanation for students' interest in "Reporting information from other sources" is that Master's students in the Faculty of Sciences need to refer to the sources of English textbooks on general technical subjects (such as 'Nucleus') and on other specific disciplines once they had those necessary sources available in the library. Moreover, the students want to be able to use computers to retrieve update scientific articles from the web. In addition, scientific students consider language function in terms of numbers, graphs, and symbols rather than in terms of words. They need to translate graphic forms, tables into words. Furthermore, descriptive skills, such as describing apparatus and procedures using graphs, charts, diagrams and other illustrative aids used in scientific research to present and summarise data; expressing and understanding quantities written within various

dimensions, e.g: size, length, speed and volume are considered as important skills for biology students to acquire.

In addition, writing summaries and abstracts; organising outlines; writing down bibliographical references were also suggested as essential study skill activities as part of language functions for Master's students within English courses. Outlining has long been recognised as a sub-skill that university level students should master in order to organise scientific research works. In addition, practicing those activities (described above) for these study skills and many others is an excellent way of developing command of English for the purpose of science and technology.

The findings of the last question of this section (part D) “What sub-skills from each of the four main language skills do they consider important in these English courses?”, revealed that the 23 items of this section of English-language needs are important to be included within English courses. In addition, the top ten items among the twenty three of language skills reported by the participants, as shown in table 2.D-8, are as follows:

1. Taking part in conferences
2. Reading text on Biology
3. Reading technical articles
4. Writing reports
5. Giving spoken presentations
6. Listening to teacher talk
7. Asking questions in class
8. Reading instructions for laboratory

9. Taking notes in class

10. Writing articles

These findings shed light on students' difficulties that they want to improve during English classes since biology students had problems not only in speaking skills and listening comprehension that has been revealed in part B of the present survey but also in reading scientific texts and articles or lab manuals; taking notes and writing reports or articles. Listening to lecturers was also reported to be difficult by the informants due to the technical terminology used by the lecturers and their speed of delivery, accent and pronunciation rather than the content of the course. However, some students who belong to the classical system reported that they had troubles in taking notes even though they could understand the lecture.

Regarding reading comprehension, ability to recognise the main idea of scientific texts and articles was reported by the informants as being strongly important. Since all the update articles in their field of research are published in English. All these issues are due to very limited opportunities and practice mainly in speaking and listening English language inside and outside the classrooms. To conclude, the informants need also to improve their reading and writing skills in ESP necessary for their area of specialisation and yet, they want to develop in speaking and listening skills in English for General Purposes.

Finally, Table 2.9 summarises the top ten items of the students' perceived English-language needs from the whole data collected in the present research as follows:

Item 1 (part D): Technical terms used in scientific text

Item 3 (part D- language structure): Technical terms in your area of specialisation

Item 14 (part D): Taking part in conferences

Item 4 (part D): Reading text on Biology

Item 2 (part D): Reading technical articles

Item 15(part D): Giving spoken presentation

Item 3 (part D- language function): Reporting information from other sources

Item 2(part D- language function): Giving instruction or direction

Item 3 (part B): Speaking skill

Item 2(part D-rhetorical categories): Classification

- *Students' suggestions for improving English-language Course*

In the light of what has been said earlier, this section (part E) (*see Appendix 2*) discusses the subjects' suggestions to improve the English language course. Learners' perceptions and attitudes of the appropriateness of the English language course are considered as a backbone to design a course. In line with this, this study revealed that current English language course was not adapted to the students' language needs. In other words, the highest percentage of the subjects voiced negative views towards the usefulness of the English courses as shown in Table 2.C-1 and 2.C-2.

Master's students are current or future specialists who need English for their specific area and aware of their needs. Those students know exactly what they need English for and that they know what the ESP course should offer them. Given this, the majority of the informants in the present study had the perception that the speaking and listening skills should be given priority when designing an ESP course. In addition, the results indicated that reading and writing as well as terminology must also be taken into consideration to improve their English language proficiency in the target situation.

Part E of the questionnaire intended to find out the students' preferred learning styles and strategies. The sub-item 1.1 investigated the preference for the classroom

interaction patterns, the students prefer pair and group work interaction pattern as compared to working alone and this is mainly due to mixed ability of students so, they prefer team work to feel confident when dealing with the different activities within the classroom. In addition; the informants are more interested to get information from the teacher by taking notes in order to develop listening techniques and improving their weaknesses.

Concerning students' preferred teaching materials to be used in the classroom, the two top options selected were the internet and videos since computing is widely used all over the world, in addition to the importance of using audio-visual aids in teaching and learning process. Students' preference of teaching/learning activities must also focus on developing productive skills through debates, games, role play and written exercises. These are kinds of activities that students want to perform regularly during the lectures (Figure 2.E-1-4).

As a final students' comment, it appears that most of them view that 2 hours weekly for one semester are not enough for English course to help them gain confidence and proficiency in the target language. The majority of the informants was satisfied with the diversity of the questions in order to design an appropriate course adapted to their needs. According to them, the whole compulsory English programme in the Department of Biology must be adapted in order to improve their English language proficiency at the tertiary level.

It can be concluded that master students' needs and interests could be a valuable source to design an appropriate course in order to improve the teaching and learning situation in that department. An eclectic method is a most suitable approach for biology students due to the lack of time. The needs analysis conducted in this research is an equally valuable source for the course designer who is also a teacher to develop teaching materials in terms of course elaboration, organisation with appropriate visual-aids and realia.

### **2.10. Conclusion**

The needs analysis in this study gives background information on the learners, their learning habits, and expectations. This research also reveals that students have precise and clear opinions about their abilities in the various language skills, and they are able to assess their importance for their academic study, future profession, and social life. The data help to contextualize how teaching and learning should take place and how to develop new teaching materials according to learners' needs in terms of appropriateness and effectiveness.

The researcher gives valuable information for teachers and potential course designers to understand the learners' needs and attitudes vis-à-vis the target language. As mentioned above, the questionnaire and the interviews tried to elicit the students' linguistic needs, objectives, available resources, and some of their psychological factors. As such, besides identifying learners' needs, the findings show that current language course is not appropriate for the students. Based on the results of this survey, practical suggestions for reforming existing course and classroom teaching practices are proposed as a framework for a tentative course design in the subsequent chapter.

# **CHAPTER THREE**

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## **COURSE DESIGN and SAMPLE LESSONS**

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### **3.1. Introduction**

The data obtained from the needs analysis phase through these three research instruments was analysed and used to develop a set of goals and objectives and a syllabus for the course, as well as to decide on methodology, teaching materials, and assessment instruments. All of these were put together and an ESP course for First-year Master's students in the Department of Biology was put into practice from October 2012 to February 2013.

The development and the organization of the courses will be discussed in detail in this chapter, together with the aims of the courses, either short-term and long-term ones, the goals and objectives which were well set at the beginning of the course for the four skills. The last step will deal with the organization of the course itself.

### **3.2. Course Design**

Analysing the specific needs of a particular learner group serves as the prelude to an ESP course design, because it determines the 'what-to teach' and 'how-to teach' of the course.

The needs analysis conducted in this research takes into consideration different aspects in order to design a course that suits the needs of the students in the Department of Biology at the University of Tlemcen. These are as follows:

1. Personal information about the learners
2. Professional information about the learners
3. English language information about the learners
4. Learners' lacks
5. Language learning needs of the learners
6. Knowledge of how language and skills are used in the target situation
7. What is expected from the course

#### 8. Information about the environment in which the course is offered.

When designing an ESP course, some issues ought to be taken into consideration is that of grammatical functions, acquisition skills, terminology, specific functions of discipline content, and the constraint of time. They are all crucial parts of an ESP course. In addition, to all what has been described above, the course developments process should also include the aims and the determination of goals and objectives in order to avoid de-motivation. The goals should be realistic and the objectives should be appropriate to the goals (Nunan, 1988).

Assessment and evaluation are also two important issues that should be included in the course design process. Assessment is a process of measuring what learners know and what they can do, whereas evaluation reveals how well the ESP course works with emphasis not only on successful factors but also on modifying less successful aspects (Dudley-Evans & St John, 1998) and this aspect of the research will be discussed in the subsequent chapter.

#### **3.2.1. Aims of the Course**

Master's students in the Department of Biology need English for different purposes:

- To practise and master the English language in order to be able to follow lectures,
- to translate scientific articles,
- to sit for formal exam,
- to take part in international conferences, as short-term aims.
- To equip students with a rich and varied language background for everyday use, after graduation and future career,

- to undertake research studies in their specific fields, as long-term aims.

### **3.2.2. Goals and Objectives**

By the end of the course, learners should be able to familiarize themselves with scientific terminology and write competently in English. For example, to be able to answer questions and to perform written activities during the lectures and exams. To be able to understand translated scientific articles and to write good resumés in their field of research. They must also have the ability to perform oral presentations when attending international conferences.

The objectives for each skill are as follows:

a) Reading:

- To understand a variety of texts, such as reports, documents and articles in English.

b) Writing:

- To write resumés for their dissertations
- To write articles for international journals
- To answer written activities

c) Listening:

- To understand lectures in English related to their field of study
- To understand oral presentations

d) Speaking:

- To give an oral presentation
- To take part in international conferences
- To ask questions in class or in conferences

### 3.2.3 Course Organisation

The course takes place over one academic semester, a duration of twelve weeks and the length of 2 hours a week, with a total number of hours of 24 from beginning to end of the courses. The groups are usually between thirty and forty students. The ‘target learners’ are Master level in the Biology Department

#### 3.2.3.1 Course Content

Since the results of needs analysis revealed that one of the prominent language skills is reading, a series of specific texts are presented to the students for skimming and scanning and for the gist of relevancy and for checking particular information. Then, intensive reading for checking general and technical vocabulary and for in-depth understanding with translating passages from English into French is dealt with. The other skills are not neglected, they are taught in combination in an integrative way with the aim to achieve improvements and to meet the linguistic objectives of their studies:

**Speaking**: text-based discussion, gap filling done orally, reading aloud to correct pronunciation, summarizing the given text orally, asking questions for oral responses, pair work or group work for solving problems and oral presentation in their specific field of research.

**Listening**: listening and understanding the teacher while explaining the lessons, when giving instructions and while reading aloud written passages.

**Writing**: note taking while reading, written activities, i.e. filling the gaps through guessing the meaning of missing expressions from the context as well as understanding the grammatical structures of sentences, a written summary of a long text and translating it.

**Study skills:** vocabulary activities, deducing meaning of unfamiliar lexical items/words, making a difference between technical and general terms, compound nouns from the context, and work with prefixes, suffixes, synonyms and antonyms. The use of a dictionary, familiarization with grammatical structures typical of professional technical texts, and learning how to read formulae, symbols, graphs, charts, shapes, etc.

### 3.2.3.2 Types of Materials Used in the Course

Sets of specialized course books, specialized articles from professional journals, adapting authentic materials (such as “Nucleus”), semi-technical texts and specialised texts downloaded from the web. In the course, the materials are selected on the following bases:

- To provide a stimulus for learning
- Relevant to the students’ level, containing topics and vocabulary related to their field of study
- To help them develop comprehension and lexis of more general technical terminology
- Whose content can be coped with both learners and the teacher
- Give the students opportunities both to use their existing knowledge and enrich it

The list of the main textbooks and other materials that have been used in the course:

- **Biological Sciences** – Cambridge Edition- 2000
- **A Course in Intermediate Scientific English** by Frank Chaplen (1989)
- **Biological Sciences** – *Developing Reading Skills in English-* By Valerie Kay.(1988)

- **NUCLEUS-** *English for Science and Technology-* “General Science” by Martin Bates/ Tony Dudley-Evans.(New Edition,1990)

- **Scientific Articles** retrieved from the web

Only suitable chapters and passages adequate to the level and specialization of the course participants have been chosen most of the time.

**Assignments:** Students are asked to translate articles and passages at home and to complete gap filling activities. They are also asked to present an ‘exposé’ related to their specific topics for their projects and dissertations and to present it orally before the end of the semester by using audio-visual materials (Slide show).

**Testing and assessment:** A proficiency test before the beginning of the courses was done to evaluate their level of proficiency in English. An oral assessment was organized through power point presentation before the end of the semester and a final examination at the end of the semester

Table 3.1 below briefly outlines the different sample English courses from each Unit:

<b>UNIT</b>	<b>Key Topics</b>	<b>General Aims</b>	<b>Language Function</b>	<b>Language Points</b>
UNIT 1	“ Cell properties”	-Describe - Write - Read	-Describing -Comparing	-Present Simple -Word order -Use of conjunctions -Irregular plurals of scientific terms -Technical terms
UNIT 2	“ Properties and shapes of bacteria”	-Understand and practice -Describing shapes and other properties	-Describing properties -Comparing by using shapes	-Present Simple -Adjectives and adverbs -Scanning-skimming -Compounds adjectives
UNIT 3	“Different types of bacteria”	-Listening -Taking notes -Translating	-Understanding and following events	-Present simple -Spelling -Word confusion -Technical and sub-technical - vocabulary -Terminology -Writing techniques
Unit 4	“Actions in sequence”	-Develop the language -Time relation	-Expressing preceding, simultaneous and following events	-Active and passive verbs -Reduced time clause -Using Present Participles -Sentence connectors -expressing time relations -Vocabulary connected with time -Prepositions of direction

UNIT5	“Technical Vocabulary”	-Understand scientific text -Recognize technical vocabulary	-Comprehension -Vocabulary acquisition	-Difficult words -Synonyms -Verbs vs Nouns -Word confusion -Technical vocabulary
UNIT 6	“Functions in the human body”	-To describe orally scientific diagrams	-Complete statement. -Writing a coherent and grammatical passage -Lexical knowledge	-Verbs/ adjectives -Words connectors -Fill the gaps -Technical and sub-technical vocabulary Terminology -Writing techniques
UNIT7	“How to make a good scientific presentation”	-To prepare and present orally a scientific research	-Creating a presentation -Designing -Power point -slides  -Delivering an oral presentation	-Verbs/ adjectives -Technical and sub-technical vocabulary -Terminology -Summarising techniques -Pronunciation -Oral presentation techniques

**Table 3.1: Summary of the proposed sample lessons**



### 3.3. Sample Courses

#### 3.3.1. Unit I: SAMPLE LESSON

### “The Properties of the Cell”

**General aims:** By the end of the unit, the students should be able *to describe* a cell and *to write* about the differences and similarities of cells and *to read* simple scientific texts on Biology.

#### Functions:

- Describing
- Comparing.

#### Language Points

- Present Simple
- Word order
- Use of conjunctions (whereas; both....and; however)
- Irregular plurals of scientific terms

**The text : “The Cell Structure”**

Nearly, every cell contains a nucleus and some cells contain more than one. The nucleus is the cell’s control centre from which come the instructions that keep the cell alive.

The nucleus also plays the leading role in cell reproduction. It and other cell structures are surrounded by a semi-liquid, cytoplasm rich in protein and other needed materials.

Within the nucleus, are one or more small bodies: These are the nucleoli. They are believed to send instructions for protein synthesis from the nucleus to the cytoplasm. The centrosome is a small structure found just outside (or in few cases, just inside) the nucleus. This structure occurs in all animal cells but in rather few plant cells. It is involved in the reproduction of cells.

The boundary between the nucleus and the cytoplasm is called the nuclear membrane; everything going into or out of the nucleus must pass through this membrane. It acts like a filter allowing substances to pass through and not other.

There is another membrane; the cell membrane, it is a boundary between a cell and its environment. It regulates the traffic of materials. Here, of course, the regulation is of materials coming into or going out of the cytoplasm, not the nucleus.

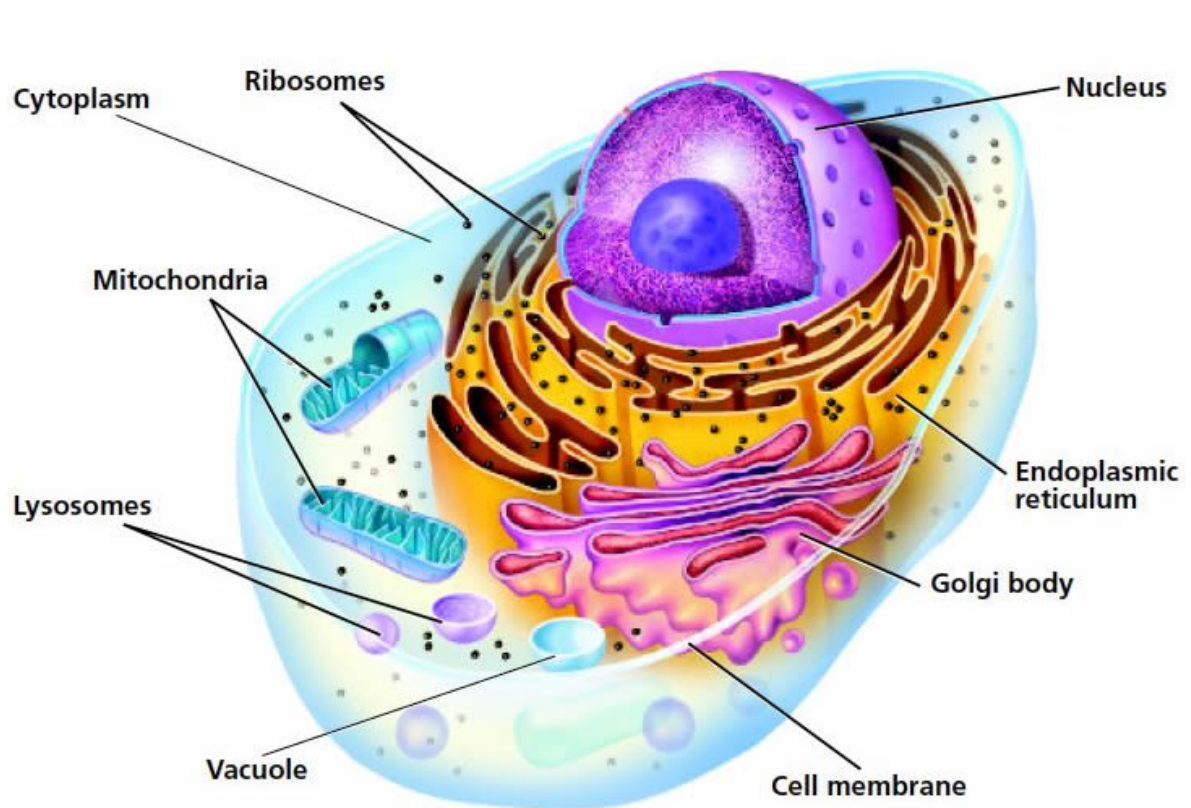
Another important element is the endoplasmic reticulum. This network branches throughout the cytoplasm and appears to connect the cell membrane with the nuclear membrane. It acts as a route for transporting protein and other materials through the cell. It thus, forms a communications network between the cytoplasm and the nucleus.

The ribosome is the site of protein synthesis in the cell and the plastids are small structures that are given the name of organelles. Pigments colour them.

Among the variety of plastid we find the chloroplasts; they contain green pigment (chlorophylls) and are involved in photosynthesis.

There is another type of organelles. Mitochondria are the powerhouses of the cell. Many important chemical reactions take place inside them. These reactions remove energy from food and make it available for the cell’s activities.

Biologists now describe Golgi apparatus as a primary site for the packaging of the cell secretions. Some also believe that it is involved in the production of large sugar based molecules. Both animal and plant cells contain vacuoles; they are fluid-filled bags. Vacuoles are usually small and few in the cells of animals. In plant cells, however, they are frequently large and numerous. Vacuoles in other organisms are used to store food or pigments. (Green, 1990:211)

**Pre- reading activities**

**Diagram 3.2: The Cell Structures**

**Aim:** To make learners identify scientific terms.

**Activity One:** Look at the diagram (cell picture) and then label it.

**Reading Activities**

**Activity one:** Reading *for gist*

- Read the text (Cell Structure), and find out what it is about.

**Activity Two:** *Scanning*

-Read the text and answer the following questions:

- 1) What are the main elements of a cell?
- 2) What does the nucleus represent in a cell?
- 3) Give a title to each paragraph
- 4) What is the role of the nucleus?
- 5) Do all cells contain the same elements? Justify your answer

**Activity Three:**

- Read the text again and complete the following table

<b>Noun</b>	<b>Verb</b>	<b>Sentence</b>
Synthesis		
Reproduction		
Filter		
	To regulate	
	To transport	
	To involve	
Reaction		
Production		

**Activity Four:**

- Find in the text words that have the same meaning as:

**Penetrate (§3) - kind (§7) - suppose (§8) - include (§8) - happen (§7)**

**Activity Five:**

- Find in the text words that are opposite to:

**Few (§8) - outside (§2) -big (§2) - To forbid (§3) – disappear (§5)**

**Activity Six:** Complete the following table:

<b>Nouns in singular</b>	<b>Nouns in plural</b>
Nucleus	
Bacteria	
Mitochondria	
	Species

**Post- reading activities**

**Activity one:** Complete the following text with the words in the box

**The text: “Structure of Plant Cells”**

The outer layer of a plant cell is called the cell wall. This is composed of a non-living material called: The inner surface of the cell wall is lined with a layer of the nucleus is embedded in this layer. The protoplasm which surrounds the ..... is called cytoplasm. The cytoplasm sometimes contains chloroplasts. These are small bodies composed of protein. The surface of the cytoplasm is covered with a cell membrane. The centre of a ..... Cell consists of a cavity called the ..... It is filled with fluid.

