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Designing an ESP Course for Biology Students:

The Case of First Year Biology Students at SALHI Ahmed University Center of Naama

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To my beloved parents

I

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First and foremost, I thank ALLAH lord of the world who has guided and help us, and to whom we owe everything.

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Abstract

English for Specific Purposes (ESP) has gained ground to become the most prominent branch of EFL teaching worldwide. Accordingly, this work is a case study that intended to investigate the ESP situation in the department of biology at the University Center of Naama by identifying biology students' needs and sort out the factors that prevent successful ESP course to be achieved, and therefore finding some solutions that contribute in improving the teaching of English in that department.

This research is divided into theoretical and practical parts. The theoretical part sets the ESP literature and focuses on the key notion of any ESP course which is need analysis. Whereas, in the practical part many tools have been used in order to answer the research questions and to confirm or disconfirm the hypotheses. The questionnaire was addressed to thirty biology students, chosen randomly, in purpose of identifying their needs. The interview was the second tool used with the teacher besides the classroom observation to get some useful and reliable information about the different ESP practices.

The analysis of the results revealed that biology students are interested in learning English, but the courses offered for them were not catch their attention and because of the lacks of administrative support, the teacher faced difficulties in transmitting such courses. Thus, the obtained results enabled the researcher to suggest some solutions and designing an ESP course that fits biology students' needs.

List of Abbreviations

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

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

EEP: **E**nglish for **E**ducational **P**urposes

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

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

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

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

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

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

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

EVP: **E**nglish for **V**ocational **P**urposes

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

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

USA: **U**nited **S**tates of **A**merica

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General Introduction

General Introduction

The emergence of English as a global language is a direct result of the globalization process. At the moment that English language becomes by all means the language of globalization, the internet, scientific and technological developments, English education, not least English for Specific Purposes, needs to respond positively to the new world order by developing and designing adequate courses to better prepare both students and teachers to deal with the new world. Despite this fact, ESP courses offered in our universities and the teaching of ESP itself have always been subject of complain and dissatisfaction from the part of both teachers and students.

For that reason, the current study aims to investigate the ESP situation in the Department of Biology at SALHI Ahmed University Center of Naama in order to identify biology students' needs, sort out the teaching/learning difficulties and identify the most important elements in designing an appropriate ESP course that meets students' needs so that to improve the teaching of ESP in general and at the department of biology in particular.

Basing on these objectives, the research question is formulated: **how to reform the teaching of ESP in the department of biology at SALHI Ahmed University Center?** From this main question the following sub questions are derived:

- What do biology students need English for?
- What are the teaching/ learning barriers that prevent successful teaching and learning?
- What are the elements that should be taken into consideration for an appropriate ESP course?

Furthermore, the above questions lead the following hypotheses:

- Biology students need first to develop their reading skills to be able to read biological literature through books, articles and web-site. They also need to improve listening then speaking skills to enable them to

communicate their English effectively in a scientific context. Finally, they have to improve the writing skills to enable them to write in a manner adequate to the style of scientists.

- Students' attitudes towards the ESP course, the teacher and the administration are the most important elements that can prevent teaching/learning process.
- The learner, the teacher, the administration and the ESP course itself are elements to be taken into consideration in order To have an appropriate ESP course.

Framing this research, chapter one tackles the important concepts related to ESP, its main definitions and characteristics, identifies its main branches and highlights the difference between ESP and EGP. It also gives some key notions about needs analysis. Then, chapter two describes the situation and population under study and displays the research design used to investigate the case. The third chapter illustrates how ESP teaching is carried out in the department of Biology, it strives to analyse both quantitatively and qualitatively the data obtained. Finally, chapter four is devoted to the recommendation and suggestions proposed basing on the results obtained.

CHAPTER ONE

Literature Review

Chapter One: Literature Review

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1.1 INTRODUCTION

It is widely acknowledged that English emerged as a world language after World War II and this was mainly due to the important role played by the USA in many domains including the technological and scientific ones. In the past, English was seen as a sign of prestige and a well-rounded education, now it becomes a necessity and obligation. Since 1960s, English for Specific Purposes (ESP) has witnessed a gradual growth and has eventually come to play a major part in English Language Teaching (ELT). This is clearly reflected in academic settings where some universities started to offer ESP courses. In short, this chapter is concerned with a literature review where key notion about needs analysis is emphasized.