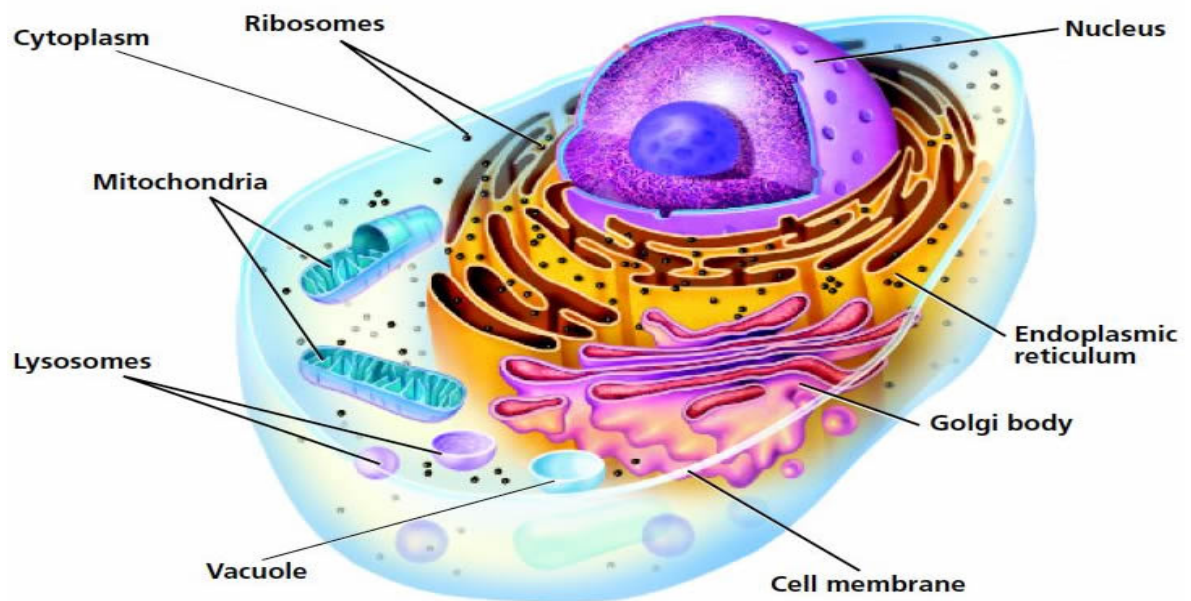
The wall of a plant cell is often joined to other cells, which surround it. The lining between the walls of two cells is called the middle .....

(Nucleus, Biology, 1977:18)

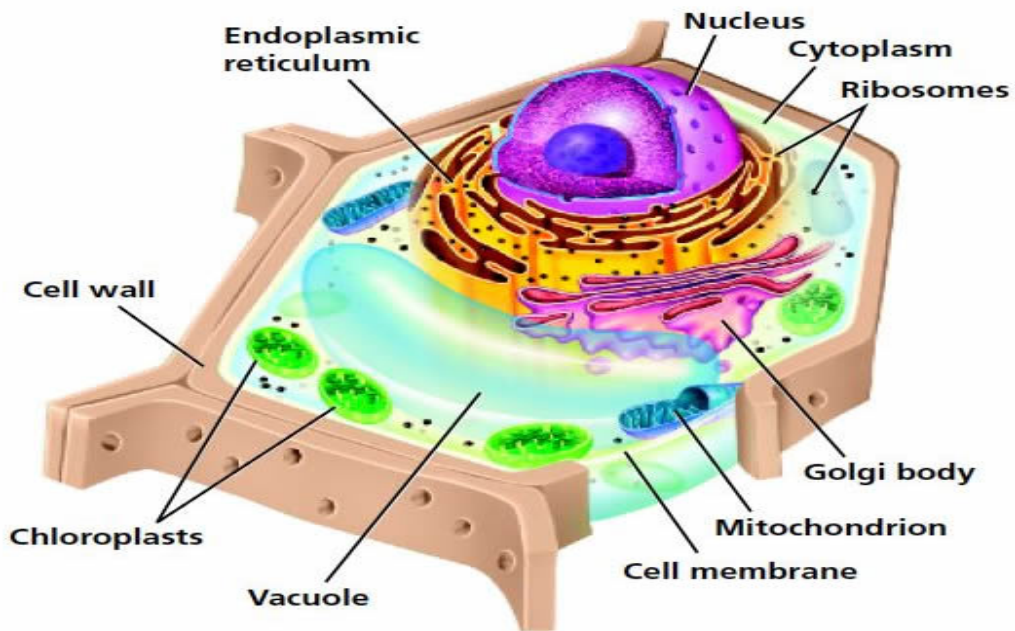
The box: **nucleus – vacuole- cellulose – lamella- protoplasm – plant**

**Activity two:**

- Read these statements comparing the structure of the cells:



**Diagram 3.3: The Animal Cell Structures**



**Diagram 3.4: The Vegetal Cell Structures**

**Similarities** Both plant cells and animal cells contain nuclei. A plant cell contains a nucleus. An animal cell **also** contains a nucleus.

**Differences** Plant cells contain vacuoles, **whereas** animal cells often do not have vacuoles.

Plant cells contain vacuoles. Animal cells, **however**, often do not have vacuoles.

-Now complete these comparisons:

- ..... Plant cells ..... animal cells contain.....and.....
- Plant cells always contain.....animal cells often.....
- Plant cells are surrounded by..... Animal cells, .....are not .....

- d) The palisade cells of a leaf contain..... The epidermis cells, however,.....
- e) In..... plant cells..... animal cells, the nucleus.....by cytoplasm.
- f) In ..... the nucleus is embedded in the cytoplasm lining the cell walls,.....in.....it is connected to the cell wall by.....
- g) Cells in spirogyra are joined end to end. Those in the phloem of a plant stem..... However, the end walls of a.....cell are perforated (i.e. they contain holes), whereas.....
- h) In.....the chloroplasts are spiral-shaped,.....in.....they are round.

**Activity three:** Make correct sentences from this table by putting the middle parts in the right order (Word order)

a) The cytoplasm	Lining the walls of the cells	Contains chloroplasts.
b) The cells	Surrounding the nucleus	Are called guard cells.
c) The wax layer	Containing large air spaces	Covers the surface of the epidermis
d) The protoplasm	Containing chlorophyll	Is called cytoplasm.
e) The layer	Composed of the spongy layer and the palisade layer	Is known as the spongy layer.
f) The cells	Called the cuticle	Do not contain chloroplasts.
g) The part of the leaf	Situated in the epidermis	Is known as the mesophyll
h) The walls	On each side of stomata	Make up the middle lamella
I) The part of the leaf	Immediately below the epidermis	Is called the palisade layer
j) The particles	Of similar cells joined together	Are called chloroplasts



**Activity four:**

-Look at the following diagram (p20) and then write a short paragraph about the main elements of a leaf cell and the function of each element.

**Free reading:****“Cell Structure of the Leaf”**

The surface of a leaf consists of a single layer of cells fitting closely together with no air spaces between them. This outer layer is called the *epidermis*. Sometimes the upper epidermis is covered with a waxy layer called the *cuticle*. The *stomata* are located in the lower epidermis. The cells of the epidermis do not usually contain chloroplasts and they are transparent. The *guard cells*, however, do contain chloroplasts. They are situated on either side of the stomata.

The middle part of the leaf, between the upper epidermis and the lower epidermis, is made up of two layers: the *palisade layer* and the *spongy layer*. These two layers make up the *mesophyll*.

Immediately below the upper epidermis there is a row of tall cylindrical cells. These comprise the palisade layer. There are many chloroplasts in the cytoplasm lining the walls of the palisade cells.

*Chloroplasts* are particles, which are often disc-shaped. They are composed of protein and contain chlorophyll.

In the spongy layer the cells do not all fit closely together and there are large *air spaces* between them. They contain fewer chloroplasts than the cells in the palisade layer.

(Nucleus-Biology; 1977:2)

**3.3.2. Unit2: SAMPLE LESSON****“Properties and Shapes of Bacteria”**

**General aim:** By the end of the unit, the students should be able *to compare and practice* ways of *describing shapes and other properties* of organisms.

**Function:** Describing properties – Comparing by using shapes.

**Language points:**

- Present Simple Tense
- Adjectives and verbs
- Scanning –skimming
- Be+ adjective (e.g. A circle is curved..)
- Be+ shaped like +noun
- Compound adjectives (have +noun)

## SECTION 1 : Different Shapes

1. Look and answer:



This is a lens. One surface is *curved* and the other is *flat*. Which is which?

2. Look at these solids and describe the different shapes (orally)

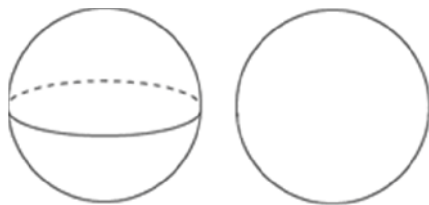


Figure 1

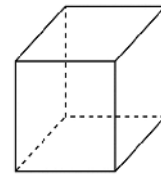
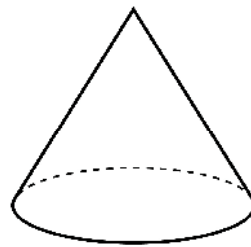
Figure 2



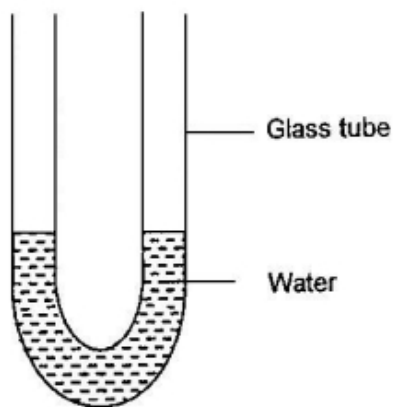
Figure 3



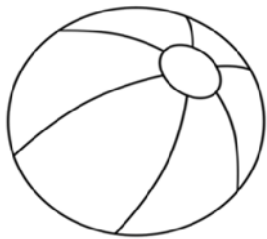
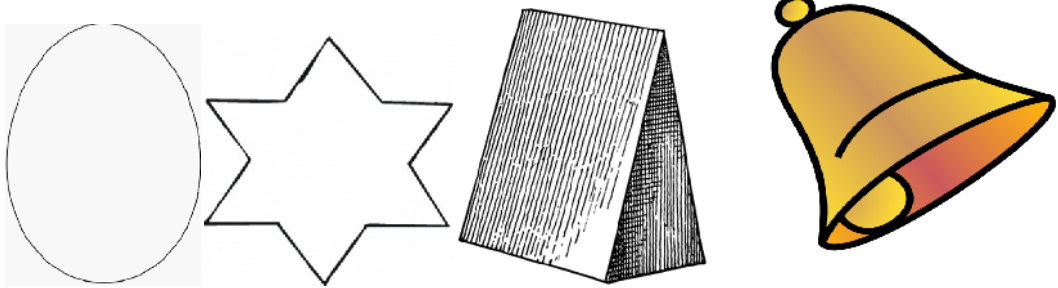
Figure 4



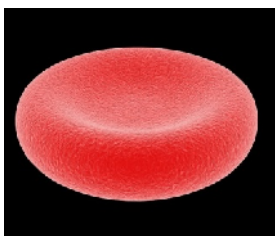
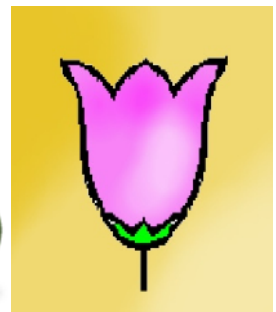
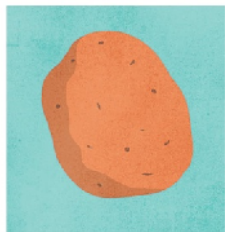
This tube is shaped like.....

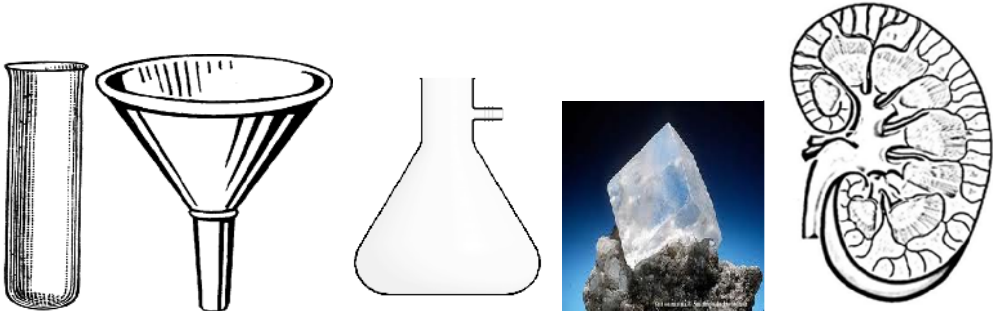


3. What are the shapes of the following pictures?



4. Compare the following images to shapes in order to define them





**3.3.3. Unit3: SAMPLE LESSON****“Different Types of Bacteria”**

**General aim:** By the end of the unit, the students should be able to **take notes and listening to a scientific text**, then *translate it*.

**Function:**

- Identifying events/ stages.
- Writing an abstract

**Language points:**

- Present simple Tense
- Spelling
- Word confusion
- Technical and sub-technical vocabulary
- Terminology
- Writing techniques

**Activity one:**

-Listen to the following recording and take notes

**Content of the recording**

*“While the classification of different types of bacteria for a layman is likely to revolve around whether they are harmful or helpful, or at the most the environment in which they exist, the actual bacterial classification goes well beyond these basic factors, to take into account factors like morphology, DNA sequencing, etc.*

*Bacteria (singular: bacterium) are single-celled organisms which can only be seen through a microscope. They come in different shapes and sizes, and their size is measured in micrometer - which is a millionth part of a meter. There are several different types of bacteria in the world, and they are found everywhere and in all types of environment. There are various groups of bacteria, which belong to the same family and have evolved from the same bacteria (ancestor). However, each of these types possesses their own peculiar characteristics - which have evolved after separation from the original species.”*

**Activity two:**

-write an abstract about the content of the recording

**Activity three:**

1. Read the following text about bacteria and its classification and write a summary.
2. Translate the obtained summary into French



### “Classification of Bacteria”

Before the invention of DNA sequencing technique, bacteria were mainly classified based on their shapes - also known as morphology, biochemistry, and staining - i.e. either Gram positive or Gram negative staining. Nowadays, along with the morphology, DNA sequencing is also used in order to classify bacteria. DNA sequencing helps in understanding the relationship between two types of bacteria i.e. if they are related to each other despite their different shapes. Along with the shape and DNA sequence, other things such as their metabolic activities, conditions required for their growth, biochemical reactions (i.e., biochemistry as mentioned above), antigenic properties, and other characteristics are also helpful in classifying the bacteria.

Based on the morphology, DNA sequencing, conditions required and biochemistry, scientists have come up with the following classification with 28 different bacterial phyla:

*Acidobacteria, Actinobacteria, Aquificae, Bacteroidetes, Caldiseptica, Chlamydiae, Chlorobi, Chloroflexi, Chrysiogenetes, Cyanobacteria, Deferribacteres, Deinococcus-Thermus, Dictyoglomi, Elusimicrobia, Fibrobacteres, Firmicutes, Fusobacteria, Gemmatimonadetes, Lentisphaerae, Nitrospira, Planctomycetes, Proteobacteria, Spirochaetes, Synergistetes, Tenericutes, Thermodesulfobacteria, Thermotogae, Verrucomicrobia*

Each phylum further corresponds to the number of species and genera of bacteria. In a broad sense, this bacterial classification includes bacteria which are found in various types of environment such as sweet water bacteria, ocean water bacteria, bacteria that can survive extreme temperatures (extreme hot as in sulfur water spring bacteria and extreme cold as in bacteria found in Antarctica ice), bacteria that can survive in highly acidic environment, bacteria that can survive in highly alkaline environment, bacteria that can withstand high radiations, aerobic bacteria, anaerobic bacteria, autotrophic bacteria, heterotrophic bacteria, and so on... Though bacteria are mainly classified into phylum i.e. the scientific classification of

organisms, they can be categorized into the following groups for simplification.

### **Bacterial Classification Based on Shapes**

As already mentioned, before the advent of DNA sequencing, bacteria were classified based on their shapes and biochemical properties. Most of the bacteria belong to three main shapes:

**Rod-shaped bacteria are called bacilli - e.g. E.Coli and Salmonella**

**Spherical-shaped bacteria are called cocci - e.g. Staphylococcus aStreptococcus**

**Spiral-shaped bacteria are called spirilla - e.g. Treponema and Borellia.**

Some bacteria belong to different shapes, which are more complex than the shapes mentioned above.

### **Bacterial Classification Based on Staining Methods**

Bacteria are grouped as 'Gram positive' and 'Gram negative' bacteria, based on the results of Gram staining method, wherein an agent is used to bind to the cell wall of the bacteria.

- 1) Gram positive bacteria - take up crystal violet dye and retain their blue or violet color.
- 2) Gram negative bacteria - do not take up crystal violet dye, and thus appear red or pink.

### **Aerobic and Anaerobic Bacteria**

Bacteria are also classified based on the requirement of oxygen for their survival.

- 1) Aerobic bacteria - Bacteria that need oxygen for their survival.
- 2) Anaerobic bacteria - Bacteria that do not require oxygen for survival. Anaerobic bacteria cannot bear oxygen and may die if kept in an oxygenated environment. Such types of bacteria are usually found in places like, under the surface of the Earth, deep oceans, and bacteria which live in some medium.

### **Autotrophic and Heterotrophic Bacteria**

This is one of the most important classification types as it takes into account the

most important aspect of bacterial growth and reproduction.

- 1) Autotrophic bacteria (also known as autotrophs) obtain the carbon it requires from carbon dioxide.
- 2) Heterotrophic bacteria obtain sugar from the environment they are in (for example, the living cells or organisms they are in). Some autotrophs directly use sunlight in order to produce sugar from carbon dioxide, whereas others depend on various chemical reactions.

### **Bacterial Classification Based on Environment**

As we mentioned earlier, bacteria are found in all types of environment. While some species of bacteria can withstand extreme conditions, others need specific moderate conditions to survive. On the basis on environmental conditions of their habitat, bacteria are classified into:

- 1) Mesophiles - which require moderate conditions to survive.
- 2) Neutrophiles - which require moderate conditions to survive.
- 3) Extremophiles - which can survive in extreme conditions.
- 4) Acidophiles - which can tolerate low pH conditions.
- 5) Alkaliphiles - which can tolerate high pH conditions.
- 6) Thermophiles - which can resist high temperature.
- 7) Psychrophilic bacteria - which can survive extremely cold conditions.
- 8) Halophiles - which can survive in highly saline conditions.
- 9) Osmophiles - which can survive in high sugar osmotic conditions.

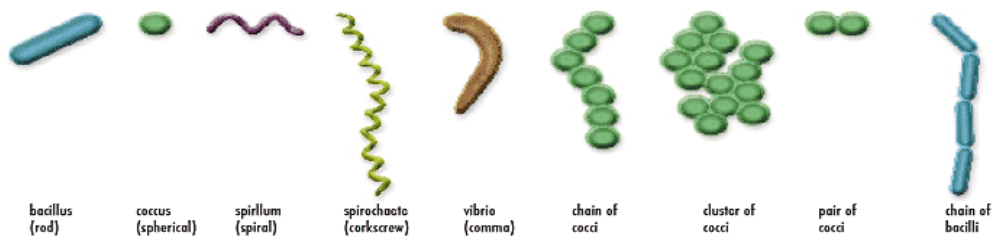
The great deal of diversity that you get to see in bacteria species makes it virtually impossible to come up with a classification which will include every single species on the planet. Add to it the fact that these bacteria are also constantly evolving and adapting to the environment wherein survival of living things has been deemed impossible (The best example are the bacteria which inhabit the brine lakes of

Mediterranean Sea wherein the salinity levels far exceed the salinity levels of normal sea water.), and the task becomes all the more difficult.

## Bacteria

Bacteria are single celled microbes. The cell structure is simpler than that of other organisms as there is no nucleus or membrane bound organelles. Instead their control centre containing the genetic information is contained in a single loop of DNA. Some bacteria have an extra circle of genetic material called a plasmid. The plasmid often contains genes that give the bacterium some advantage over other bacteria. For example it may contain a gene that makes the bacterium resistant to a certain antibiotic.

Bacteria are classified into 5 groups according to their basic shapes: spherical (cocci), rod (bacilli), spiral (spirilla), comma (vibrios) or corkscrew (spirochaetes). They can exist as single cells, in pairs, chains or clusters.



### 3.3.4. Unit 4: SAMPLE LESSON

#### “Actions in Sequence”

**General aim:** By the end of the unit, the students should be able to use *a language* to describe a *continuous process, consisting of events* occurring one after the other, or *simultaneously*, in sequences, stages and cycles. The *time relations* between actions and their expression through conjunctions and sentence connectives.

**Function:**

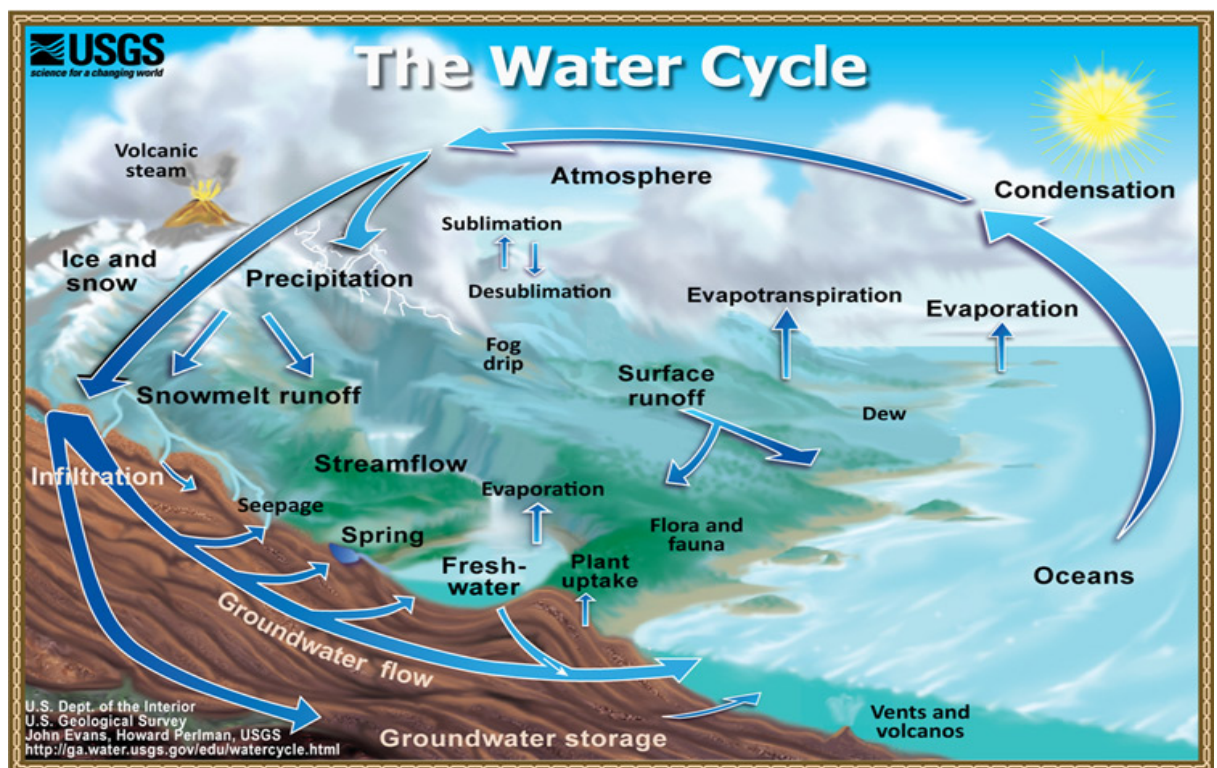
- Expressing preceding, simultaneous and following events.