1.2 Definition of ESP

Defining ESP has proven to be so problematic to researchers, producing a simple and straightforward definition of ESP is not an easy task (Strevens, 1977: 109). Generally speaking, ESP refers to a particular group of students learning English for specific fields such as: science, technology, medicine and so on or for professional career. Researchers attempted hardly to produce workable definition of ESP.

Mackay and Mountford (1978:2) state that *"ESP is generally used to refer to the teaching of English for utilitarian purposes."*The point is that learners should be taught English in a way that enables them to read books written in English related to their field of study or to use English in their future career. Furthermore, Robinson (1987) classified ESP as a particular course; in which learners have scientific, occupational, and academic specific goals and purposes. Similarly, he states that *"students study English not because they are interested in the English language or English culture as such but because they need English for study or work purposes"*. That is to say, for Robinson students study English not because they want to study it, but simply because they need it either in their studies or for professional advancement (Robinson, 1991:2).

People have different ideas about the meaning of ESP, this means that some people say that there is a close relation between ESP and the purpose of study, if the latter is clearly specified so there is a teaching of ESP, while others make a link between ESP and the context in which it is taught whether it can be academic or professional as stated by Anthony (1997:9-10):

> *"Some people described ESP as simply being the teaching of English for any purposes that could be specified. Others, however, were more precise, describing it as the teaching of English used in academic studies or the teaching of English for vocational or professional purposes."*

Thus, one can say that ESP is an approach to language teaching based on learners' goals and reasons for learning a language. It is noticeable that the ESP movement has shown a slow but enormous growth over the past five decades.

1.3 Growth of ESP

With numerous attempts at identifying the first ESP course, researchers still have not yet agreed on the origin of ESP course (Robinson, 1987). In this respect, Hutchinson and Waters (1987) claimed that the origin of an ESP course is very difficult to be historically traced. They noted that ESP emerged as a response to three trends: *"Demands of a brave new world, a revolution in linguistics, and focus on the learner"*.

* After the end of Second World War, the world witnessed an age of enormous expansion in scientific, technological and economic activities on an international scale. This expansion created a unified world controlled by two forces technology and commerce which gave rise to a demand for international language. For many reasons, especially, the economic power of the United State after the war, the role fell to English. Moreover, the crises of oil in 1970s have established new relationship between the west and the oil-rich countries; the medium of this communication has been dominated by English language or special English in particular. Thus, English language teaching (ELT) has since been re-shaping its resources to meet the needs of new learners.

* At the same time as the demand was growing, new ideas began to emerge in the study of language. Traditionally, the aim of linguistics had been to describe the rules of English usages (Grammar). However, the new study shifted attention away from defining the formal features of language usage to discovering the ways in which language is actually used in real communication (Widdowson, 1978).

* New developments in the educational psychology also contributed to the rise of ESP, by emphasizing the central importance on the learners and their attitudes to learning. Learners were seen to employ different learning strategies, use different skills and be motivated by different needs and interests, which would have an important influence on their motivation to learn. Thus, designing specific courses to meet the learners' needs and interests was a natural expansion of this thinking.

Consequently, the growth of ESP was brought about by a combination of these three factors. The general effect of all this development was to influence the language teaching profession to focus on the required needs. As for a broader definition of ESP, some researchers give an extended definition in terms of absolute and variable characteristics.

1.4 CHARACTERISTICS OF ESP

In terms of ESP's main characteristics, there is a general agreement among ESP researchers that the learner's needs in ESP is very important and it has been the driving force in any ESP course design. Strevens (1988:1-2) has illustrated ESP in terms of four absolute and two variable aspects:

Absolute characteristics: ESP consists of English language teaching which is as follows:

* Designed to meet specific needs of the learners.

* Related in themes and topics to particular discipline, occupations and activities.

*Centred on the language appropriate to those activities in syntax, lexis, semantics and so on, and analysis of this discourse.

* In contrast with general English.

Variable characteristics: ESP may be, but is not necessarily:

*Restricted as to the learning skills to be learned.

*Not taught to any predetermined methodology.

Dudley-Evans and St John (1998:4-5), later, offered their own definition of ESP which was influenced by that of Stevens'. They have only removed the absolute characteristic that ESP is in contrast with general English, and have increased the number of variable characteristics.

Variable characteristics:

*ESP may be related or designed for specific discipline.

*ESP may use, in specific teaching situation, a different methodology from that of general English

*ESP is likely to be design for adult learners, either at a tertiary level or in a professional work situation. It could, however, be for learners at secondary school level.

*ESP is generally designed for intermediate or advanced students.

*Most ESP courses assume some basic knowledge of the language system, but it can be used with beginners.

The division of ESP into absolute and variable characteristics, in particular, is very helpful in knowing what is and what is not ESP. Although, ESP is like any other language teaching approach, bases on ideas about learning and teaching, it is, nevertheless, often contrasted with General English.

1.5 ESP AND EGP DICHOTOMIES

There is a controversy over the matter as to what exactly distinguishes ESP programs from English for General Purposes (EGP) courses. Trying to make distinction between ESP and General English (GE) may be inappropriate and not easy as claimed by Stevens (1977:10): "*.....difficulties of drawing a line between general and special purposes is not easy to overcome...*"

The most important difference lies in the contrasted approaches themselves. That is to say, ESP is recognized as a learner-centred approach in which the

learners' needs and objectives are important, while GE is seen as a language-centred approach which focuses on the study of the language from a general perspective covering all skills, target culture and literature.

General English courses are provided at different levels, i.e. in middle and secondary schools where pupils are taught all areas of the language such as lexis, grammar, phonology etc. These learners are generally not aware of their needs or objectives in learning English, their aim is to pass examination and tests, but ESP courses are offered to adults learners who are aware of their needs to learn the language as explained by Hutchinson and Waters (1987:53): "*What distinguishes ESP from General English is not the existence of a need as such but rather an awareness of the need*."

What can be said about the divergence of the two approaches is that ESP differs from GE not only in the nature of the learner and the course, but also in the aims and objectives of the instruction and the subject matter as well. Undoubtedly, GE and ESP with its subdivisions are just two branches of EFL, which is the main branch of English Language Teaching. ELT, in turn is one variety of the many possible kinds of language teaching.

1.6 BRANCHES OF ESP

Due to the developments of ESP, it has divided into different types to fit different teaching situations. In the 'tree of ELT' (Hutchinson and Waters, 1987:17), ESP is broken into three branches:

- English for Science and Technology (EST),
- English for Business and Economics (EBE).
- English for Social Sciences (ESS).

Each of these subject areas is divided into two types:

- English for Academic (Educational) Purposes (EAP / EEP)
- English for occupational (Vocational) purposes (EOP / EVP)

One of the major types of ESP which is widely taught and in which the researcher is interested is English for Science and Technology (EST). EST is a sub branch of the larger field of ESP dealing with the scientific topics, it grew out of the demand of *"...scientists and technologies who need to learn English for a number of purposes connected with their specialities"* (Kennedy and Bolitho, 1984:6). As shown in 'the tree of ELT', EST can be taught either for academic or occupational purposes:

English for Academic Purposes: EAP course aims to help the students in particular field of study in an educational institution so as to enable them to read in the specialized field, listening to lectures, making oral presentation, writing reports and keep in touch with the latest developments in their specialities. English in this context is used as a medium of study and not as a subject matter. In this vein, Kennedy and Bolitho (1984:4) assert that: *"EAP is taught generally within educational institutions to students needing English in their studies."*

English for Occupational Purposes: In this context, English is required in employment situations, the learner needs to use English as part of his work or profession as explained by (Kennedy and Bolitho, 1984:4): *"EOP is taught in a situation in which learners need to use English as part of their work or profession."*The EOP courses aim to meet the everyday needs of working people, this type of courses would be useful for waiters or hotel employees who need English to perform their professional duties.

The only difference that exists between EAP and EOP is the nature of the learner, i.e., the learner in EAP context is a student while in an EOP context is an employee. One of the EST courses that are becoming more demanded are those offered to biological students who feel the need for such courses.