**Language points:**

- Present simple Tense
- Active and passive verbs
- Reduced time clause
- Using present participles
- Sentence connectors expressing time relations (first/next/finally)
- Vocabulary connected with time (occur/ begin/ continue)
- Prepositions of direction (up/along/round/cross/out of)

**SECTION1:****Activity1:**

- 1) Look at the following picture and explain



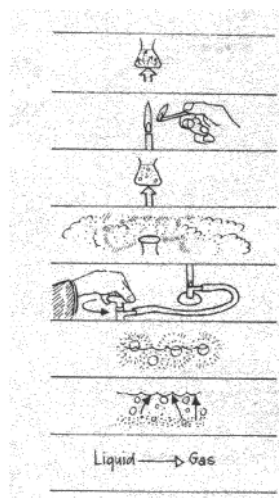
2) Now write a description of the cycle by joining the correct half-sentences in the left column with those in the right:

When the sun radiates heat,	until they reach high land.
As soon as the water vapour forms,	rain is precipitated.
While rising,	the water flows back to the sea.
When the vapour cools,	the vapour cools.
During condensation,	it begins to rise
The clouds then move towards land,	clouds are formed.
When the clouds reach high land,	it condenses
As the temperature falls,	sea water evaporates.
On being precipitated,	the air temperature falls
After being absorbed,	the rain is absorbed by the soil.

### Activity two:

-Number these events in the order in which they occur when water is heated.

- The water becomes hot.
- The gas is lit.
- Bubbles appear.
- Steam appears.
- The gas is turned on.
- Bubbles burst.
- Bubbles rise to the surface.



h) The water evaporates.

- Now look at the two points in this example:

*As soon as* the gas is turned on, *it* is lit. (Y follows X immediately)

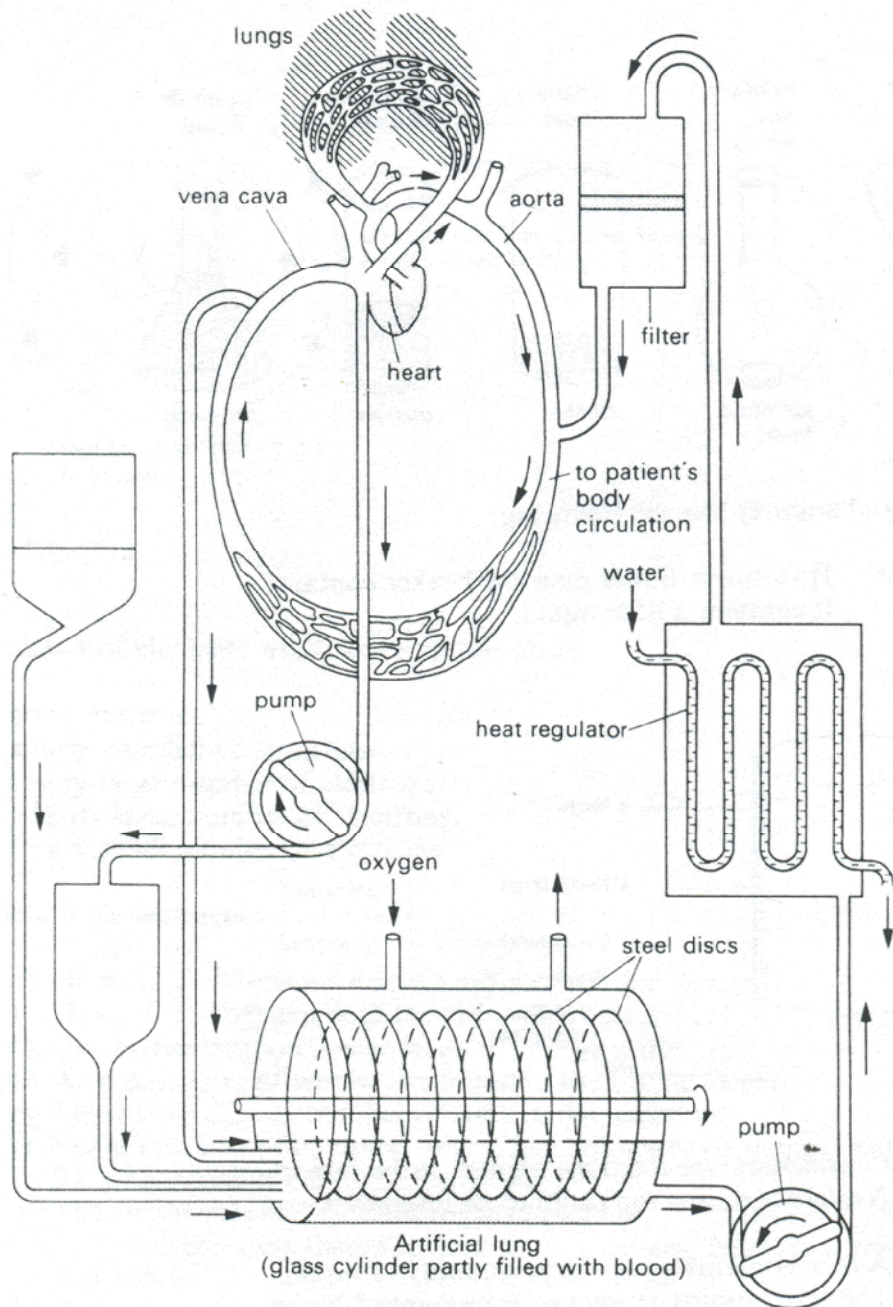
-Complete these sentences by using the preceding diagram

- i) As the water evaporates, .....
- j) As soon as the bubbles burst, .....
- k) When the bubbles rise to the surface, .....
- l) As soon as the gas is turned on, .....
- m) Before the gas is lit; .....
- n) After the water becomes hot, .....
- o) As soon as the bubbles appear, .....



**SECTION 2:**

**Activity one:** Look at this diagram and read the passage which follows



**The heart-lung machine**

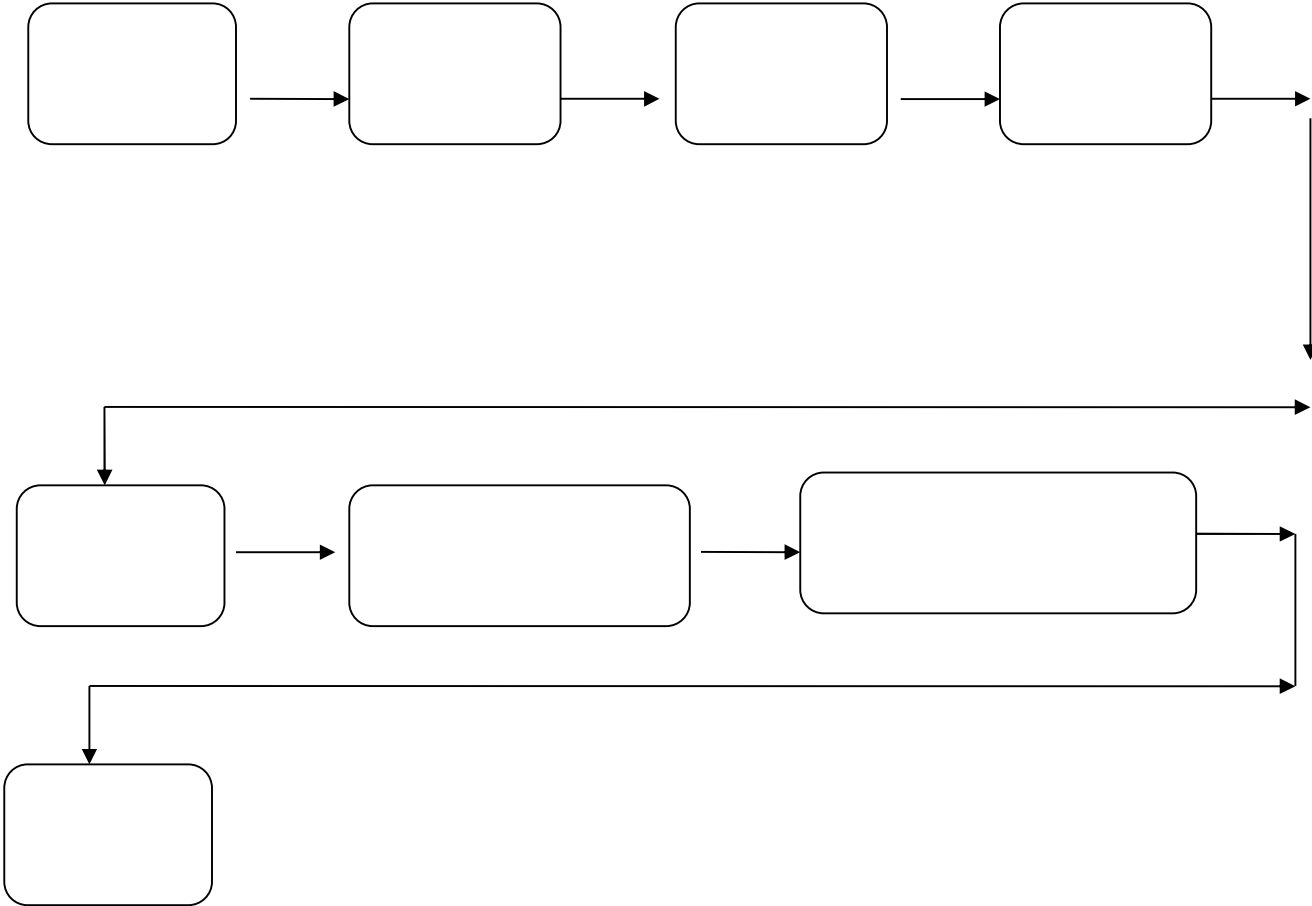
The heart-lung machine is used for maintaining the circulation and oxygenation of the patient's blood. It consists of an artificial lung, pumps, tubes and devices for controlling the heat and filtering the blood. The artificial lung serves to oxygenate the blood, which is diverted from the vena cava before reaching the heart.

On leaving the vena cava, the blood enters a plastic tube and flows down this until it enters the artificial lung. This is a horizontal glass cylinder which is partly filled with blood. It contains rotating steel discs. After the blood enters the cylinder it forms a thin film on the surface of the discs. This enables the blood to absorb oxygen, which is pumped through a cylinder. The oxygenated blood subsequently passes through a heat regulator and a filter before returning to the patient's body circulation.

**Activity two:** Answer these questions

- a) What does the artificial lung do to the blood?
- b) What is the function of the heat regulator?
- c) What does the artificial lung consist of?
- d) Why is the blood able to absorb oxygen?

**Activity three:** Look again at paragraph 2, and complete this chart showing stages in the movement of blood through the heart-lung machine.



#### 4.3.5. Unit 5: SAMPLE LESSON

### “Technical Vocabulary”

**General aim:** By the end of the unit, students should be able *to identify* the technical vocabulary of scientific text in order *to avoid confusion* between words.

#### **Function:**

- Identifying technical words
- Discriminating verbs/nouns
- Comparing
- Using synonyms.

#### **Language points:**

- Difficult words
- Synonyms
- Verbs vs Nouns
- Word confusion
- Technical vocabulary

**SECTION 1:**

Read the text:

**“Genetic Manipulation”**

Ever since man the hunter and **gatherer** gave up his nomadic way of life and began to tend stock and grow crops, he has been **involved** with genetic manipulation. Firstly, in ignorance simply by choosing to rear particular animals or plants, which were in some way advantageous to his developing lifestyle, and then much later as the science of Genetics began to develop, man has been engaged in **breeding** programmes designed to produce varieties of plants and animals exhibiting the specific characteristics which **fit** them to his various needs.

As man’s exploitation of natural resources has continued and industries have developed based on the **synthetic** ability of microorganisms, particularly the bacteria and fungi, his need for knowledge of the fundamental principles of the genetics of these organisms has increased and the new science of Molecular Genetics has emerged. The discipline seeks to understand the molecular base of inheritance and the way in which the formation encoded by deoxyribonucleic acid (DNA) is utilized by the living cell.

Advances in the field of **recombinant** DNA research over the past decade have given the geneticist the techniques required to mobilize individual genes, that is specific sequences of DNA which code the amino acid structure of single proteins and transfer them from a donor to a recipient organism, thus conferring on the recipient the ability to synthesize the gene product. This is the practice of genetic manipulation as we understand the term today and which has become a cornerstone of the new Biotechnology. Now in addition to searching in nature for wild micro-organisms capable of producing specific products, a process which is often long and tedious and sometimes unrewarding, microbial hosts can be tailored for specific purposes by

introducing foreign genes into them. The source of this foreign DNA can be microbial, animal, or plant and thus microbial hosts can be converted into biosynthetic factories capable of making a wide diversity of materials needed in every aspect of our lives from food and fuel to agriculture and medicine. As well as its potential in aspects of applied biology, recombinant DNA research is an extremely powerful tool for the elucidation of gene structure and function.

Most recombinant DNA experiments are designed to transfer specific genetic information from a donor organism to a recipient cell in such a way that the newly acquired gene will be expressed and result in the production of a “foreign” protein. In order to do this the DNA to be transferred must first be isolated from the donor organism and inserted into a DNA carrier or vector molecule which will be used to transfer it into its new host.

The ease with which fragments of DNA can be cut of large DNA molecules, present in the chromosomes of plants and animals, and inserted into vectors has been assisted greatly by the discovery within the last 20 years of a group of enzymes known as restricted endonucleases. These enzymes recognize specific base sequences on DNA molecules and cut them precisely within or near that sequence. There are currently some three hundred of these enzymes known and some forty or so are commercially available in a highly-purified form.

The enormous growth of interest and input of capital into researching the applications of recombinant DNA research over the past decade is evidence of the potential benefit to man which these techniques can provide. Independent of its use for fundamental research in molecular genetics, a field which has provided and will continue to provide invaluable information to both academic and applied geneticists, recombinant DNA technology has already made important contributions in several areas of applied science. (Biologists, 1982:29)

### Scanning

Read through the text and quote the exact words used by the author to define, explain or amplify the following:

- a) Molecular genetics
- b) The practice of genetic manipulation
- c) Individual genes
- d) A DNA carrier
- e) bacteria and fungi
- f) searching in nature for wild micro-organisms

### Exploiting the Text

#### Activity one: *Finding opposites*

-The words in column A all appear in the text. For each one, find a word in column B which is opposite in meaning.

nomadic	useless
ignorance	Entirety
particular	Knowledge
individual	Fixed
recipient	General
donor	Group
ease	Profitable
fragment	Giver
invaluable	Difficulty
unrewarding	receiver

**Activity two:** *Finding synonyms*

-Find a word in the text to replace the words underlined in these sentences:

- a) This English course has been specialy designed for students of biology.
- b) We must bring into use all our resources.
- c) The study of genetics is a most important part of modern biology.
- d) Technology has changed our manner of living.
- e) The increase in size of the new industry has been very rapid.
- f) Interesting work is being done in the general area of synthetic production.

**Activity three:** *True or False?*

-Decide which of the statements are true, and which are not.

- a) The practice of genetic manipulation has a long history.
- b) The science of molecular genetics is relatively modern.
- c) Only wild micro-organisms can act as hosts to foreign DNA.
- d) Microbial hosts will not accept plant DNA.
- e) Research in recombinant DNA is valuable only to industry.
- f) In recombinant DNA experiments, DNA is transferred direct to the host from the donor.
- g) Enzymes are used to identify and isolate DNA transfer.
- h) There are 40 enzymes in the group known as restricted nucleases.
- i) A lot of time and money is being spent on research into recombinant DNA.
- j) Not much can be expected of genetic manipulation in the future.



**Activity four:** *Practising sentence structure*

-Fill in the gaps with the following missing words: with- egg-result-of-involves-resemblance-have-remove-genes-the-in-and

**Seven mice of no .....to their pure-bred parents.....been born as a .....of a new technique.....manipulating eggs. The technique .....replacing the genetic material ..... a newly fertile egg .....genetic material from another ..... . Scientists used suction to ..... the original genetic material ..... a virus to ease ..... passage of the new .....into the egg.**

**Activity five:** *Recognising word shapes*

-It is important to recognize word shapes quickly, and not confuse words of similar appearance. Pick out the words which appear in the text “**Genetic Manipulation**” and check their meaning in dictionary.

**Together / To gather / Breeding / Breathing/**

**Stock / stoke / Fit / Feat**

**Involve / evolve / synthetic / syntactic**

-Replace the underlined words in the text: “Genetic Manipulation” by the appropriate synonym

**Activity six:** *Making a summary*

-Re-arrange the order of these sentences, so as to make a very brief summary of the original passage.

- a) The future benefits from research into recombinant DNA will be very great.
- b) The aim is to produce “foreign” protein.
- c) The new science of molecular genetics has emerged.
- d) Fragments of DNA are cut out with the aid of certain enzymes.
- e) Man has been involved with genetic manipulation for thousands of years.
- f) The hosts are converted into biosynthetic factories.
- g) It is now possible to mobilize individual genes and transfer them to a host organism.

**3.3.6. Unit 6 : SAMPLE LESSON****“Functions in the Human Body”**

**General aim:** By the end of the unit, the students should be able **to describe orally a scientific diagram**

**Function:**

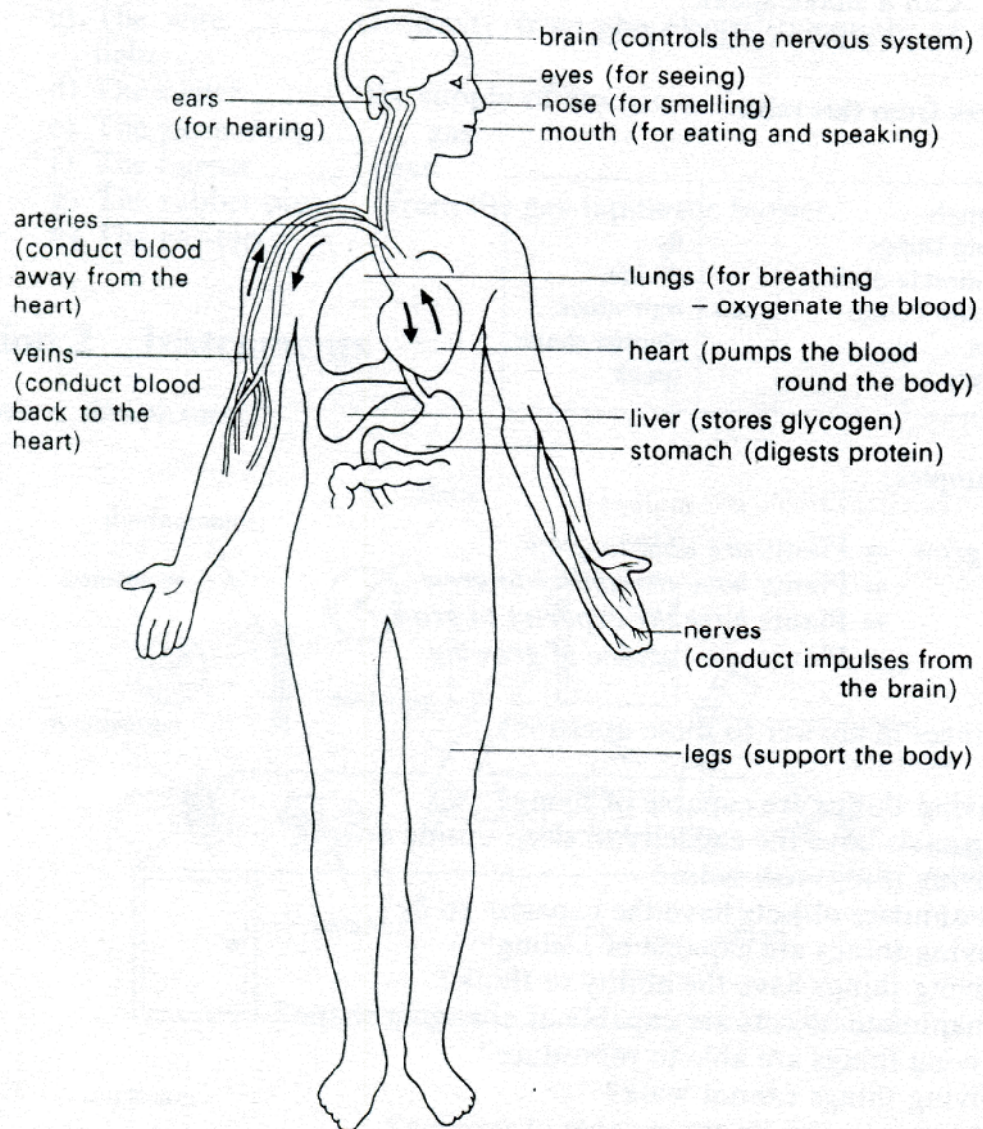
- Writing complete statements.
- Writing a coherent and grammatically correct passage.
- Using lexical knowledge

**Language points:**

- Verbs/ adjectives
- Words connectors
- Fill the gaps
- Technical and sub-technical vocabulary
- Terminology
- Writing techniques

**Activity one:**

-Look and read



Internal and external parts of the human body and their functions

-Now complete these sentences:

- a) Our eyes.....us.....see.
- b) With the help of our mouth we are.....to speak and eat.
- c) Our ears are organs for.....
- d) With the help of our nose we.....smell things.
- e) Our lungs enable us to .....
- f) The lungs serve to.....
- g) The .....of the heart is to circulate the .....
- h) The heart acts as a ..... for the blood.
- i) The stomach is used to.....
- j) The liver is a place for.....
- k) The .....act as a support for the body.
- l) The function of the nerves is to.....
- m) The function of the brain.....
- n) The veins.....
- o) The arteries serve.....

**Activity two:** *Fill in the gaps*

-Complete the following text with the missing words:

The human body is made up of a number of ..... systems. Each system has a ..... function, but some work together. One system is the skeleton, which ..... to support the body and protect the ..... organs. The respiratory system enables us to breathe and take oxygen ..... the blood, which moves around the body by means of the circulatory ..... . The digestive system enables us to take in food ..... for growth. Waste matter is ..... from the body by means of the urinary system.

The endocrine system consists of various ....., such as the thyroid, sex and adrenal glands. The function of these glands is to ..... chemicals, known ..... hormones, into the blood. These hormones control various ..... in the body, such as growth, sexual ..... and digestion. The nervous system controls the other systems and enables human beings to think.

Each system is made up of organs. The lungs, for ....., are part of the respiratory system. The ..... is an organ in the circulatory system. The liver functions as part of the digestive system and other systems.

Every organ is composed of several kinds of ..... . Epithelial tissue, which includes the skin, forms a covering ..... organs. .... tissue supports and holds together parts of the body and includes bone and cartilage. Other types of tissue include nerve tissue and ..... tissue.

All tissue ..... of cells. These are so ..... that they are measured in thousandths of a millimeter and can only be ..... with a microscope. Each cell is covered with a ..... membrane which surrounds a nucleus, and a jelly-like substance, called cytoplasm. This in turn ..... minute particles, each with its own ..... function

The missing words: small- connective- into- over-example- processes- secrete- different-needed-rejected-serves-system-separate-blood-tissue- consists-seen-thin- contains-special-internal-as-activities-glands-heart-

-Complete the text then say which of these titles is most suitable and why

The **structure** of systems in the human body

**Location**

**Functions**

**properties**

**3.3.7. UNIT 7: SAMPLE LESSON****“How to make a good scientific presentation”**

**General aim:** By the end of the unit, the students should be able **to** *organise a power point presentation and present a scientific research orally*

**Function:**

- Creating a presentation
- Designing Power point slides
- Delivering an oral presentation

**Language points:**

- Verbs/ adjectives
- Technical and sub-technical vocabulary
- Terminology
- Summarising techniques
- Pronunciation
- Oral presentation techniques

**Task one:** Explaining how to create a 10-15mn scientific presentation

In the course of your career as a scientist, you will be asked to give brief presentations -- to colleagues, lab groups, and in other venues. We have put together a series of short videos to help you organize and deliver a crisp 10-15 minute scientific presentation.

**Task two:** giving the main steps using the data show (the presentation is from “North Western University”)

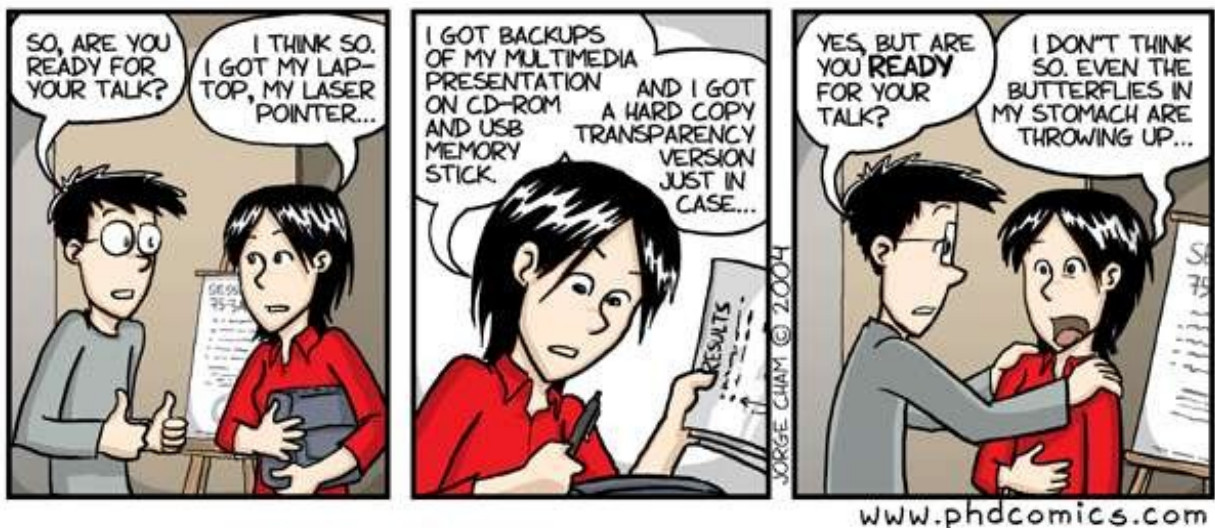
**Step 1 -** Creating an Introduction for a 10-15 Minute Scientific Presentation

**Step 2-** Creating a body of a 10-15 Minutes Presentation: Design/Methods; Data results and Conclusion

**Step 3-** Designing power point slides: walks you through the key principles in designing powerful, easy to read slides.

**Step 4-** Delivering a presentation: provides tips and approaches to help you put your best foot forward when you stand up in front of a group

### “An Introduction to Oral Scientific Presentations”

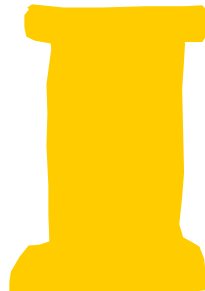


**Preliminary questions for discussion**

1. What types of presentations will you have to prepare soon?
2. Consider a presentation or poster that you recently saw. What positive features helped to communicate the presenter's ideas to you?
3. What are some of your pet peeves from scientific presentations?

**OUTLINE AND SCHEDULE****• Oral Presentations**

- Preparations before the talk
- Delivery during the talk
- Feedback after the talk
- Examples, common errors, resources

**• Posters****• Winter and spring quarters**

- practice; video record
- visual display of scientific information





## CONSIDER YOUR GOALS AND THE CONTEXT OF YOUR TALK OR PRESENTATION

- What do you want to communicate?
- What do you want to achieve?
- **Types of presentations**
  - research seminar
  - lab group meeting
  - poster presentation
  - chalk talk
  - job talk
  - informal group meeting
  - leading a discussion



## CONSIDER YOUR AUDIENCE

- experts, non-experts but scientifically literate
- undergrads, grad students, postdocs, faculty, general public, etc
- lab group members
- potential employers
- Your audience really drives what you need to communicate and how, i.e. your content, style, dynamics, etc



## CREATING SLIDES

- **Plan to spend ~2 minutes per slide**

- 10 min talk: 5-7 slides
- 60 min talk: 25-30 slides

- **put additional slides in end in case for questions or extra time**

- **minimize text**

- use bullet points; full sentences are not always needed
- but write complete thoughts

- **maximize visuals: pictures, graphs, tables, etc**

- **Maximize the “info to ink ratio” – provide the most amount of info with the least amount of ink**

## DELIVERY OF YOUR TALK

- **optional: memorize your first slide or two**

- have your words written out

- **briefly introduce each slide**

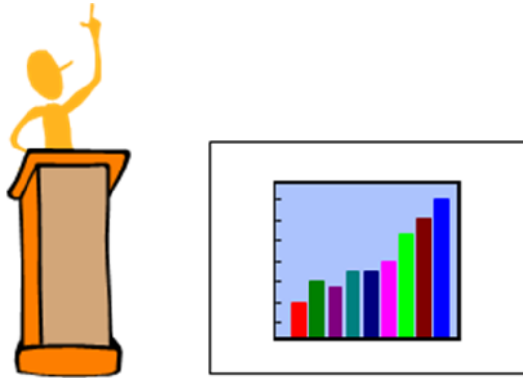
- purpose

- **refer to your slide**

- talk through each slide, especially for data
- your spoken words should correlate with the slide
- but don't simply read each slide

- **watch the time**
- **be concise and complete**
  - present only what is truly essential and relevant
  - present the whole story
- common mistake: going too quickly
  - teach or explain your topics thoroughly
- avoid distractions: empty your pockets, turn off phone
- face the audience, not the screen
- don't block the view of the screen
- if handouts, distribute them before or after, not during your talk
- speak loudly and clearly
- repeat key points and full terms of abbreviations
- express your enthusiasm in your topic
- behaviors to avoid

- “um”, “uh”, “like”, “OK”, etc
- fidgeting with pointer



- covering mouth
- nervous laughter
- pacing
- when handling questions:
  - be polite; actually answer the question
  - be willing to admit that you don't know
    - “That’s an interesting question. I honestly hadn’t thought about that, but it seems to me...”
  - it’s OK to ask for a question to be clarified
  - practice will help you to anticipate questions and think on your feet
- ask friends to give you honest feedback
- learn how to receive criticism
- practice “failing” and trying again
- video record and watch yourself

- help someone else practice and give feedback
- seek more opportunities to give talks
- develop your own style of presenting

### **SUMMARY**

- prepare in advance
- Preparations often take longer than you might think!
- consider what the audience needs to hear
- practice, practice, practice!
- seek feedback and more opportunities to give talks
- Developing your oral communication skills will also sharpen your scientific skill

### **3.4. Challenges in Designing ESP Courses**

One of the characteristics of ESP is that a course should involve specialized language (especially terminology) and content. In the present study, only one teacher is a subject specialist. On the contrary most ESP teachers are not specialists in the students' professional fields. That is why the primary issue is the struggle to master language and subject matter. As a consequence, the researcher selected texts whose content are adapted to her scientific background but in collaboration with subject specialist in order to arrange the topics in a most suitable order and in correlation with the students' field of research. In addition, the content of the English course should provide the required terminology since if the topic has already been dealt with the subject specialist, this will motivate the learners and give them confidence when dealing with the English lectures.

Another challenge is selection and adaptation of text. Because neither the ESP teacher nor the students are proficient in scientific English the text must not be too complex. It should not be too accessible either because in terms of subject matter some students might underestimate the text in terms of language (due the mixed ability group). In sum, the ESP teacher must be an interested student of the subject matter instead of being a teacher of the subject matter.

A further issue for the language teacher is the pronunciation of scientific or technical terms related to the subject matter. A usual dictionary does not provide the language teacher with the pronunciation of all of them

In the present study, the ESP course, which is based on the language skills (Listening, Speaking, Reading, and Writing), was designed in such a way as to develop all the skills. So, a well-planned content of the course can play a positive role in enhancing the skills of students.

The data collected from Biology students indicated that all the language skills are very important for their studies and future career. To make the learners more proficient in speaking skills, there should be more practical tasks in the classroom since the biology students are required to give oral presentations in order to participate in international conferences. Writing should also be practiced in the classroom by writing reports, abstracts and projects and to add relevant grammar and functions keeping in view both academic and occupational setting which enable the students to write correct language. The students must also be aware of the importance of reading skills since they should be given latest topics which demand that students consult recent researchers. As far as listening skills are concerned, audio- visual aids should be used continuously in class to develop a variety of functions such as accent, pronunciation and proper use of vocabulary.

Last but not least, the continuous assessment of students through assignments at the beginning and during the semester should be given as practical activities during the lectures, with a final exam at the end of the semester.

### **3.5. Conclusion**

In this chapter, the researcher tried to carefully plan and write as clearly as possible comprehensive courses which will serve one as a useful resource for students. Developing a new course is a difficult, but a very rewarding process. The investigator needs to formulate the goals and objectives first, conceptualise the content, then select and adapt teaching materials, plan the course, and be ready to evaluate it.

Course development should be considered as an ‘on-going’ process, one in which the teacher makes necessary changes to suit students interest and needs, even when the course is in progress. Every year, teachers have different students with different needs and background. That will inevitably make it necessary and important to bring in changes and adjustments according to the groups in charge inside the Department of Biology.

The purpose of this chapter is to propose a framework for developing a new ESP course based on different processes that start with a comprehensive needs analysis, and ending with course evaluation. Teachers should evaluate their courses to improve and promote their effectiveness. This last but not least important stage of course development will be discussed in the subsequent chapter.

# **CHAPTER FOUR**

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ASSESSMENT, EVALUATION and SUGGESTIONS



## CHAPTER FOUR

### ASSESSMENT, EVALUATION AND SUGGESTIONS

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## 4.1. Introduction

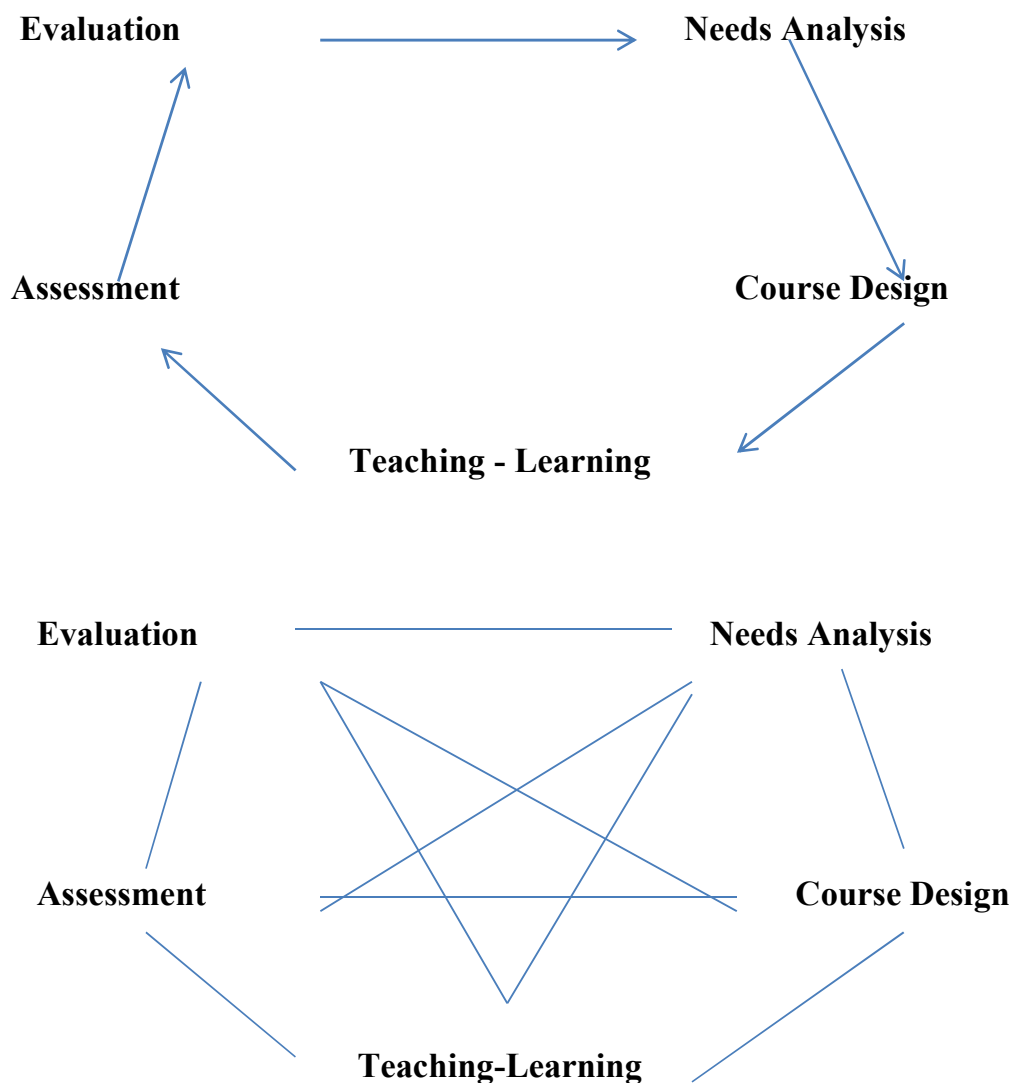
When designing an ESP course, the very first issue is to deal with the analysis of learners' specific needs. In response to those needs, an attempt to provide a guided approach to an ESP course design for Master's students at the tertiary level has been developed in the previous chapter. Other issues addressed include: specification of realistic goals and objectives, integration of grammatical functions, acquisition of language skills, and assessment and evaluation. This chapter will focus on the last step but not the least in designing an appropriate course which is students' assessment and feedback. In language teaching, assessment is related to the determination of student's proficiency whereas evaluation to the process of collecting and interpreting information about educational programme (Carter 1990). In other words, assessment elicits what the learners know and can do in English, whereas evaluation reflects students' reasons for failing or succeeding and ways of improving their learning.

This chapter is divided into three main parts: Test and post-test for the students to evaluate their levels before and after the administration of the ESP course; students' feedback through the analysis of the questionnaire at the end of the semester to find out how they felt about the different aspects of the course, especially its efficiency and relevance; and finally further suggestions and recommendations to improve the ESP learning and teaching in the Faculty of Sciences-Department of Biology at the University of Tlemcen .

## 4.2. Assessment and Evaluation:

Needs analysis, carried out to highlight the 'what-to teach' and the 'how-to teach' of a course, is the first step, followed by course design, material selection, objectives and goals, and then, assessment and evaluation. However, the last two steps should not be isolated from the rest. As noted by Dudley – Evans and St John (1998), the preceding stages should not be used in a linear progression; they are

interdependent overlapping activities in a cyclical process. This conceptual distinction is well explained by the following diagrams showing how needs analysis is often ongoing, feeding back into various stages:



Diagrams 4.1: Linear vs. Cyclical Process of Needs Analysis (Dudley – Evans and St John, 1998: 121)

Evaluation is often viewed as the end of the programme development, but as Brown (1995:217) states, **“the heart of the systematic approach to language curriculum design is evaluation: the part of the model that includes connects and gives meaning to all other elements.”** Evaluation is the last step of developing a language course. Evaluation is an essential part of learning and teaching. It applies to both students and to courses as a whole. The concepts of

‘evaluation’ and ‘assessment’ are used interchangeably. Assessment refers to the set of processes by which students’ learning is judged Nunan (1998). On the other hand, evaluation is a wider term, entailing assessment, but including other processes as well, such as a final exam that states what the learners will know by the end of the course and the analysis of their feedback.

In the field of ESP, assessment and evaluation are considered as the final stage in an ESP course design, Graves (1996). Evaluation in ESP is more concerned with the effectiveness and efficiency of learning with achieving predefined objectives. An ESP evaluation must be regarded as a part of the course design. The use of materials, classroom activities, out-of-class support, course design methodologies or any aspect of teaching/learning situation, are the main topics that should be evaluated.

Evaluation can be both qualitative and quantitative. Tests and objective-questionnaire provide numbers and percentage for individual items. They provide answers to what questions but cannot easily address the how or why. More qualitative methods such as discussion and interviews cover a wide picture, but may be less comparable, Dorda (2005). Evaluation in ESP consists of ‘formative’ and ‘summative’ aspects. Formative (on-going) evaluation takes place during the lifetime of an activity (a course); in this study it will be based on self-assessment of the learners and a test before the start of the semester to evaluate students’ strength and weaknesses in English language prior to implementation of the future ESP course and the findings help to shape the course. Whereas, summative evaluation can be more helpful at the end of the course; in the present research, a scientific oral presentation had been graded two weeks before the end of the semester, a final examination to check the learners’ progress and the analysis of the students’ feedback through a questionnaire and an informal discussion.

### 4.2.1. Learner Assessment:

Students' assessment can be done through different forms; one of which is testing. There are four main reasons for testing which give rise to four categories of test, Harmer (2001: 321):

- 1- **Placement tests:** placing students in the right class in a school is facilitated with the use of placement tests. These test grammar and vocabulary knowledge and assess students' productive and receptive skills.
- 2- **Diagnostic tests:** While placement test are designed to show how good a student's English is in relation to a previously agreed system of levels, diagnostic test can be used to expose learner difficulties, gaps in their knowledge, and skill deficiencies during a course. Thus, when we know the problems are, we can do something about them.
- 3- **Progress or achievements tests:** These tests are designed to measure learners' language and skill progress in relation to the syllabus they have been following. Achievement tests only work if they contain item types which students are familiar with. If students are faced with completely new material, the test will not measure the learning that has been taking place, even-though it can still measure general language proficiency.  
Achievement test at the end of a term (like final exam at the end of semester) should reflect progress, not failure. They can also help us to decide on changes to future teaching programmes where students do significantly worse in (part of) the test than we might have expected.
- 4- **Proficiency tests:** proficiency tests give a general picture of a student's knowledge and ability (rather than measure progress). They are frequently used as stages people have to reach if they want to be admitted to a foreign university, get a job, or obtain some kind of certificate.  
Proficiency test have a profound backwash effect since, where they are external exams, students obviously want to pass them, and teachers'

reputations sometimes depend (probably unfairly) upon how many of them succeeded.

In the present study two types of tests were used : The first one (Diagnostic test) was administered before the courses started and it aims at determining students lacks and level of proficiency in English language and it was also used as tool to collect data for needs analysis. The second one (Achievement test) was conducted at the end of the semester in two forms, in a form of an oral presentation and as a final examination to evaluate the students' progress after the courses, as well as the effectiveness of the proposed courses.

#### **4.2.1.1. Pre-course Test (Diagnostic Test)**

Diagnostic tests measure students understanding of a subject area or skill base. The diagnostic test used for this research was administered to the First-year Master's students in the Department of Biology; Faculty of Sciences at the University of Tlemcen. As mentioned in data collection in chapter two (see 3.7.3.1); this diagnostic test was scheduled at the beginning of the semester. It was organized in lecture-hall in the Department of Biology with the assistance of three teachers (two language teachers and one subject specialist). It was organized in two days, one day for each part (A & B) and it lasted two hours.

The purposes of that test were to discover the informants' level of English as well as to determine the participants' knowledge of English vocabulary in Biology, comprehension of scientific texts, and their ability to summarize and translate short passages about biological sciences. Additionally, the test was also used to confirm or correct the self-assessment provided in the questionnaire (needs analysis) regarding their levels of English proficiency which was "an intermediate level".

This test was divided in two parts:

Part A:

- Ten grammar items that ranged from very beginning to intermediate levels of difficulty
- Two reading comprehension items for every GE passages, one for beginners and one for intermediate level of proficiency
- Ten items about vocabulary background for intermediate level

The items were all multiple-choices with four alternatives to choose the right answer. No items about the speaking skills were included in the test since the students were not able to understand the oral interview used for this research in needs analysis. Most questions were translated into French and this confirms students' low level in oral English proficiency. One of the reasons for not testing listening was logistics. Listening involves the use of technology in a quiet place. The absence of technical support at a large scale made it impossible to test the listening skills. Another reason was time availability for both group of students and for the teachers too.

Part B:

- Ten items about their basic knowledge in biology (terminology , technical and sub-technical vocabulary)
- Three reading comprehension items of one scientific texts, for intermediate level of proficiency.
- Translating a scientific passage

The first ten items were all multiple-choices with four alternatives to choose the right option from. This part of the test was set and developed with the help of a subject specialist who belongs to the same students' field of research.