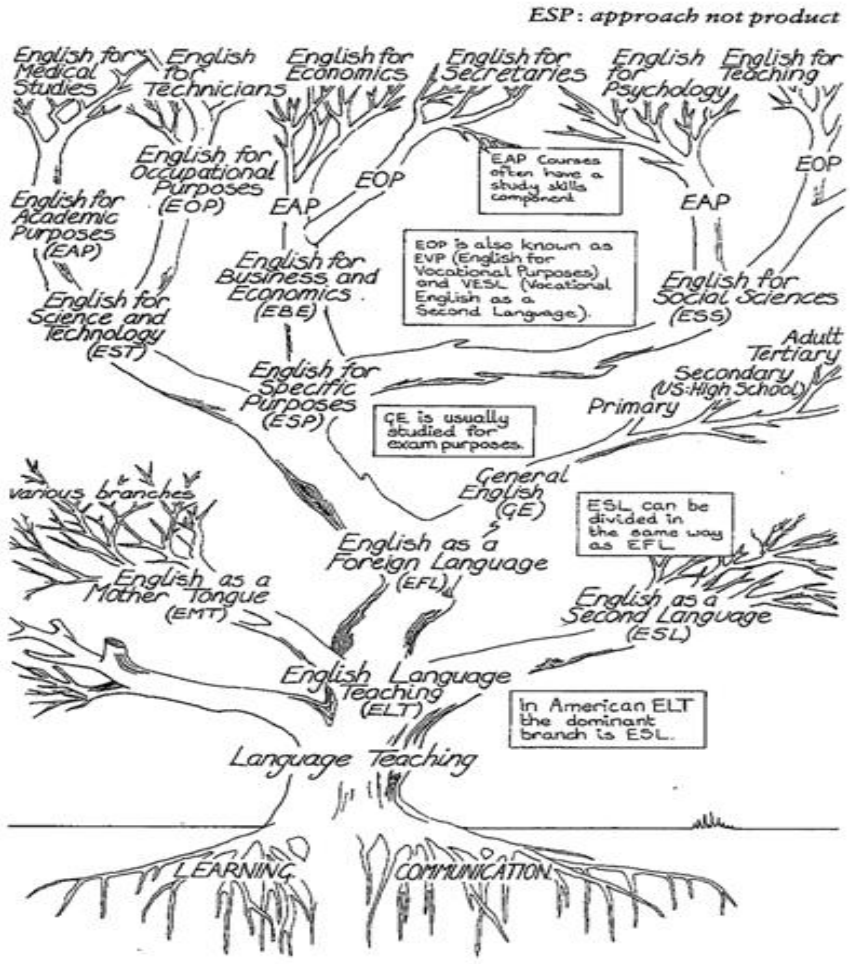


Figure 1.1: 'the tree of ELT' by Hutchinson and Waters (1987:17)

1.7 Needs Analysis (NA)

NA is defined differently by researchers, Dudley-Evans and St.John (1998:122) explained that *"needs analysis is the corner stone of ESP and leads to very focused language course."* Moreover, Hutchinson and Waters (1987:53) suggested that every language course should follow it. According to Robinson (1991:7),*"needs analysis is generally regarded as critical to ESP, although ESP is by no means the only educational enterprise which makes use of it."* Consequently, NA can be seen as an important part of an ESP course.

West (1998) remarked that NA was recognized and established in the mid 1970s. It provided the course designers with an insight to examine learners' purposes. Nunan (1988:43) revealed that during the 1970s, NA procedures made

their appearance in language planning and became widespread in language teaching. Language with specific purposes became at the same time, language for specific purposes (LSP) and thus LST practitioners adopted NA as an approach to design a course. Actually, needs analysis should be regarded as the starting point to develop a curriculum, to design syllabus, to plan courses, and adopt and adapt materials effectively. In designing courses, instructors try to figure out the needs of the students and try to design matching goals and objectives to meet these needs.

To sum up, NA is the process of collecting data which reflect the learners' needs in order to make decisions about the goals, objectives and content of a curriculum which will fulfil these identified needs. In addition, NA is a cyclical and ongoing process that can take place before, during and after the courses, considering the fact that it may vary over time. Under the general heading of need, different types and divisions can be identified.

1.7.1 Types of Needs

According to Hutchinson and Waters (1987), the word "needs" is often used as a term covering two types namely: target needs and learning needs.

A- Target Needs

Target needs represent what the learners need to do in the target situation, that is, what they have to be able to do at the end of their language course. In this sense, needs are *"perhaps more appropriately described as 'objectives."* (Robinson, 1991:7). Under this term, further divisions: Necessities, Lacks and Wants can be identified.

***Necessities:**

What the learner has to know in order to function effectively in the target situation. For example, businessman or woman might need to understand business letters, to communicate effectively at sales conferences, to get the necessary information from sales catalogues etc (Hutchinson, 1987:55).

***Lacks:**

They refer to what the learners do not know or cannot do in English. Lacks, then, are defined as being the gap between the existing language proficiency of the learners and the one required at the end of the language course.

***Wants:**

Wants are defined as being what the learners themselves would like to gain from the language course.

B- Learning needs

Robinson (1991:7) defined learning needs as *"...what the learner need to do to actually acquire the language."* In the same vein, Hutchinson and Waters (1987) point out that a relevant needs analysis must take into consideration not only the target situation needs where the question "**what** the learners need to know" is central, but also the learning needs, that is, "**how** the learner will learn". Learning needs seek information about the learners, their learning styles and strategies, language skills, selection of teaching materials, the setting and the time load.