***Result Analysis of Pre-course Test:***

This diagnostic test was a pen and paper test and was given during the week before the semester was started. It took place in the lecture-hall in Biology Department. They were two groups of 20 students, each with a total of 40. They were all present for the test and finished the sections of the test in two hours. This proves students' motivation with evaluating their English level to improve their language proficiency.

Once obtained and studied, the test scores were analyzed and submitted to the Standard Deviation analysis (SD). **“Standard deviation is considered as the most useful index of variability”** Hamilton (2007: 4). It is a single number that tells us the variability, or spread, of a distribution (group of scores). Standard Deviation is calculated in four steps:

Step 1. Determine the mean.

Step 2. Take the mean from the score.

Step 3. Square that number.

Step 4. Take the square root of the total of squared scores.

The following Table (4.1) summarizes the obtained scores from this test, the mean as well as the Standard Deviation (SD). At first glance the scores are listed at random then in ordinal variable then in level of frequency. Table (4.1) refers to scores obtained from GE-test (part A) and scores obtained from technical English test (part B) in order to compare their levels of proficiency.

Students	Scores in General English (GE) PRE-TEST /20	Scores in Technical English (TE) PRE-TEST/20	Combined Scores GE + TE Total Scores/40	Frequency
1	19	17	36	1
2	18	16	34	1
3	16,5	16,5	33	1
4	16,5	14,5	31	2
5	15	16	31	2
6	16	14	30	2
7	17	13	30	2
8	13,5	15,5	28	3
9	13	15	28	3
10	15	13	28	3
11	13	14	27	4
12	15	12	27	4
13	12,5	14,5	27	4
14	13	14	27	4
15	13	13	26	1
16	12	13,5	25,5	1
17	14	11	25	1
18	13	11,5	24,5	1
19	11	12	23	1
20	14	8,5	22,5	1
21	9	13	22	2
22	10	12	22	2
23	10	10,5	20,5	1
24	8,5	10	18,5	1
25	10	8	18	2
26	9	9	18	2
27	9	7,5	16,5	1
28	7	9	16	2
29	7	9	16	2
30	8	5,25	13,25	1
31	9	4	13	1
32	7	5,5	12,5	1
33	5	7	12	1
34	8	3,5	11,5	1
35	5	5	10	1
36	8	1	9	3
37	6	3	9	3
38	5	4	9	3
39	4	4	8	2
40	5	3	8	2
<b>MEAN</b>	10.987	10.193	<b>21.156</b>	
<b>SD</b>			<b>3.34</b>	

**Table 4.1: The obtained scores from a pre-course Written Test**

For this particular research, the scores obtained by students from pre-course test were analyzed and interpreted. More than half of the students (57.5%) achieved an average score. The mean obtained (mean=21.15) confirmed the assumptions the students had, when they filled in the questionnaire, regarding their level of proficiency. The scores revealed their intermediate level in reading comprehension and writing, their poor level in speaking since they were not able to take an oral test, and finally their basic knowledge in their main field of study. More than half students (57.5%) evidenced greater level of proficiency in General English. This resulted from having built-up solid grasp of the English language during middle and secondary schools. Similarly, the same percentage of informants (57.5%) evidenced great level of proficiency in Technical English. This group read a greater deal of scientific articles and focused on memorizing technical terminology in order to grasp the general meaning of scientific papers. Consequently, the results of both tests (part A and part B) showed a correlation with the ones obtained from needs Analysis (see 2.9) since, a pool of students evidenced proficiency in both General and Technical English. This particular group is referred to as the “mixed ability group”.

#### **4.2.1.2. Mid-course Test and End- of Course Test :( Achievement Test)**

In the Department of Biology; Physiology and Biochemistry of Nutrition section, two formal tests took place during the semester. One between the 9<sup>th</sup> and 11<sup>th</sup> week and another one at the end of the semester that is after 14 weeks of teaching. The tests were compulsory and the average in the two tests gave the semester’s grade for the course.

On top of the two formal tests, this is the case, the researcher decided to ask the students to take a quiz every time they met. The test was predominately based on specific vocabulary already taught, since terminology was one of the primary interests of students, according to the needs analysis. In addition, the researcher gave assignment to the students and corrections were done as a group during

lectures. The purpose for doing so was to assess students' achievement in the course.

Concerning the two formal tests presented earlier, in the mid-course test, the students were asked to use their previous research work conducted during their Licence Degree and to present it orally in English in front of their classmates as if they were participating in an international conference. The aim was to make up oral presentation skills and to correct their difficulties with pronunciation as mentioned in the questionnaire (needs analysis).

As for the end-course test (a final examination). It was scheduled in the first week of February (2013) and took place in two separate classes of twenty students supervised by two teachers in each room and for three hours. The test was organised as follows:

The activities focused around one main scientific text and were developed around six major areas:

1. Sentence Structure: Fill in gaps activities; Chart classification (verb, noun, and adjectives)
2. Reading comprehension: Scanning and 'True' and 'False' activities
3. Vocabulary and Terminology: Synonyms/Opposites and Word confusion, such as to gather and together
4. The role of conjunction
5. Listening: General questions asked about information discussed orally during the lectures (through note taking)
6. Translation: Translate a passage from English into French

***Result Analysis of Post-Tests:***

The scores of the two formal tests (oral and written ones) appear in the tables below. The mean and Standard Deviation for both tests are also used to analyse the results:

Students	Test Scores/20	Best scores in decreasing order Scores/20	Frequency
1	12	16	1
2	11	15	3
3	11,5	15	3
4	14	15	3
5	14	14,5	3
6	11	14,5	3
7	14,5	14,5	3
8	14,5	14	4
9	15	14	4
10	15	14	4
11	10,5	14	4
12	10	13,5	1
13	13	13	4
14	11,5	13	4
15	13	13	4
16	12,5	13	4
17	14,5	12,5	3
18	13	12,5	3
19	12	12,5	3
20	10	12	6
21	15	12	6
22	11,5	12	6
23	10,5	12	6
24	12,5	12	6
25	12	12	6
26	12	11,5	4
27	12	11,5	4
28	13	11,5	4
29	13,5	11,5	4
30	14	11	2
31	14	11	2
32	16	10,5	4
33	12,5	10,5	4
34	12	10,5	4
35	11,5	10,5	4
36	10	10	5
37	10,5	10	5
38	10	10	5
39	10	10	5
40	10,5	10	5
<b>MEAN</b>	<b>24,775</b>		
<b>SD2</b>	<b>3,91</b>		

**Table 4.2: Obtained Scores from Mid-Course Oral Test**

The oral test was used to elicit the students' ability to organize a scientific power-point presentation in English and to present it orally using tips and steps included by the researcher in the proposed courses during the semester. As shown in Table (4.2), the scores are relatively better since 62.5% of students achieved above 12/20 in this test. Even though most students in this specialty were unable to proficiently express themselves during the interview (used in needs analysis), they were all motivated to train in order to be able to take part in oral presentations. The mean (24.775) indicated in Table (4.2) shows the improvement of their oral ability in spite of the fact that their oral performance was judged poor by both students and teachers (see 2.9) because of their low exposure to English during their early years of studies at the university. This proves their desire to improve their speaking skills.

Students	Test Scores/40	Best scores in decreasing order Scores/40	Frequency
1	25,5	39	1
2	31,5	38	3
3	38	38	3
4	28	38	3
5	18	37,5	1
6	21,5	37	1
7	33,5	35,5	1
8	20	35	1
9	21	34	1
10	39	33,5	3
11	17,5	33,5	3
12	23,5	33,5	3
13	21	33,25	1
14	25,5	33	1
15	28	32	1
16	33	30	2
17	17	30	2
18	21	28	2
19	22,5	28	2
20	15	26	1
21	26	25,5	3
22	10,5	25,5	3
23	22	25,5	3
24	30	25	1
25	20,5	24	1
26	25	23,5	1
27	20	23	1
28	30	22	1
29	35,5	21,5	3
30	24,5	21	3
31	33,25	21	3
32	33,5	21	3
33	25,5	20,5	1
34	34	20	2
35	37	20	2
36	38	18	1
37	37,5	17,5	1
38	32	17	1
39	35	15	1
40	38	10,5	1
<b>MEAN</b>	<b>27,243</b>		
<b>SD3</b>	<b>4,3</b>		

Table 4.3: Obtained Scores from End-Course Test

Concerning the second formal test held at the end of the semester, the scores obtained (Table 4.3) were satisfactory since the majority of students (82.5%) achieved more than the average in comparison with the scores obtained in the proficiency test submitted to the same group of students before the courses started (or at the beginning of the semester).

What can be concluded from the results obtained from pre-course, mid-course and end-course tests is the gap between SD1 (3.34) and SD2 (3.91)/ SD3 (4.30) calculated in test and post-tests through (mean=21.23) and (24.775)/ (mean=27.24), respectively. This demonstrated the real progress of students all along the semester to carry out their English language proficiency in order to fulfill their immediate and future needs.

#### **4.2.2. Students' Feedback Questionnaire:**

As mentioned earlier (see 4.2), a summative evaluation is the evaluation of course quality by students in order to help the course designer to reflect upon the organization of the proposed course to contribute positively to improvement of teaching and learning process.

Regarding the effectiveness of the course, the researcher decided to administer an after course questionnaire to Master's students of "Physiology and Biochemistry of Nutrition" in order to evaluate course and content, teaching methods and relevance of needs and topics taught. The main reasons behind are to promote and to improve the quality of the English course in that Department and to provide a better learning experience for future students.

The questionnaire was anonymous, since the researcher wanted the students to be honest and provide her with true information since anonymity would be a motivating factor for students to be objective and realistic. This questionnaire (*see* appendix 6) is an evaluation survey divided into four main sections:



**Section A** : to evaluate overall teaching and learning situation; it includes twelve items scored through five options from ‘ Completely Agree’ to ‘ Completely disagree’ with a fifth option ‘No comment’.

**Section B**: to evaluate the organization as well as the objectives of the course through nine items **which include** close and open questions.

**Section C**: to evaluate students’ progress through assessment with four items scored through five options like in Section A.

**Section D**: is dedicated to further suggestions and comments of students’ overall satisfaction or dissatisfaction with the ESP course.

#### **4.2.2.1. Students’ feedback Questionnaire Analysis:**

The results of student questionnaire were analysed quantitatively and qualitatively, one section after the other.

##### ***SECTION A: Teaching and Learning Situation***

Making use of data collected from the informants, the results were analysed by the researcher. Table (4.4) below shows the findings of Section A from item 1 to item 12 in relation to Master students’ overall perceptions of teaching and learning situation of the proposed English course offered at their department.

Students' perception	Completely Agree		Mostly Agree		Mostly Disagree		Completely Disagree		No Comment	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1. Sessions start on time	34	85	6	15	0	0	0	0	0	0
2. Learning objectives are made clear to me	7	17.5	30	75	0	0	1	2.5	2	5
3. I am kept interested in all my classes	35	87.5	3	7.5	2	5	0	0	0	0
4. The teaching on my course is good	37	92.5	3	7.5	0	0	0	0	0	0
5. The teacher knows her subjects well	38	95	2	5	0	0	0	0	0	0
6. The teacher uses different ways to help me in my learning	30	75	10	25	0	0	0	0	0	0
7. I am improving the skills I need	10	25	25	62.5	3	7.5	1	2.5	1	2.5
8. The teaching and learning methods used suit me	11	27.5	25	62.5	1	2.5	1	2.5	0	0
9. I am making good progress	6	15	33	82.5	0	0	1	2.5	0	0
10. There are enough teaching and learning materials to help me learn	0	0	20	50	14	35	5	12.5	1	2.5
11. Teaching and learning resources are good	20	50	16	40	1	2.5	2	5	1	2.5
12. The conditions of work in the classroom are appropriate	0	0	2	5	0	0	38	95	0	0

**Table 4.4: Students' Perceptions of Learning/ Teaching Situation**

From Table 4.4, it can be observed that only seven students (17.5%) chose the option 'Completely Agree' to their satisfaction with the clarity of course objectives. It may suggest that these students have a clear idea about the objectives set by the teacher at the beginning of the course. Notwithstanding this fact, 30 students (75%) selected the option 'Mostly Agree' to indicate that they were aware of course goals and different tasks to accomplish during the lecture. Only three students had an idea about this item since there were some students came late to the sessions.

It is worth mentioning that all the students were satisfied with the quality of teaching (100%) and this is due to the teachers' mastery of the subject as well as the use of appropriate teaching methods that suit the learners. Since the majority of students (95%) stated that their current English course was interesting except for two students (5%) who were less motivated to carry on the lectures.

On the other hand, a great number of students (97.5%) were quite confident since they made real progress in English and improved the skills to use for their immediate and future needs. However, 10% of them felt that the course did not fulfill their needs, this may be due to their poor English proficiency. However, it can be concluded that the current English course was helpful enough in assisting the students to gain confidence in using English in their academic studies and future career. This indicates that students who are not ready to use English and feel less confident, need more time to improve their English level.

However, the majority of students (95%) expressed their complete disagreement with conditions of the classroom since 19 students mentioned the lack and unavailability of teaching and learning materials in spite of the fact that 95% expressed their satisfaction with overall resources of teaching used by the teacher through all the sessions.

### SECTION B: *Organisation and Objectives of Course*

The data resulting from this section is going to help the course designer to decide whether a course needs to be modified or altered in any way so that the objectives and organization may be achieved more effectively or not.

Table 4.5 shows the responses to the first item of this section of whether the organization of the course was well done or not.

	Course Organisation	
	Frequency	Percentage
YES	39	97.5%
NO	0	0%
I don't know	1	2.5%
TOTAL	40	100%

**Table 4.5: Students' Perception about the organization of the course**

The course organization was found satisfactory by 39 students, that is 97.5%, while only one student had no idea about it. It should be noted that almost all students were satisfied with the course organized by the teacher.

Regarding the answers to open question (Item2) about things learnt from the course; the students claimed that:

- The course motivated them to learn more
- It increased their interest in learning more about their field of research
- It helped them to overstep difficulties in the language skills but mainly in speaking
- It helped them to learn more about sentence structure through gap filling activities
- It made them aware of different technical and sub-technical vocabulary through different scientific texts
- It provided them with simplified translation techniques

- It gave them tips and techniques to prepare a power point presentation

Concerning the students' responses obtained from Item 3 which were also open questions about the main positive points of the course were the following:

- The teacher plans class activities in detail
- More simplified texts in their field of research
- The opportunity to perform an oral presentation
- Stimulate group discussion during the course
- Different activities with different objectives
- Illustrative lessons
- Fill in the gap and simplified translation exercises
- Well explained concepts transmitted easily
- General vocabulary and terminology

By asking students their point of view regarding changes about the course (Item 4), the researcher wanted to take students' opinions into consideration for future reference.

All the students claimed their complete disagreement with the time allocated to English course in that Department and the main suggestions expressed are summarized as follows:

- Include more pictures and figures in the courses
- Include dictation exercise to improve listening and spelling difficulties
- No need to include lessons about laboratory and technical devices
- More focus on pronunciation
- Focus more on speaking skills

It should be noted, that two students (5%) from the whole group had some difficulties to follow the lectures and to understand some activities proposed by the teacher as well as their incapacity to do a presentation orally due to their low level in English. This may be explained by a long absence from the university since they

belong to the classical system (*see* 2.8.2). It should also be mentioned that 18 students (45%) were totally satisfied with the course. They stated that:

*“There is nothing to change; we would like to keep the courses as they are except for inadequacy of time allocated to the English module”.*

Table 4.6 illustrates the finding obtained from Item 5 about students’ perception of their progress in the language skills. It should be mentioned that this item is a multiple choice question.

	Students’ perception of their progress in language skills	
	Frequency	Percentage
Reading	20	50%
Speaking	19	47.5%
Listening	19	47.5%
Writing	17	42.5%

**Table 4.6: Students’ Perception of their progress in Language Skills**

It can be concluded that students’ perception of their evolvement during the whole semester in the four skills are approximately equal in reading, speaking, listening and writing with 50%, 47.5%, 47.5%, and 42.5% respectively.

In reference to students’ self-confidence in translation activities and oral presentation; Table 4.7 demonstrates that a great number of informants (77%) felt more at ease in translation techniques as mentioned earlier in Table 4.4 since the

teacher used simplified cunnings to make the task easier to achieve. Whereas, nine students evaluated their progress in translation as moderate in comparison to other tasks performed during the semester. However, Table 4.8 illustrates that 37 students were totally satisfied with the opportunity to train themselves in oral presentation; only three students found little difficulty to express themselves orally in front of their classmates.

	Students' self-confidence in translation activity	
	Frequency	Percentage
YES	31	77.5%
NO	0	0%
In-between	9	22.5%
Total	40	100%

**Table4.7: Students' Self-Confidence in Translation Activity**

	Students' Self-confidence in Oral Presentation	
	Frequency	Percentage
YES	37	92.5%
NO	0	0%
In-between	3	7.5%
Total	40	100%

**Table 4.8: Students' Self-Confidence in Oral Presentation**

Concerning the analysis of the last two items of this section, all respondents agreed with the fact that the course matched their objectives. In addition, they found the topics particularly relevant to their needs and interests.

	Course matches Students' Objectives	
	Frequency	Percentage
YES	40	100%
NO	0	0%
Total	40	100%

**Table 4.9: Course Matches the Students' Objectives**

	Relevance of Topics to Students' Needs	
	Frequency	Percentage
YES	40	100%
NO	0	0%
Total	40	100%

**Table 4.10: Relevance of Topics to Students' Needs**



***SECTION C: ASSESSMENT***

In the third section of this survey the students were also asked about the introduction of different assignments across the sessions to assess their progress all along the semester. Twenty-seven students completely agreed with this process since most of them commented about the fact that: “*it was the first time that we were obliged to work at home for the English course*”; and seven of them chose the second option ‘mostly Agree’. Whereas, only three students completely disagreed with this method, since the fact of being tested all the time was a source of stress for them.

Students were also asked about the organization of assessment referring to the two formal tests: oral presentation and the final examination. Most of students (95.5%) agreed with opportunity to evaluate their progress in the language skills mainly in speaking. Only one student was completely disappointed by this testing process may be because of his/her poor level in English

Table 4.11 below summarizes the findings of the study about the students’ perception of overall methods of assessment all along the semester till the final examination.

Students' Perception	Agree Completely		Agree Mostly		Disagree Mostly		Disagree Completely		No Comment	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1. Assessment tasks are made clear	30	77%	9	22.5%	1	2.5%	0	0%	0	0%
2. Assignments are spread across the course	27	67.5%	7	17.5%	3	7.5%	0	0%	0	0%
3. Exams and tests are well organized	33	82.5%	7	17.5%	0	0%	0	0%	0	0%
4. The feedback you get tells you if you are doing well and where do you need to improve	32	80%	8	20%	0	0%	0	0%	0	0%

**Table 4.11: Students' Perception of Assessment Process.**

#### ***SECTION D: SUGGESTIONS and ADDITIONAL COMMENTS***

This is the last but not the least important section of this survey. In this final open evaluation question, the researcher tried to examine different aspects that were not specified in this survey in order to give students the opportunity to express their ideas and feelings regarding the course and find out if all subjects were exhaustive.

So, the main suggestions proposed by students in this survey are presented as follows:

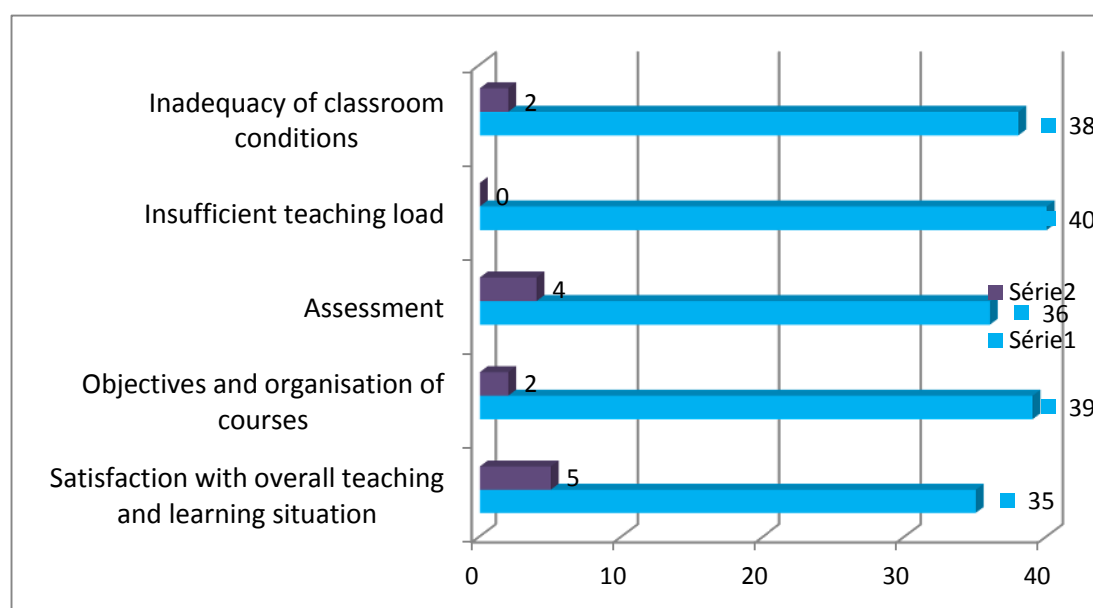
- to put an end to frequent problem of electricity in that Department since it hinders the use of audio-visual materials during the sessions;
- the need to install a language laboratory in this department to improve their level in listening and speaking skills;
- to have a large variety of activities in the programme by including role plays, cross words, songs, and other recreational activities;
- and the main suggestion pointed out by all students without any exception is that the course is very interesting but they needed more time in order to gain a higher level in English and a better use of the language.

It is worth to mentioning that all the students made some efforts to comment in English, which was not the case in the first questionnaire administered to them at the beginning of the semester (*Needs Analysis*). So, the most recurring comments were:

- “The teacher was enthusiastic and friendly, she treated us with respect”
- “The teacher was helpful when students were in need”
- “The teacher seems knowledgeable in scientific and General English”
- “She pushed us to participate or take part during the course”
- “It was a very good experience mainly with a teacher like you”
- “The teacher encouraged the students to ask questions in English”
- “I had a strong desire to attend the lectures and to take these courses”
- “She used a very good method to help the students and to avoid very complicated concepts”
- “It’s the first time that I appreciated learning English at the university”
- “I feel more confident during the course because I express myself better during the session”
- “A the beginning, I had difficulties following the course, but I feel I made great improvement as the courses progress”.

To conclude, all the students appreciated the use of this questionnaire to make things change and to improve the teaching and learning situation in the Department of Biology.

The cohort of 40 students completed the ESP course in the winter 2012-2013. The evaluation of teaching and learning by these students is displayed in chart 4.1. The summary of the results are shown by double bars for each sections.



**Bar Graph 4.1: Evaluation of Courses by Students**

According to this chart, 38 students found the conditions of the classroom inappropriate and only two students found it appropriate (first two columns at the top of the chart). Similarly, all of them considered the teaching load insufficient (second pair of bars counting from the top). Formal assessment of students' knowledge of ESP skills was appropriate to 36 learners and inappropriate to 4 (third double bars). The great majority thought that the goals of ESP course were clear and well organized, while 2 students disagreed (fourth pair of bars). 35 students

expressed their satisfaction with the course, while 5 of them were dissatisfied with it.

### **4.3. Discussion and Interpretation of the Findings**

Evaluation of ESP course and students' progress in the Department of Biology at the University of Tlemcen is a crucial process, since evaluation is the last stage when developing a language course. Evaluation is an essential part of the learning/teaching process; it applies to students, to course as a whole and to the teachers too.

A test and post-test had been used to highlight students' evolvement from the beginning until the end of the semester. The scores obtained from the pre-course test clearly indicated the students' low level of proficiency in English. They were not even able to answer to the researcher's questions in English during the interview. This proves their lacks and difficulties in the language skills mainly in speaking and listening. Whereas, the scores obtained through two formal tests (post-test) at the end of the semester following the introduction of the new ESP course, showed a real progress in the four skills in spite of the fact that the time allocated for this English course was not enough. Students showed their dissatisfaction to teaching load dedicated to the English course which hinders further progress by completing more academic assignments and oral reports for their major courses. So, the total number of learners (100%) felt that the teaching load scheduled for that course in the Department of Biology was inadequate for the present time.

The data resulting from course evaluation indicated that the new ESP course in this Department should focus more on speaking (such as oral presentations) and listening skills. The course should include workplace based oral presentation and listening through the use of the language laboratory. The lack of audio-visual materials was pointed out by all students; in addition to frequent problem of electricity in that Department.

On the other hand, for the reading and translating activities in the English course, a great majority of students stated that the activities covered in the duration of the course were relevant to their needs and more accessible and they seemed happy about this. Only four students did not share that opinion since they found difficulties in carrying out the different tasks proposed by the teacher. The findings suggest that students with poor level of English proficiency in different specialization should be grouped or placed together so that the English teacher could organize learning materials more effectively and adapt them to their level to avoid heterogeneous classes.

Most students in this study were totally satisfied with overall English course. The use of specialized vocabulary activities, course materials and topics were relevant to students' area of specialization. However, some students also suggested other language teaching strategies such as games, cross words, role play, songs, and other recreational activities. These could also help to improve the ESP students' proficiency in the English language.

The total number of students stated that the new ESP course was interesting for them and found it relevant to their needs in spite of the fact that few students were lost during the lectures. They all appreciated the organization of the course and assessment tasks. The students were also enthusiastic and motivated by the teacher's methods to enhance their levels in language skills mainly in speaking by giving them the opportunity to train themselves in oral presentations.

The role of the teacher in ESP classes is of a great importance, she is considered as a facilitator since the students expressed their agreement on teacher's method to help them access easily to difficult concepts and as an evaluator by proposing adequate tasks to assign students during the sessions and assess their progress through testing.

To conclude, it seems clear that the great majority of the informants showed a high degree of confidence at the end of this ESP course. This gave the teacher a great deal of self-satisfaction after having completed the course successfully. It also

made her reflect upon the failure of the ones she could not satisfy in spite of the efforts invested to improve their level.

#### 4.4. Suggestions and Implications

The analysis of learning needs of the target learners led to the adoption of several principles in the writing process of the course materials. First, the course should be based on authentic materials and interesting at the same time. Second, it should motivate learners to take an active role in the language learning process. Third, it should help learners improve their communication skills. Finally, the course should make learners feel secure when practicing listening and speaking integrated with writing and reading.

Making use of results analysis of the collected data obtained from informants in this research, some concrete and practical suggestions for reforming the existing course in the Biology Department and classroom teaching practise are proposed.

##### 4.4.1. Course Contents:

The ESP course contents in this research are developed on text-based activities. As pointed out by Hutchinson and Waters (1999: 53): **“If learners and teachers know why the learners need English, that awareness will have an impact on the content of the course and on the positive side, what potential can be exploited.”**

In ESP teaching, certain fundamentals should be respected:

Reading is one of the four main skills which requires specific teaching strategies. When selecting a text or an ESP student assignment, teacher should keep in mind the learners' English level of proficiency, the text should be accessible and flexible in order to build up students' confidence in their reading ability. The reader must learn to extract from the text three levels of meaning: lexical meaning, structural or grammatical meaning.

Reading is purposeful. In academic reading we need to be flexible when we read; we have a question and we read to find the answer. That is why, using efficient reading strategies such as scanning and skimming are necessary. In handling any reading assignment Harmer (2005) , students should:

1. Grasp its main ideas, or overall meaning;
2. Decode its particular vocabulary;
3. Analyse how the author built or developed that meaning;
4. Evaluate the item as a source of information and new questions.

Depending on what ESP students are reading, different skills should be based. When designing an ESP course, reading is not the only skill to be included, it should be integrated with the other skills. Vocabulary in ESP teaching also plays a leading role since it is considered as the backbone of the language. A question arises in this study: to what extent may there be a general language of science or semi-technical vocabulary and professional terms?

The answer will vary widely according to field of interest and may often involve terminology. So, the ESP teacher ought to concentrate on technical terms or specific vocabularies which are frequently used in technical/specialized texts e.g: *contain, decrease, synthesize, amount, divide, spread* etc. There is no need to focus on the very specialized vocabulary items as ESP students will get those from specialized sources that they already know. They ought to know the changes in meaning resulting from the addition of prefixes and suffixes, from changes in stems and compound words, and to understand their grammatical and semantic functions e.g. *like/ unlike – take/take off*.

However, learning vocabulary in context is much more valuable for ESP learners. Learning grammar in context as well, is advantageous since focusing on structure in an authentic text, enables the students to understand these structures functioning in an authentic context. It is so called “implicit” approach to grammar; this approach is more adapted to ESP learners due to insufficient teaching load.



On the other side, these acquired vocabularies should be well pronounced by ESP students in order to be more proficient in the spoken language. Teaching English to ESP students means achieving a variety of objectives. Stanton (1996:11) states the four main ones:

- to be received;
- to be understood;
- to be accepted;
- to get action

Teaching English to ESP students means achieving a variety of objectives that must be well set at the beginning of the course: Acquiring knowledge about the language, developing and practicing all four language skills, getting language, integrating specialist knowledge and communicative skills and even enriching overall knowledge.

Integrating speaking skills within an ESP course is of paramount importance since the students in the Department of Biology (the informants of this study) expressed their desire to learn how to perform orally in English in the target situation. As a consequence, making oral presentations on a related topic is an essential component of the ESP course. The ESP students need to know how to deliver a speech, how to organize a power-point presentation, and how to connect the sentences to have a cohesive and coherent presentation. In ESP classes, learners who had experienced negative emotions in language classes in the past are often reluctant to make an oral contribution. That is why, it is the duty of the ESP teachers to do their best to enhance learners' self-confidence and to encourage every single effort of shy learners to participate in the classroom and to train themselves in oral activities. According to students participating in this research, further speaking activities were proposed by them to improve their level in speaking skills such as guessing games, role play, listen and participate.

In relation to that, listening activities should be considered while implementing an ESP course in these particular classes as it has been suggested through students' needs analysis. Due to inexistence of audio-visual materials and absence of a language laboratory; using various simple techniques such as taking notes during an oral presentation or a lecture and dictation could enhance students listening abilities.

#### **4.4.2. Classroom Activities**

It has been proved in this research through needs analysis that the major activities that took place in English classes were mostly reading and translation from English into French by offering the meaning of words and students were busy taking notes and writing down those uttered translations above or under the English words or phrases. Thus, the researcher proposed insightful suggestions to diversify classroom activities for easy access of the target language.

Reading and not only translation should be paid greater attention due to the fact that students will need to refer to academic and scientific articles. Reading in ESP classes demands a greater degree of concentration, precision and intensity. Reading is not enough since students are expected to understand what the article is about. To achieve these goals, ESP teacher should provide the students with the kind of exercises dealing with contextual references, rephrasing, diagram labeling or mapping activities, summarizing and note taking activities (Bonyadi, 2002).

When dealing with grammar structure activities, fill in the gap exercise is the most suitable task that students need to achieve in order to grasp different parts of the sentence within scientific context by finding out the missing component of the sentence to complete the meaning. As regards EST, classroom activities focusing on language usage usually practice the passive voice, modal verbs, conditional sentences, the simple present tense and the simple past tense, the article, Greek and Latin plurals, specific patterns of word formation ( such as different structures of words ending in –ing form), etc.

As mentioned earlier (*see* 4.4.2) the use of audio-visual aids will help the students to develop communicative competence but due to lack of such materials, the ESP teachers should adapt classroom activities through the use of alternative visual aids that include: maps, tables, various types of charts, figures and pictures. These are especially useful when teaching EST because they constitute some of the most typical means of presenting and organizing information in written scientific discourse. Such as arranging terms in tables to elicit vocabulary items by combining verbs with nouns to avoid word spelling confusion or to elicit irregular plurals in scientific discourse due to the use of Latin words.

Tarone and Yule (1989: 181) offer another example of how language teachers can use pictures and photographs: **“The speaker sees only one object and is instructed to describe that object so that the listener can identify the object from a set of similar objects. The listener has a set of three photographs, labeled A, B, and C, and following the speaker’s description, has to choose which one of the photographed objects is being described.”**

Concerning specialized terminology, language teachers must be aware that some terms are used in several fields of science. Students should learn through different exercises rather than use dictionary. It is easier to study vocabulary in context, not in isolation. Such as drawings on specific topics without words and students must label them to seek for different scientific words and how they are spelt. The use of crossword activities to recall definition and specialized vocabulary.

Having conducted needs analysis, ESP teachers are to decide what kind of classroom activities are most suitable for language learners with respect to their age, their present and future career development, their needs, their lacks, and their expectations regarding the learning process.

However, it might be better to adopt what Tarone and Yule (1989) describe as an eclectic method. It consists in picking procedures, exercises, and techniques from different methods. This is what is actually done with mixed-ability groups of

language learners because language teachers try to make their lessons useful to everybody in class on the one hand, and to cope with a multi-level class.

#### 4.4.3. Teaching Materials:

According to Hutchinson and Waters (1987: 96): **“there are three possible ways of material application: existing materials, materials writing and materials adaptation.”** Robinson (1991: 56) called these ‘**as textbooks and in-house material.**’ In the light of aims and objectives of the course in this study, official textbooks (such as *Nucleus*) and adapted ones were used to design courses for the Master’s students in the Biology Department. As a consequence, the researcher in the present study recommended the use of adapted materials since it is less time-consuming and is more suitable to ESP learners than textbooks because no one can fully satisfy the particular needs of any ESP learners. According to Chen Yong (2005: 5), adapted materials are reliable, available and various to select in physical sense. She stressed on three points during the selection of materials:

1. Select materials with properly difficult language input in terms of vocabularies and structures which should be chosen from simplicity to difficulty;
2. Pay attention to subject content input in the adapted materials, usually from general topics to specific topics;
3. Adapt adequate and appropriate activities in the selected materials, namely, the activities in each unit should be coherently matched to avoid discretion and isolation in materials adaptation and to make the adapted textbooks complete.

#### 4.4.4. Use of Audio-Visual Materials:

As pointed out by all respondents in this study; the integration of audio-visual materials is of a paramount importance to fulfill their needs mainly in speaking and

listening skills. As it was already suggested, the frequent use of power point presentation as well as the use of language laboratory might increase their interest and motivation in learning a language. The students will feel more confident and at ease during the sessions.

However, using audio-visual aids also include maps, tables, various types of charts, pictures and photographs of objects, apparatus, etc could be a motivating and productive strategy in ESP context. These are especially useful when teaching EST because they constitute some of the most typical means of presenting and organizing information in written scientific discourse.

The use of drawing and figures in this research (see sample course) in chapter three, was done on purpose. It is used to define concept or object from a non-verbal presentation, a procedure that Widdowson (1987) calls *information transfer*. Information transfer develops comprehension and interpreting when it is oriented from non-verbal to verbal mode and vice versa. Here is example proposed by Bates and Dudley-Evans (1976:30) for practicing lexis denoting shapes and location

**“Read this description and draw the diagram which is described:**

*At the top of the diagram there are two horizontal parallel straight lines. At the bottom there is a horizontal spiral. In the middle there is a circle. On each side of the diagram there is a cross. There are two inverted triangles diagonally above the circle, one on the left, the other on the right. The triangles are below the parallel lines. In each triangle there is a dot. Above the spiral and below the circle is a square.”*

#### **4.4.5. Teaching Load:**

The lack of time is one of the main reasons that hinder the complete progress of ESP students. One of the most important suggestion made by both teachers and students is to increase the number of teaching hours from one and half or two hours per week to four or six hours a week and plan them in the morning or at the

beginning of the week. The reduced hours are one of the main issues faced by most an ESP teacher since it can affect his role as an evaluator and as a course designer. The ESP teacher needs time to assess properly his/her students and to fulfil the final objectives of the course.

Time-tabling of English courses has to be modified in all Departments; extra-hours are more and more required in order to fulfil the course's objectives and to enhance students' language level.

#### 4.4.6 Cooperative-Teaching

Language teachers in ESP settings also have to decide whether they can cooperate with subject specialists in the relevant fields of knowledge in order to design a course and other materials for students' assessment. This is hardly possible due to time constraints at least but if it is, such specialists might help ESP teachers to come up with a number of issues such as which the selection of texts adapted the student specific field of research.

Co-operation between language teachers and subject specialists is important in teaching ESP and ESP teaching too. As Robinson (1991:93) posits: **“As important first condition for successful team teaching of any type is that both specialist department and language department (or individuals in each) recognise that there is a problem and that some form of collaboration is needed to help solve it.”**

Co-operative teaching can also offer an on-going means of both the knowledge and skills for integrated instruction. Another positive aspect that emerges from co-operative teaching is that ESP teacher is accepted as part of the class since cooperative teaching can reduce the subject teacher's ignorance of scientific field. The ESP teacher should work in collaboration with the subject specialist teachers because the ESP teacher should have more than a superficial knowledge in the subject concerned. As such, Hutchinson and Waters (1987:163)

explained that scientific texts will not be **“seen dull, boring, complicated, incomprehensible, confusing. This can only have a negative aspect on teaching [...] ESP teachers should help to realise that they already have much of the knowledge needed to understand the subject matter.”**

#### **4.4.7. Teacher Training:**

As mentioned earlier in this research work, there seems to be a real lack of ESP teachers in our universities. As Robinson (1980: 75) posits: **“A serious problem for ESP in many parts of the world lies in the provision of an adequate supply of teachers.”**

Another important aspect to take into consideration is the fact that ESP teachers in the Department of Biology have never received any ESP training. All ESP teachers in the context considered are EFL teachers and have been assigned to teach ESP courses without any initial training. They feel that the subject-specific content is alien to their previous experience, because they lack formal ESP qualifications.

To quote Robinson (ibid) once again, **“[...] the people teaching and administrating ESP programme have received no special training in ESP.”** As a consequence, it is important for an ESP teacher to receive a pre-service and in-service training in order to be properly trained and to feel more confident while teaching ESP courses. On the other hand, Strevens (1980, qtd. in Robinson, 1991: 96) suggests: **“Becoming an effective teacher of ESP requires more additional training, extra effort, and a fresh commitment, compared with being a teacher of general English.”**

#### 4.4.8. Assessment and Evaluation:

The need to assess the language abilities of second and foreign language learners is of a paramount importance. Assessment can be seen as an on-going process, in which the teacher uses various tools to measure the progress of learners as well as their weaknesses. Among these tools are evaluation and tests, as Nodoushan (2002: 14) explained: **“If assessment can be seen as a movie, then a test is a freeze frame”**, it gives a picture of the learner’s language at a particular point of time. Used properly, these tools can help the teacher develop a full picture of the learner’s progress and needs in order to adapt an adequate ESP course and they can also be considered as a self-assessment for the teacher whether he has succeeded in enabling the students to achieve their objectives. It is important to note that all types of testing and assessment are important in gathering information about students. Hutchinson and Waters (1987: 147) commented: **“Achievement test is the kind of test the ESP teacher is most likely to have to construct. More than that, it is also one part of our program assessment because from the test results, we can find out how much progress the learner have made and how successful the project has been.”**

Testing the students can be a valuable source of information for the teacher before the course start in order to set and organise them according to their interests and level of competency in the language skills. In this study students agreed on this process; it helped them assess their progress from the beginning of the semester till the end through a final examination.

The participants in this research expressed their desire to increase the time allocated to the English course to achieve their needs and progress. This can be achieved through continuous assignments all along the semester. They also commented on the use of homework by the teacher which pushed them work on English activities even outside the classroom. In addition, the coefficient allocated to the English module should be higher. Thus, the low coefficient of the English module in that Department, in comparison to other modules could demotivate the



learner to carry on the lectures. In other words, the higher the coefficient, the more motivation will be.

#### **4.4.9. Role of the Teacher:**

Hutchinson and Waters (1987) posit the view that the role of the ESP is a very important and controversial one. In the present study, the role the teacher plays was pointed by all the students. According to them, the teacher was the main source of motivation. For instance, when different activities were proposed by the teacher such as listening exercises or fill in the gaps, at the beginning students faced difficulties in accomplishing the tasks, but the teacher took on the role of a facilitator and encouraged them.

ESP is a practical discipline whose main objectives are to help the students to learn. When the teaching is a specific lecture about, for example, how to perform a scientific presentation in a conference, it is vital that the teacher acts as a consultant and an adviser who has the knowledge of communication practices but needs to “negotiate” with the students’ knowledge of the content and on how best to explore these practices to meet the objectives they have. When the course is specifically oriented towards the subject content or tasks, the students may know more about the content than the teacher. Thus, the relationship between the ESP teacher and the learners is much more of partnership.

In some situations, the role of the ESP teacher extends to giving one-to-one advice to students (e.g. students will have to publish in international journals and need advice in both language and discourse issues). It is worth to mention that ESP teachers are not expected to be experts in every sphere of knowledge and students must understand this truth. A simple proof is some students’ expectation that language teachers are obliged to know every word in the dictionary and to be able to translate words into and from the foreign language. In ESP context, the learners must bear in mind that the teacher is not equipped with enough specialist knowledge. ESP teachers need to have considerable flexibility, be willing to listen

to learners, take interest in the disciplines or professional activities the students are involved in, and to take some risks in their teaching. (Cited in Bojović 2006).

#### **4.5. Concluding Remarks**

Designing a course for particular students in specific situation is a very difficult task and time demanding. The course designer has to organise courses and activities according the students' needs and interests but due to the lack of materials for ESP courses, she is expected to plan her course well and to provide adapted materials when published ones are unsuitable. With reference to a particular classroom experience, the design of the course should be prepared. The levels of attainment are described by Kaosar Ahmed (2014:42) for each skill area as follows:

1. Survival Level – The person can use language for basic purposes in extremely limited way.
2. The way stage level – The person can communicate very simply in limited range of topics.
3. The Threshold level – The person can use the language for most everyday situations and topics at simple level.
4. The adequacy Level – The person can use the language for range of situations and topics and can show awareness of appropriate style and variety.
5. Proficiency Level – The person can respond flexibly to complex ideas and expressions.
6. The mastery Level – The person has no problem in using the language.
7. The ambi-lingual Level – The person's use of language is indistinguishable from that of any educated native speaker.

An ESP teacher carrying out a needs analysis, designing a course, or writing teaching materials needs to be capable of incorporating the findings of her research and be confident that they know what is involved in skills. She should focus on the

learners' interaction (student-centred approach) rather than overwhelm the course with exhaustive list of words and boring grammar exercises. In ESP settings, most students come to courses with mixed-abilities that is why teachers should employ a variety of teaching methods and assessment techniques based on students' capacity and learning styles. Consequently, they have to make use of modern technologies in class or other traditional audio-visual aids to meet the learners' needs and to motivate them. Technology has long played a major role in the teaching of English for Specific Purposes. It has been used to create context mainly for listening and communication, it is also used to motivate the learners in acquiring a language in a specific context.

Collaborative teaching is also a good approach to adopt by ESP teachers; this may involve cooperation in which ESP teacher finds out about subject course in an academic context or the tasks that students have to carry out in a specific situation. Hansen and Hammen (1980) stress that team-working reduces the gap between science and language. Schleppegrell (1991) considered as a way of resolving doubts about content. However, what, at first sight, might be an attractive idea, is not without its difficulties such as conflicting timetables for both teachers.

The ESP practitioner is also involved in various types of evaluation: testing of students and evaluation of the courses. Tests are conducted to assess whether students have the necessary language and skills as well as their level of achievement that is how much learners gained from the course. Evaluation of course design should be done while the course is being taught, at the end of the course and after the course has finished, in order to assess whether they have been able to make use of what they learned and to find out what they were not prepared for. It is important for an ESP teacher to receive a pre-service and in-service training in order to provide her with necessary knowledge and tools to face the different issues in the ESP context and to be able to deal with this own students' specializations.

To conclude, the adoption of ‘Action Research’ methodology by the researcher in this study is viewed as a problem solving process (Ho, 2011). Kemmis and McTarggart (1988: 14) list the procedure of action research as: ‘**to reflect on action, plan, act, observe and revise the plan.**’ Bailey (2001, qtd. In Ho, 2011: 120) summarizes the procedure as “**systematic, interactive cycles of planning, acting, observing and reflection**”, which are the basic steps to follow in carrying out in an action research.