1.8. Conclusion

This chapter has reviewed literature in the area of ESP by taking under consideration its main definitions, growth, characteristics, and branches. Additionally, needs analysis (NA) has been given a centred place to prepare the ground for this research. As in any investigation, the review of literature is always supported by an account of the situation and population studied. This will be the task of the next chapter.

CHAPTER TWO

Situation Analysis and Research Design

Chapter Two: Situation Analysis and Research Design

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2.1 Introduction

Despite the long period of ESP practices in many scientific and social sciences departments, ESP teachers and learners in Algeria still complain about students' low achievement and their poor proficiency level in English. Consequently, this chapter seeks to present the situation of ESP by giving a well-rounded idea about its teaching in the Department of Biology at SALHI AHMED university Center of Naama. This investigation starts by a detailed account on the situation and population under study.

2.2 ESP situation in Algeria

In Algeria, as in many young developing countries, the educational authorities and policy-makers try to develop and promote the status of English by introducing English education at all levels including middle and secondary ones. At university level, apart from those courses offered to students specialized in the English language, English is taught for more specific purposes; these ESP courses are offered in scientific and social sciences departments such as: Economics, Engineering, Biology, Psychology and so on. The aim of these courses is to equip students from scientific and technological streams with the linguistic tool that enables them to achieve either academic or professional purposes.

2.2.1 Status of the ESP course in the Algerian University

In Algerian higher educational institutions, Arabic and French languages are used as a medium of instruction while the role of English is often less important because of administrative decisions, teachers' attitudes and learners' behaviour as well. From an administrative perspective, ESP course holds a low status in the different curricula compared with the other modules; its coefficient is of one only whereas those of other modules vary from two to five depending on the special field. It should also be noted that the administrative unawareness of what it means to be an ESP teacher is reflected in assigning the teaching of ESP to teachers for whom the teaching of this component is seen as something additional and not so important, only done to acquire some experience.

Moreover, students in different departments do not share the same time of ESP courses; in some departments ESP courses are offered at graduate level while in some others English instruction never exists.

2.3 English for Biology

Along the numerous ESP subsections, English for Biology comes under the umbrella of EST, which is in turn, a branch of ESP. The language of Biology is quite unique; it is full with biological terminologies, moreover, it cannot be taught at the level of basic English Language Teaching, i.e. the goal of learning in this level is not to learn grammar and structure primarily, but to acquire the language of practice and social relations within the present academic studies and the future career. English has become the lingua franca of scientific publications and conferences across the world, consequently, biology students need to acquire a considerably higher standard of language proficiency to enable them to comprehend difficult materials.

2.4 SALHI Ahmed University Center of Naama

The year of 2010 saw the official creation of the University Center of Naama which named SALHI Ahmed University Center of Naama in 2014. In its first year, there were only to departments: the department of Arabic language and literature and the department of law and political sciences, now the University comprises of different departments as: the department of Science and Technology, Mathematics, Foreign Languages and Biology.

Enrolled students, come from different neighbouring places, are baccalaureate holders from scientific and literary streams. They go through a curriculum of 3 to 5 years to have Licence or Master degrees. After gaining the degree of master, some students pass a competitive examination to continue the Doctorate studies.

2.5 Sample Population

The present study is concerned with first year Biology students at SALHI Ahmed University. Students at this level are divided into four groups, but share

the same ESP course. Thirty (30) of them were randomly chosen by the investigator among whom 27 girls and 3 boys, in order to answer the questionnaires handed out during the ESP course in the second semester of the academic year (2015/2016).

These students share the same educational background i.e. Arabic is their mother tongue, French is their first foreign language and the language of instruction at university, while English is their second foreign language. They learn the English language during three or four years in middle school and three years in the secondary school, which make a sum of seven or eight years in learning English.

2.6 Students Questionnaire

Questionnaires are supposed to be one of the most common methods of data collection which can be analysed in a shorter period of time compared to other tools; moreover, it allows a large sampling. In an attempt to define the questionnaire, Brown (2001: 6) states that:

> *"Any written instrument that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers."*

The questionnaire addressed to students were translated to French in order to avoid any kind of misunderstanding and enable the informants to answer the questionnaire as clearly as possible. In this study, three types of questionnaire were used: closed, open and mixed.