Cohen and Manion (1994) on the other hand, elaborate the procedure to meet more needs. They suggest that when a problem is diagnosed in a specific context, an attempt should be made to solve the problem within that context. They (1994:198-199) list eight stages:

Stage one – Identification, evaluation and formulation of the problem

Stage two – Preliminary discussion and negotiations among the interested parties

Stage three – A review of the research literature

Stage four – A modification or redefinition of the initial statement of the problem at stage one

Stage five – Selection of research procedures to be used

Stage six – The choice of the evaluation procedure to be used

Stage seven – Implementation of the project

Stage eight – Overall evaluation of the project

However, this framework is proposed for general use. A procedure suggested by Ho (2011) as shown in Diagram 4.2 can be followed as an attempt to solve the problem encountered in relation to the design and teaching of ESP course.

Stage 1:

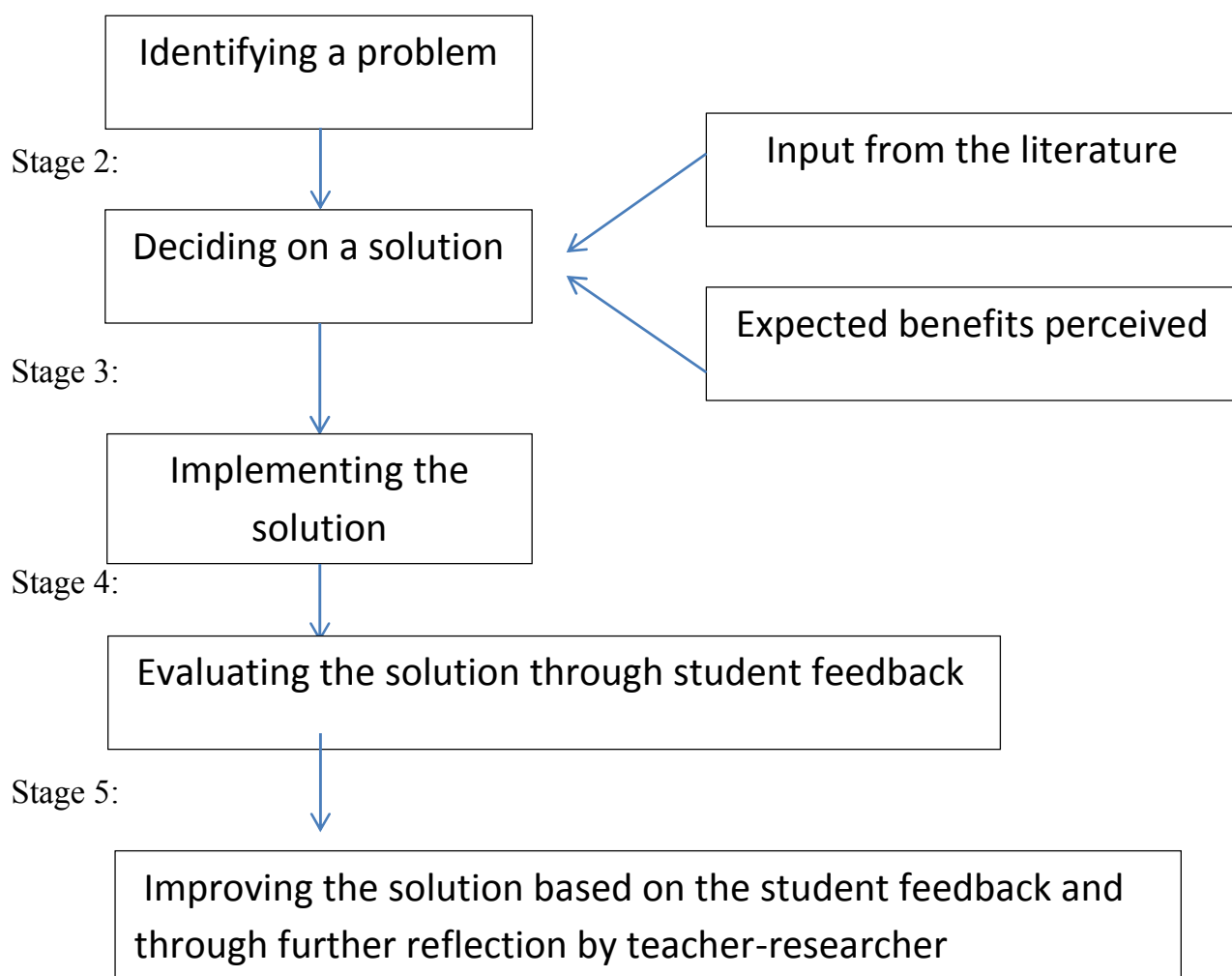


Diagram 4.2: Procedural Framework for Problem Solving (Ho, 2011: 121).

#### 4.6. Implications for further Research

First, it was found in the survey (needs analysis) of the present study that many students were not satisfied with the existing course and expressed a great interest in attending the new proposed courses designed by the researcher with various planned activities. The implication of this result is that various English courses should be designed for the students in the Faculty of Sciences in different fields and in different levels of studies. The survey also revealed that these students put

greater stress on the practical use of English language, especially speaking and listening. Thus, courses with practical goals such as speaking and listening need to receive special attention by the course designer. Master's Biology students are expected to go abroad to further their studies or to participate to international conferences. However, they have little experience or nothing at all of how to use the language effectively in target situation. To broaden student's horizons and deepen their knowledge on the subject, a number of extra hours as well as optional courses should be arranged, especially practical sessions on how to face such issues. Besides, available and accessible reading materials related to different specialties should be put at their disposal because these materials will help them do their homework out of the classroom to acquire some professional knowledge in foreign language. These will develop the learners' autonomous.

Second, the survey found that students were interested in various classroom activities on the top of those proposed by the researcher in this study. Thus, it is essential for teachers to try different methods and approaches to encourage students to take part in versatile classroom activities. Traditional teaching practice discourages students from becoming actively involved in the learning process. ESP teachers need to change the teaching style and incorporate more flexible methods in classroom teaching, where the use of English is critical to the learning process so as to satisfy students' needs. Role play, personal speeches and pair work are all effective techniques to promote their language development and communicative ability. They will also foster their motivation to overstep their difficulties in different skills.

Moreover, the survey showed the reasons why the students learn English and their learning habits vary from one student to another. Thus, a Placement Test should be integrated at the tertiary level in order to assess students' language proficiency before the starting of their studies in all faculties. It will create homogenous groups within the classroom as it is one of the main issues faced by ESP teacher as a course designer.

Teachers' expectations and suggestions for further ESP courses can be summed up as follows:

1. Students' needs should be fully analysed either formally or informally before designing an ESP course.
2. ESP courses at tertiary level should be systematically developed from the first to the last semester of the LMD system.
3. ESP courses should be content-oriented and flexible.
4. The objectives of the ESP courses should be clear and specific to students' needs and interests.
5. Homogenous classes should be promoted.
6. Collaborative teaching should be taken into consideration before the course design
7. More hours should be allocated to English course to enhance students' progress.
8. ESP teacher should promote General English ability through content courses
9. A Placement test could be a pre-requisite for ESP enrollment.

#### **4.7. Conclusion**

By making ESP teaching learner-centred, the students in this study were able to perceive positive learning experiences. When ESP learners take some responsibility for their own learning and are asked to participate in some aspects of the course design, the subject matter and course content will be relevant for them as they feel motivated to become more involved in their learning and willing to participate more actively in class.

The purposes of this chapter are to analyse students' progress as well as their feedback to evaluate the proposed English courses to improve and promote their effectiveness. Evaluation can be done in two different ways: implicitly and explicitly. Implicit evaluation takes place during the semester, when learners by

their grades, participation, and motivation, give clues to the teacher on how their learning is taking place on. Whereas, explicit evaluation may happen at the end of the course using a questionnaire, informal discussion, etc. to express their attitude about the teaching methods, activities, and teachers' role and so on. The evaluation of the course is a brave step for the teachers as they should be open-minded in hearing, accepting and implementing their learners' comments in a friendly atmosphere.

The last part of this chapter was put forward the some suggestions proposed by the researcher in accordance with the findings of the study as an effort to share ideas and to mention the major issues encountered by most ESP teachers as course designer, teachers, collaborators and evaluators, hoping that these suggestions will bring insight into challenges and further research in the scope of ESP teaching and learning.



# **GENERAL CONCLUSION**

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This research work is a survey that provides an analysis of the English teaching/learning process in the Department of Biology at the University of Tlemcen, the case of the First-year Master's students. This survey is based on the analysis of students' needs and interests on the one hand, and the issues encountered throughout their learning process. The study has shown the reasons behind their inability to use English effectively. One of the main reasons is the lack of an adequate syllabus in addition to a shortage of specialised teachers. As a result, the teachers are obliged to prepare a lesson for each session. This day-to-day work has generated problems in terms of synchronic and diachronic progression all along the courses. Therefore, the need to have a syllabus that could harmonize the teaching process is vital and necessary. In this respect, an ESP course framework has been proposed by the researcher to remedy the problems faced by both teachers and students in that Department. It can also be used as a guideline or as a tool for future teachers to meet their expectations. In designing an effective ESP course, an evaluation has been carried out through students' feedback as it is a necessary tool for future changes to improve and promote its effectiveness within the Department.

This study set out to explore the Master students' needs of English. The aim of the study was to analyse from the point of view of students, their target and learning needs to design appropriate materials in one hand, and to evaluate the efficiency of the suggested courses on the other.

In response to the first research question, although the subjects perceived understanding, reading, translating and taking part in oral discussion to be most

frequently used, they consider all the language skills to be important to acquire. Such results reveal the students' awareness of the importance of English in their academic studies and future career.

With regards to the second research question, an eclectic method based on skill-based and topic-based approaches due to the lack of time seem to be more relevant to the needs of the learning situation to satisfy the learning needs of the ESP course. It will also help the students to develop specific language skills in a short period of time in order to progress and function effectively in the target domain.

As far as the third research question is concerned, the researcher suggested a framework for ESP course design that suits the Master students' needs in the Department of Biology. When designing the English language course, the researcher takes into consideration learners' needs by focusing on the language skills with great emphasis on reading, listening and speaking. The course objectives are based on students' academic and professional domains. In other words, the students' needs, difficulties, and motivation are taken into account when ESP courses are prepared and developed.

Concerning the last research question, we noted that students' assessment is an important indicator of their performance and progress before and after implementing the ESP course as well as course evaluation, to provide the researcher with valuable resources to make the necessary changes in order to meet the target objectives.

Taking into consideration the research data, we could suggest the following:

- In higher-education settings, it is very important for lecturers in ESP to bridge the gap between the language teacher and the subject specialist to design a syllabus that suits students' interests in the subject matter.
- It is recommended from students' perspective on needs and wants, that the current general English programme in the Department of Biology be shifted to an ESP programme which caters for the specific needs and interests of students and make the use of English more meaningful and practical.
- Certain productive activities like: note taking and summarising, asking questions to initiate conversation during the lectures, identifying the purpose of reading academic text in scientific context in order to improve the target language, discussing with peers (group work) to find out the difficulties students encounter, organising, planning and setting goals for learning, correct their own mistakes are promoted through classroom activities
- Some of the more frequent but unproductive tasks like: looking up every word in the dictionary, reading and translating word by word while reading a text, feeling anxious about reading scientific texts encompassing different unknown words ought to be discouraged.

To sum up, the current research identified the First-year Master students' English language needs in terms of English language skills, their English language lacks, the importance of these skills, and their English language wants. In addition, the study illustrated the students' perceptions of the current English language course and what course they preferred to take. Besides all that has been described above, it is also important to take into account the target learners' level of proficiency in English

before they may start the ESP programme since it helps the researcher as well as the course designer to predict students' language needs and their progress at the end of the semester.

It is hoped that the findings of this study as well as the suggested framework for course design will foster changes in the teaching process in the specific context, as knowledge about students' needs and learning preferences, on the part of the teacher as well as the students, should lead to an increase in students' interests on their individual learning process. Hopefully, this will empower students to adopt a more versatile approach to learning, to develop confidence and to have greater control over their own learning outcomes.

As far as the organisation of this dissertation is concerned, the first part strives to provide a literature review about English for Specific Purposes. There are different definitions of ESP, but probably the most common is the one proposed by Hutchinson and Waters (1987) who see ESP as an approach rather than a product. This chapter has also discussed the historical development of ESP in the first part, then has dealt with the place of ESP in the Algerian educational system and examined various steps leading to an ESP course design; the main ones being needs analysis, course elaboration and evaluation .

As far as the second chapter is concerned, the research tries to shed light on the situation of English language teaching in the Department of Biology. The goal of such description is to consider some major issues facing ESP teachers in that Department as well as the difficulties raised in the teaching/learning process. It has also described the

different research instruments used to conduct the needs analysis. The participants of the experiment, who are First-year Master's students of Biology, have supplied the researcher with appropriate data that have been analysed qualitatively and quantitatively. As already stated, students are the best judges of their own needs apart from being the main stakeholders of their education. Thus, it is recommended that their views be taken into consideration when formulating the English syllabus and developing courses at university level. The English language programme for students of Biology will motivate them more when they see the direct benefits it brings to them, as well as for the teachers.

The third chapter is devoted to course design on the basis of the results analysis, since a needs analysis exercise is vital in the designing and piloting of every ESP course. As part of the needs analysis, observations of how the English language is used in the field of ESP are of paramount importance. By doing this, syllabus designers can learn about type of language ESP learners will need to learn to become proficient. An analysis of the type of language in-use in real situations in specialized fields will help ESP teachers determine their own strengths; direct them in the writing of the course objectives, the syllabus, the materials, and the tests and determine the methodology and teaching procedures to be used. As part of the needs analysis, this knowledge will not only allow syllabus designers to decide what and how to teach, but also decide on whom they will teach and how to cater for a myriad of learning styles preferred by students.

As the last step of this work, an assessment of students and an evaluation of the course were undertaken to investigate the effectiveness of the deigned ESP courses and if they reach their final objectives in order to recognize them and realize their effect on students' motivation, which in turn has to be considered in the design of materials and methods of assessment. Many of the issues that have been mentioned in this chapter; problems of motivation, materials and methods are common to English language teaching situations in general and not peculiar to ESP, ESP has not produced these problems, they have been in existence for instance in Algeria as long as English language teaching has existed; and all that ESP has done is to recognize them and suggest ways in which they might be overcome. The value of ESP is that it is attempting to tackle fundamental problems in ELT and has given a fresh to the teaching and learning of English language.

The present study is limited as it examined the ESP course only within an Algerian context in Biology Department. In addition, the sample population were limited to a small number of students (40) and three teachers. The situation probed the learning setting might be too narrow to fully describe the ESP instruction in that Department. Therefore, the results cannot be generalized to the students in other fields of different Faculties.

This study has revealed students' perceptions and choice in order to be implemented in a new ESP course. Other factors such as demographical variables, students' level, lack and interests were also taken into consideration. These are very crucial factors, however, the implementation of change is a very complex affair, which involves many

other factors apart from students and teachers' beliefs and attitudes. Therefore, a detailed means analysis involving educational, institutional, administrative, political and cultural factors before introducing change is recommended.

ESP is a problematic and complex enterprise not only in the Algerian context but also worldwide. It is hoped that further research will contribute to understand ESP and propose changes in academic, administration and the Ministry of Higher Education and Scientific Research officials who are in charge of policies of foreign languages in the educational system. It is also hoped that the findings of the present research work would be extended to other departments in the Faculty.

When it comes to deciding how ESP exercises should be developed, there are certainly many avenues that can be pursued. Here, we have looked at what occurred in an actual driving situation from the viewpoint of student-interpreters and designed courses based on the information they provided. The teacher should always consider the students' feedback to make new decisions on his/her teaching but sometimes they may also use intuition as the main boost for decision-making. However, one cannot disregard the fact that every ESP subject, every class, and even every student will be different, and therefore ESP teachers have always to keep an eye on the situation at every moment and be aware of difficulties and demanding peculiarities of the free-choice ESP language classroom.



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# APPENDICES

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# **APPENDIX 1**

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## **STUDENT QUESTIONNAIRE**

## APPENDIX 1

### STUDENT QUESTIONNAIRE

**Adopted from Doctorate dissertation about needs assessment  
submitted by Patama Kittidhaworn (2011) then adapted to the  
present context**

For first-year Master students of Biology (Physio et biochimie de la nutrition) in the 2012-2013 Academic Year.

**Instruction:** This questionnaire is composed of 5 parts:

**PART A** contains 7 items to gather information about yourself and your background

**PART B** contains 5 items to identify your lacks and wants

**PART C** is questions to analyse your current English course

**PART D** is to elicit your English language needs and wants regarding four main areas: **Language Structure, Rhetorical Categories, Language Functions, and Language Skills**. These items cover the specific purposes for proposed and future academic English course in Biology. . Before responding to these questions, you are required to consider each item carefully *based on your own needs* and then indicate how important each of these items is for your study in your English for Specific Purposes (ESP) course.

**PART E** aims at collecting some practical suggestions to improve the learning situation

For each item in the questionnaire, please answer to the questions when necessary or check ( ) in the appropriate box.

#### **PART A**

1. Your identity

1.1 Gender:  Male  Female

1.2 Age:

1.3 First Language:

1.4 Medium of instruction:

1.5 Your specific field of study:

2. Number of years that your you study English in the University

8  7  6  5  3  Other: .....

3. Level of English before the entrance to the university

High                       Intermediate                       Low

4. Current level of English

High                       Intermediate                       Low

5. Please indicate your English language skill level

\_ Listening                       High                       Intermediate                       Low

\_ Speaking                       High                       Intermediate                       Low

\_ Reading                       High                       Intermediate                       Low

\_ Writing                       High                       Intermediate                       Low

6. How much specialist knowledge did you have in your main field of study?

Very much                       Basic knowledge                       Not much

7. Are you interested in taking an ESP course

Yes                       NO

## PART B

1. Why do you want to study English

- To take part in oral discussions in English
- To understand lectures on Biology in English
- To read and translate articles in your field of study in English
- To pass exams
- Other (specify).....

2. What are the areas in which you think you need English

- In your post-graduate studies
- In your future works or career
- In everyday life

3. Classify the four skills according to your needs

Listening                       Speaking                       Reading                       Writing

4. Do you think that your problems in English are due to

- Speaking                       Listening
- Writing                       Reading
- Grammar                       Vocabulary
- Pronunciation                       Communicatio

5. If you have any other lacks specify



**PART C**

1. Describing the actual course content

1.1 My lessons in English Language teaching mainly focus on improving

- My listening and speaking skills
- My reading and writing skills
- My vocabulary and grammar
- Terminology and translation
- Other (specify).....

1.2 How do you find the content of your English language course

- Interesting
- Boring
- do not know

1.3 Do you think that the present English courses are helping in improving your English language level

- YES
- NO
- do not know

1.4 Do you think that the English course should be taught by

- Subject specialist
- Language teacher
- Both

What kinds of role do you like your teacher to have

- As a person in control of everything in the class
- As someone who does not control everything but helps and guides you in learning
- 

**PART D**

1. Proposed/Future course content

**Language Structure**

	Very Important	Important	Slightly Important	Not Important
1. Technical terms used in scientific texts				
2. General terms used in scientific texts				
3. Technical terms in your area of specialization				
4. Word structures (for example, compounding, affixation, Nominalization, etc.)				
5. Grammatical structures for general communications (for example: tenses, aspects, modality, etc)				
6. Signaling syntactic boundaries using punctuation marks (for example: comma, colon, semi-colon, dash, etc)				

### ***Rhetorical Categories***

	Very Important	Important	Slightly Important	Not Important
1.Logical connectors used to link clauses and sentences (for example: therefore, hence, consequently, as result , etc)				

2.Classification (for example: consist of, is divided into, is composed of, etc)				
3.Definition (for example: is known as, is called, mean, etc)				
4.Exemplification (for example: such as, like e.g., for instance, etc)				
5.Generalization (for example: in other words, in short, in conclusion, etc)				
6.Chronological sequence (for example: at first, then, next, afterwards, ultimately,etc)				

### ***Language functions***

	Very Important	Important	Slightly Important	Not Important
1.Describing processes and procedures				
2.Giving instructions or directions				
3.Reporting information from other sources				
4.Describing an object in terms of contrast and comparison in dimensions (for example: volume, thickness, height, speed, rate, temperature, shape, length; etc)				
5.Summarizing the results of a group project, a technical report, or a scientific text				
6.Using tables, diagrams and graphs to summarize data				
7.Understanding and verbalizing numbers (for example: fractions, decimals, time, equation)				
8.Understanding and verbalizing numbers				

(for example: addition, division, square root, x squared, etc)				
9. Making an outline for a presentation, report or project)				

**Language Skills**

<b>READING</b>	Very Important	Important	Slightly Important	Not Important
1. Reading textbooks				
2. Reading technical articles				
3. Reading course handouts				
4. Reading text on Biology				
5. Reading instructions for laboratory				
6. Reading study notes				
7. Other(specify)				

<b>Writing</b>	Very Important	Important	Slightly Important	Not Important
1. Taking notes in class				
2. Writing texts/exams answers				
3. Translating				
4. Summarizing and writing abstracts				
5. Writing a report				
6. Writing articles				
7. Writing e-mails				
8. Other(specify)				

<b>SPEAKING</b>	Very Important	Important	Slightly Important	Not Important
1. Taking part in conferences				
2. Giving spoken presentations				
3. Asking questions in class				
4. Speaking to foreign colleagues				
5. Speaking to foreign visitors				
6. Small talks				
7. Other(specify)				

<b>LISTENING</b>	Very	Important	Slightly	Not
------------------	------	-----------	----------	-----

	Important		Important	Important
1. Following lectures				
2. Following oral question/answers				
3. Listening to spoken presentation				
4. Listening to teacher talk				
5. Other(specify)				

**PART E**

**1. SUGGESTION FOR IMPROVING YOUR ENGLISH LANGUAGE COURSE**

**1.1** How do you prefer to do learning activities in the class?

Individually     in pairs     in small groups

**1.2** Do you like learning

By listening and taking notes

By memory

By problem solving

By copying from the board

By getting information for myself

Other (specify).....

**1.3** Do you like learning by using

Video/DVD

CD/TAPE

Pictures/posters

Internet

The board

Other(specify).....

**1.4** Do find the following activities useful

Role play

Language games

Other (specify).....

Written exercises

Debates

**1.5** Do you have any further suggestions to improve the English language course

**THANK YOU FOR YOUR PARTICIPATION**

## **APPENDIX 2**

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### **STUDENT STRUCTURED INTERVIEW**

## APPENDIX 2

### Students' structured interview

1/Do you know the difference between GE and ESP?

YES

NO

\*Explain,

2/Do you think that English is necessary in your field of study?

YES

NO

3/Have you studied English during your Licence degree?

YES

NO

4/During your Licence, was the English courses

GE

ESP

Both

5/In what lge (s) is/are the recommended material published?

English

French

Arabic

6/For what specific purposes do you require English

Listen and understand lectures in their special of study in English

Writing answers to examination question or report

Taking part in orl presentations in English

Reading scientific articles or texts in English

Translating in both lages

Other puposes (specify)

COURSE

7/What kind of English class do you have ad is it adapted to your needs?

YES

NO

8/How many hours per week are devoted to the English course?

9/Do you think that the time devoted to the English course are sufficient to reach your objectives?

YES

NO

10/What are the skills that are relevant or not relevant to your needs

\* Listening  relevant  not relevant

\*Speaking  relevant  not relevant

\* Reading  relevant  not relevant

\*Writing  relevant  not relevant

THE MATERIAL

11/Is there any official textbook in English in your field of study?

YES

NO

12/Do you use any Audio-visual material during the lectures?

YES

NO

\*If yes, which one and for what purpose?

13/Would you like English to be taken away from the official programme because you do not find the present course helpful in fulfilling your needs of English?

YES

NO

14/Will you find the English courses more interesting if it has lessons with topics are related to your subject area?

YES

NO

15/Do you think the the English course should be taught by

A subject specialist

A lge teacher

collaborative teaching

16/What are your suggestions to improve the English course?

## **APPENDIX 3**

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### **TEACHER STRUCTURED INTERVIEW**



## APPENDIX 3

### TEACHER INTERVIEW

1/ The name of the Faculty :

2/ His/her name: \_\_\_\_\_ and the subject he/she taught:

3/What is your field of specialism?

GE teacher                       ESP teacher                       Subject specialist

4/How long have you been teaching English at the Department of Biology?

5/Do you find the amount of time assigned to the module of English you are teaching appropriate?

YES                       NO

\*If no, what amount of time would you suggest and why?

6/How would you describe your students during the lectures?

Highly motivated                       Motivated                       Not motivated at all

7/How would you classify your student level in English?

High                       Low                       Intermediate

8/Is there any official syllabus or textbook for students?

YES                       NO

9/Which type of teaching materials did you use?

10/Do you focus more on improving

Listening and speaking skills                       Reading and writing skills                       Vocabulary and grammar  
 Other (explain)

11/What language do you use during the lecture?

English                       French                       Arabic

12/Do students in your class face difficulty in studying content subject (microbio) in English?

A lot of difficulty                       A little difficulty                       No difficulty

13/According to you what are the lacks of students in English?

14/Do you think that the present courses are helping in improving the English lge any further?

YES                       NO

15/How do you find the contents of your present English courses?

Interesting                       Boring                       Other

16/According to you what are the needs of your students in English?

To be able to read specialist literature

Taking part in conferences

- Giving presentations
- To be able to write an abstract
- To be able to translate from English to French & vice versa
- To listen to presentations
- To listen to lectures
- Other (specify)

17/ Would you find lge course more interesting if it include

- Subject content
- Lge structure
- Both

18/ Do you think that the English should be taught by

- Subject specialist
- Language teacher
- Collaborative teaching

19/ Student should be at the center of knowledge transmission. Teacher should be their facilitator

- Agree
- Disagree

20/ Teacher should strongly encourage the students to communicate in class

- Agree
- Disagree

21/ ELT and syllabus should focus on developing all four skills

- Agree
- Disagree

22/ English classes should be full of activities like role play, games, projects, pair/group work

- Agree
- Disagree

# **APPENDIX 4**

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## **DIAGNOSTIC TEST**

## APPENDIX 4

### Pre-Course Test (Diagnostic Test)

#### Part A : General English Test

#### GRAMMAR

- 1) Juan \_\_\_\_\_ in the library this morning.  
A. is study      B. studying      C. is showing      D. are studying
- 2) Alicia, \_\_\_\_\_ the windows please. It's too hot in here.  
A. opens      B. open      C. opened      D. will opened
- 3) Who is \_\_\_\_\_, Marina or Sachiko?  
A. Tallest      B. tall      C. taller      D. the tallest
- 4) Eli's hobbies include jogging, swimming, and \_\_\_\_\_.  
A. to climb mountains      B. climb mountains      C. to climb      D. climbing mountains
- 5) The concert will begin \_\_\_\_\_ fifteen minutes  
A. in      B. on      C. with      D. about
- 6) I have only a \_\_\_\_\_ Christmas cards left to write  
A. Few      B. fewer      C. less      D. little
- 7) Each of the Olympic athletes \_\_\_\_\_ for months, even years  
A. have been training      B. were training      C. has been training      D. has been training
- 8) The company will upgrade \_\_\_\_\_ computer information systems next month  
A. their      B. there      C. it's      D. its
- 9) Ms. John \_\_\_\_\_ rather not invest that money in the stock market  
A. has to      B. could      C. would      D. must
- 10) Mr. Hawkins requests that someone \_\_\_\_\_ the data by fax immediately  
A. sent      B. send      C. sends      D. to send

## VOCABULARY

**Instructions:** Select the best answer.

- 1) The rate of \_\_\_\_\_ has been fluctuating wildly this week.  
A. Money      B. coins      C. bills      D. exchange
- 2) The bus \_\_\_\_\_ arrives late during bad weather  
A. Every week      B. later      C. always      D. yesterday
- 3) Do you \_\_\_\_\_ where the nearest grocery store is?  
A. Know      B. no      C. not      D. now
- 4) The chairperson will \_\_\_\_\_ members to the subcommittee.  
A. Appoint      B. disappoint      C. appointment      D. disappointed
- 5) We were \_\_\_\_\_ friends in that strange but magical country.  
A. Upon      B. towards      C. I addition to      D. among
- 6) The hurricane caused \_\_\_\_\_ damage to the city.  
A. Extend      B. extended      C. extensive      D. extension
- 7) Many cultures have special ceremonies to celebrate a person's \_\_\_\_\_ of passage into adulthood.  
A. Write      B. right      C. rite      D. writ
- 8) Give the synonym of:  
Tired - boring – dirty – funny – expensive – kind- polite- intelligent – good – frightened
- 9) Give the opposite of:  
Beautiful – clean – small – wrong – bad – low – increase – happy – famous – calm
- 10) Peter says he can't \_\_\_\_\_ our invitation to dinner tonight.  
A. Accept      B. almost      C. across      D. angel

Reading comprehension

### Directions to Erik's house

Leave Interstate 25 at exit 7S. Follow that road (Elm Street) for two miles. After one mile, you will pass a small shopping center on your left. At the next set of traffic lights, turn right onto Maple Drive. Erik's house is the third house on your left. It's number 33, and it's white with green trim.

- What is Erik's address?
- Which is closest to Erik's house?

Date: May 16, 1998  
To: Megan Fallerman  
From: Steven Roberts

Subject: Staff Meeting

Please be prepared to give your presentation on the monthly sales figures at our upcoming staff meeting. In addition to the accurate accounting of expenditures for the monthly sales, be ready to discuss possible reasons for fluctuations as well as possible trends in future customer spending. Thank you.

- The main focus of the presentation will be \_\_\_\_\_.
- Who will give the presentation?

### **The B&B Tour**

Spend ten romantic days enjoying the lush countryside of southern England. The counties of Devon, Dorset, Hampshire, and Essex invite you to enjoy their castles and coastline, their charming bed and breakfast inns, their museums and their cathedrals. Spend lazy days watching the clouds drift by or spend active days hiking the glorious hills. These fields were home to Thomas Hardy, and the ports launched ships that shaped world history. Bed and breakfasts abound, ranging from quiet farmhouses to lofty castles. Our tour begins August 15. Call or fax us today for more information 1-800-222-XXXX. Enrollment is limited, so please call soon.

- Which of the following counties is not included in the tour?
- How many people can go on this tour?
- What can we infer about this area of southern England?

The following passage contains three missing words or phrases. You are to choose the best answer for each missing word or phrase.

In gardens and forests around the world, there is more and more evidence that the earth's atmosphere is warming up. In North America, many species of birds which \_\_\_\_\_ (7) \_\_\_\_\_ to fly south for the cold winter months are staying in the north instead. A study of 77 gardens in Europe showed that flowers are blooming earlier and leaves are falling \_\_\_\_\_ (8) \_\_\_\_\_. In other words, as the atmosphere has gotten warmer, the growing season for vegetation has become a little bit longer each year. On the European continent, summer is \_\_\_\_\_ (9) \_\_\_\_\_ eleven days longer than it was forty years ago.

## **Part B : Scientific English Test**

### **Basic scientific knowledge**

Choose the right ending to the following sentences

#### **1)Golgi apparatus is described as :**

- The secondary site for the stockage of the cell secretions.
- The primary place to stock the different secretions.
- The site of packaging the different elements.

#### **2)The cell contains :**

- \*Different elements
- \*Different element and a nucleus
- \*Element and more than one nucleus..

#### **3)Dams are:**

- \*An artificial way of supplying water.
- \*A natural way to stock rainfall
- \*A human made to stock rainfall.

#### **4)The chromosome carry tiny particle:**

- Called genes.
- Named D.N.A.
- Called the real determiners of heredity.

#### **5)Genes control:**

- A person tendency to different illnesses.
- Mental illnesses and certain deceases.
- All the diseases.

#### **6)Parasites live in :**

- Ectoparasite and endoparasite.
- Community.
- Alone with no other help.

#### **7)Circle the irrelevant synonym of the following words:**

- Modify: Change- Transform- keep- Vary-Removed
- Famous: Celebrated- Great- Well-known- Far- Famed

- Fine: Excellent- Splendid- Exceptional- Beautiful

**8)Correct the following mistakes:**

Bacteriae – specie- involve – devide – contageus – microbus.

**9)Give the synonyms of : to release – level – rate – speed up – synthesize**

**10)Give the opposite of: more – active – specific – complex- soluble -fresh**

**Reading Comprehension**

**THE TEXT:**

Alteration in the arrangement , or amount , of genetic material of a cell or virus. They may be classified as either point mutations, involving minor changes in the genetic material (often single base-pair substitutions),or macromutations(e.g. deletions), involving larger sections of chromosome.

The effects of macromutations on chromosome structure are often visible during mitosis and meiosis and include inversion,translocation,deletion,duplication and polyploidy, non-disjunction

produces chromosome imbalance(e.g. aneuploidy. Whereas point mutations commonly cause amino acid substitutions in the polypeptide encoded by the gene and often have minor effects on gene function macromutations(especially if they involve deletions) commonly lead to syndromes of abnormalities which seriously reduce fitness,and are more often lethal. Many point mutations fail to result in amino acid substitutions because the genetic code is degenerate. Others, though altering amino acid sequence, either have little effect or only partially inactivate gene function(as in leaky auxotrophs of fungi and bacteria). But a single amino acid replacement in a critical position can abolish an enzyme's activity.

The questions

Exercise n°1

Give the title of the text .

Exercise n°2

Read the text and answer to the following questions.

- 1) When the effects of macromutations take place?
- 2) What is the reason of the failure of point mutations?
- 3) Give an example of micromutations



### Exercise n°3

Say whether is true or false

\*Macromutations are involved in one section of chromosome

\*Point mutations generally cause amino acid substitutions

\*Macromutations can lead to abnormalities that are rarely lethal.

\*The polypeptide are encoded by the gene

Translation

Translate the following passage

**Underneath the cerebral hemispheres and cerebellum is the brain stem whose job is to control the heart, the lungs and the digestive system. The brain stem has many links with the hypothalamus, the lowest part of the cerebrum. Apparently, the hypothalamus plays an important role with regard to the emotions.**

**The cortex contains a huge memory section which scientists believe, receives as many as ten new items of information every second of life.**

# **APPENDIX 5**

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**FINAL EXAM**

## APPENDIX 5

### Final Exam

**Master 1**

**February;2013**

### **PHYSIO-PATHOLOGY**

### **EXAM OF ENGLISH**

### **(1<sup>st</sup> Semester)**

#### **THE TEXT**

#### ***The General Sensory System***

The sensory system makes the animal aware, though not necessarily in the sense of 'conscious', of conditions and changes both outside and inside its body. In the simpler animals only very general stimuli such as light or darkness, heat or cold can be perceived by the sensory system. In the higher animal detailed information about surroundings such as distance, size and colours of objects can be gained as a result of the specialization of the sensory organs and the elaboration of the nervous system.

Included in the general sensory system is the organs which are fairly evenly distributed through the dermis of the skin; hence any part of the skin is sensitive to touch, heat, pain and pressure. Examples of such sense organs are given in Fig.1.

It must be emphasized that, in general, a particular sense organ or sense cell can respond to only one kind of stimulus. Thus, a sense organ sensitive to touch will not be affected by the stimulus of heat; a cell which is sensitive to chemicals will not respond to pressure.

It is not yet certain just how specific some of the sense organs are in their responses, for the sensory-endings which produce the sensation of pain can be activated by a variety of stimuli such as pressure, heat and cold, and the ear lobe which contains only hair plexuses and free nerve endings can detect touch, heat and pressure.

Certain regions of the skin have a greater concentration of sense organs than others. The finger tips, for example, have a large number of touch organs, making them particularly sensitive to touch. The front of the upper arm is sensitive to heat and cold. Some areas of the skin have relatively few sense organs and can be picked or burned in certain places without any sensation being felt.

#### **Stimulation and conduction of impulses**

The sense organ or sense cell is connected to the brain or spinal cord by nerve fibers. When the sense organ receives an appropriate stimulus, it sets off an electrical impulse which travels along the nerve fibre to the brain or spinal cord. When the impulse reaches one of these centres it may produce an automatic or reflex action, or record an impression by which the animal feels the nature of the stimulus and where it was applied.

The sense organs of one kind and in a definite area are connected with one particular region of the brain. It is the region of the brain to which the impulse comes that gives rise to the knowledge about the nature of the stimulus and where it was received. For example, if the regions of the brain receiving impulses from the right leg were eliminated or suppressed by drugs, no amount of stimulation of the sensory-endings would produce any sensation at all, although the sense organs would still be functioning normally. On the other hand, if a region of the brain dealing with impulses from sense organs in the leg is simulated by any means, the sensations produced seem to be from the leg.

### **ACTIVITIES**

**Language Structure:** Fill in the Gaps with the following missing words: energy- as – of - different – into – or – called – most – are - however – released – to – requires.

#### **The release of energy**

The energy for life is ..... during respiration from substances known loosely as 'food'. There .....many different foods, and they are taken into the body in many ..... ways, but in the majority .....organisms all foods are converted ..... glucose sugar before they are used as a source of..... . For the sake of simplicity, the following descriptions refer ..... the respiration of glucose.

In the ..... organisms energy is released by a process ..... aerobic respiration, which ..... a continuous supply of oxygen molecules obtained from the air..... water surrounding the organism.

In certain circumstances, ....., energy can be released without the use of oxygen molecules. This is known ..... anaerobic respiration.

**Scanning:** Read through the text again, and pick out these details

- (a) What word is applied to animals capable of perceiving colour?
- (b) What types of sense organs are concentrated in the finger tips?
- (c) What travels along the nerve fibre after a sense organ receives the appropriate stimulus?
- (d) What stimuli are said to produce the sensation of pain?
- (e) Which part of the body is mentioned as being sensitive to heat and cold?
- (f) Which part of the ear is sensitive to four stimuli?

**Understanding the text:** True or False? Decide which of these statements are correct, according to the text, and which are not correct

- (a) All parts of the skin are equally sensitive.
- (b) Only the higher animals have a sensory system.
- (c) Pressure-sensitive cells do not respond to chemicals.
- (d) Nerve fibres connect sense cells to the brain.
- (e) The stimulus to a sense cell reaches the brain as an electrical impulse.
- (f) To eliminate sensation, the sense cell itself must be suppressed.

**Synonyms / Opposites:** It is often possible to understand new or unfamiliar words by recognizing words they are compared or contrasted with. Decide what these words are compared or contrasted with.

	COMPARED	CONTRASTED
AWARE	conscious	
OUTSIDE		
SIMPLER		
DARKNESS		
HEAT		
BURNED		
AUTOMATIC		
ELIMINATED		

**THE ROLE OF THE CONJUNCTIONS:** Now complete this table by putting a tick( ) in the appropriate box, to show what relationship is being indicated by the conjunctions used in the text

	Conjunctions/Connectors	Result	Illustration	Contrast	Logical generalization Logical deduction
(a)Line1	Though				
(b)Line6	Such as				
(c)Line10	Hence				
(d)Line13	In general				
(e)Line14	Thus				
(f)Line24	For example				
(g)Line43	Although				
(h)Line43	On the other hand				

Complete the following chart

	NOUN	ADJECTIVE	VERB
Stimuli			
Sense			
usage			

***Listening activities*** : General Questions

Q1. What is the difference between 'stimuli' and 'stimulus'?

Q2. Give five adjectives and three adverbs from the text.

Q3. Give five scientific and technical vocabularies used in the text.

Q4. Give two pairs of words that have the same meaning and different Englishes.

Q5. Do we add an 'S' to adjectives in English and does the word 'chemicals' used in the text is a mistake and why?

***Translation***

Translate one of the different paragraphs of the text.

**THANK YOU FOR YOUR PARTICIPATION AND BEST OF LUCK**

## **APPENDIX 6**

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### **STUDENT FEEDBACK QUESTIONNAIRE**

## APPENDIX 6

### STUDENT FEEDBACK QUESTIONNAIRE

Thank you for taking the time to fill out this survey thoughtfully. Your answers and comments will help the researcher to improve the course. The questionnaire is organized around four sections: Section A to evaluate the teaching and learning process, section B to get feedback about the organization and objectives of the course, section C focuses on assessment, and section D is dedicated to further suggestions. Some sections include open and closed questions.

#### SECTION A. TEACHING AND LEARNING

Please take a few moments to rate the following aspect related to your course using the following scoring:

- 1- Agree Completely
- 2- Agree Mostly
- 3- Disagree Mostly
- 4- Disagree Completely
- 5- No Comment

1. Sessions start on time	1	2	3	4	5
2. Learning objectives are made clear to me	1	2	3	4	5
3. I am kept interested in all my classes	1	2	3	4	5
4. The teaching on my course is good	1	2	3	4	5
5. The teacher knows her subject well	1	2	3	4	5
6. The teacher uses different ways to help me learn	1	2	3	4	5
7. I improved the skills I need	1	2	3	4	5
8. The teaching and learning methods used suit me	1	2	3	4	5
9. I made good progress	1	2	3	4	5



10. They are enough teaching and learning materials  
to help me learn 1 2 3 4 5
11. Teaching and learning resources are good 1 2 3 4 5
12. Are the conditions of the classroom appropriate 1 2 3 4 5

## SECTION B. ORGANISATION AND OBJECTIVES OF THE COURSE

1. The course is well organized  YES  NO
2. What was learnt from the course
3. What do you like best about this course
4. What would you like to change about this course
5. As a result of your work in this class, what skills did you improve the most
- Speaking  Writing  Listening  Reading
6. Do you feel more confident within translation activities  YES  
 NO
7. Do you feel more confident within oral presentations  YES  
 NO
8. Does the course match your objectives  YES  
 NO
9. Are the proposed topics relevant to your needs and interest  YES  
 NO

## SECTION C. ASSESSMENT

Please use the following scoring:

- 1- Agree Completely
- 2- Agree Mostly
- 3- Disagree Mostly

4- Disagree Completely

5- No Comment

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. Assessment tasks are made clear   | 1 | 2 | 3 | 4 | 5 |
| 2. Assignments are spread across the course  | 1 | 2 | 3 | 4 | 5 |
| 3. Exams and tests are well organized  | 1 | 2 | 3 | 4 | 5 |
| 4. The feedback you get tells you if you are doing well and where do you need to improve | 1 | 2 | 3 | 4 | 5 |

#### **SECTION D. SUGESSTIONS OR ADDITIONAL COMMENTS**

## الملخص

في تدريس الإنجليزية كلغة أجنبية، سواء لأغراض عامة أو خاصة، لا بُدَّ من تحديد وتحليل احتياجات المتعلمين قبل تصميم المنهج المناسب. وفيما يتعلق بقسم البيولوجية، حيث أُجري هذا البحث على مدار العام 2012-2013، لقد حاولنا تسليط الضوء على نقاط الضعف والاحتياجات ورغبات المتعلمين من أجل الوصول إلى تصميم برنامج تعليمي خاصّ يتضمّن تقييم الطلبة لقياس فعالية المنهج المقترح. إنَّ أملنا من هذا العمل البحثي والهدف المنشود هو المساهمة في تحسين تعليم وتعلم اللغة الإنجليزية لأغراض خاصة في هذا القسم.

*الكلمات المفتاحية: تحليل الاحتياجات - مواطن الضعف - الضروريات - ESP (اللغة الإنجليزية لأغراض خاصة) - التقييم - تصميم المنهاج.*

## Summary

In the teaching of English as a foreign language, both for general and specific purposes, it is crucial to identify and analyse the needs of the learners before designing an appropriate syllabus. As regards the department of Biology, within which the present research work was conducted throughout the year 2012-2013, we have tried to highlight the learners' weaknesses, needs and wants in order to reach the objective of designing a specific syllabus that includes students' assessment and course evaluation to measure the efficiency of the proposed syllabus. Our wish and ultimate aim in this research work is to contribute to the improvement of the teaching/learning of English in that department.

*Key words:* needs analysis, weaknesses, necessities, ESP (English for Specific Purposes), assessment, evaluation, syllabus design.

## Résumé

Dans le cadre de l'enseignement de l'anglais, aussi bien pour des buts généraux que spécifiques, il est essentiel d'identifier et d'analyser les besoins des apprenants avant d'élaborer un programme approprié. S'agissant du département de biologie, au sein duquel ce travail de recherche a été mené tout au long de l'année 2012-13, nous avons essayé de mettre en relief les lacunes, les besoins et les nécessités des apprenants pour réaliser notre objectif qui est de mettre sur pied un programme spécifique comportant d'une part l'évaluation des apprenants et des cours réalisés d'autre part afin de mesurer l'efficacité du programme proposé. Il est à espérer que cette recherche contribuera à l'amélioration de l'enseignement/ apprentissage de l'anglais au sein de ce département.

*Mots-clés :* analyse des besoins, lacunes, nécessités, ESP (anglais à but spécifique), évaluation, élaboration de programme