***Closed Questionnaire:** They consist of a set of possible answers; the informants have to choose the response that best fits their opinions without commenting as explained by Wilson and McLean (1994: 21):

> *"Closed questionnaire prescribe the range of responses from which the respondent may choose. In general closed questions are quick to complete and straightforward to code ...."*

***Open Questionnaire:** In such type of questions, the informants are free to express their own ideas and give opinion. In this respect, Richterich and Chancerel (1980, 59) state that: *"Open questions do not call in advance for ready-made answers and therefore allow the person questioned more freedom of expressions."*

***Mixed Questionnaire:** This type is a combination of both closed and open questions. They ask the informant to choose one of the proposed possibilities, and then justify his/her answer.

The questionnaire consisted of eleven (11) questions of different types: open, closed and mixed (See Appendix A).

Questions 1 and 2 are informative questions about students' English language background.

Question 3 checks students' viewpoints about the importance of learning English.

Question 4 is devoted to the ESP course; students are questioned about the usefulness of the course.

Question 5: This question is used in an attempt to measure students' motivation in terms of class attendance.

Question 6: It asks the informants to classify the four language skills in terms of importance.

Question 7: the students are asked about the difficulties encountered them when using English.

Question 8 asks the students to specify the different areas in which English is used.

Question 9: It checks students' opinion about the course time allocation whether it is sufficient or not.

Question 10 intends to figure out students' opinion on the nature of the ESP course.

Question 11 invites students to make suggestions or remarks about their needs in learning English.

Although, it is acknowledged that the questionnaire is widely used to gather data, it does not seem to be sufficient for the research reliability. Thus, an interview is used as a second tool in this study to collect more data.

2.7 ESP Teacher Interview

The interview is considered as a useful tool of data collection, it provides more deep exploration of issues as stated by Duff (2008: 134): *"Interviews are one of the richest sources of data in a case study and usually the most important type of data to be collected."*

For this reason, many researchers and applied linguists define different types of interview. For instant, Bogdan and Biklen (1992) claim the use of semi-structured interviews as a method of research. While a structured interview has a rigorous set of questions which does not allow one to divert, a semi-structured interview is open, allowing ideas to be brought up during the interview as a result of what the interviewee says. In the present study, the investigator adopts a type of semi-structured interview.

Teacher's interview is designed to elicit some useful information about the different practices of ESP teaching in the Department of Biology; it consists of fourteen questions (See Appendix B).

Question 1 Intends to know teacher's opinion about the introduction of English instruction in the department of Biology.

Question 2 Intends to know students' proficiency level in the language.

Question 3 Deals with students' motivation during the ESP course.

Question 4 concerns with the reasons for such motivation or demotivation.

Question 5 Inquires about the assessment of students' needs before deciding on course content.

Question 6 asks about the importance devoted to each language skill during the ESP course.

Question 7 & 8: They intend to know whether there are any syllabi or teaching materials provided by the department.

Question 9 asks the teacher about how she plans a course.

Question 10 intends to know the relevance of course content to students' needs.

Question 11 asks about the most appropriate activities for an ESP course.

Question 12 intends to know the problems encountered in teaching ESP.

Question 13 seeks to know teacher's satisfaction or dissatisfaction with the time devoted to ESP teaching and to know teacher's view on the period that the ESP course should last.

Question 14 invites the teacher to make remarks and give suggestions on the design of an ESP course for biology students.

In this study, the use of questionnaire and interview is supported by classroom observation which seems to be very popular in conducting case study.

2.8 Classroom Observation

This type of research deals with teachers and learners classroom practices. Observation is a procedure which allows the investigator to know many things about the area under study, to see the world of the subject group in its natural environment, and contributes to collect truthful information. In this respect, Yin (1994:22) claims that:

> *"Observations are another important source of information in case studies. This is especially true in case studies involving classrooms or schools, because the interaction of individuals cannot be understood without observation."*

As expected, the teacher welcomed the researcher in her classroom and invited her to attend as much classes as needed to carry out the observation process attempting to answer the research questions.

In the present study, the investigator tries to observe how events happen without any kind of interference and attempts to collect information about teacher's and learners' practices by answering the following questions:

1 How does the teacher begin the lecture?
2 Does she state the objectives of the lecture from the beginning?
3 What is the approach adopted?
4 What is the amount of talking time of both the teacher and the students?
5 What are the teaching materials used?
6 What are the patterns of interaction and class work?
7 What are the classroom activities used?
8 Which skills the teacher intends to develop?
9 Does the lecture's content arouse students' interest?
10 Are the students active participants in the lecture?

The following diagram is a summary of the different steps that the researcher went through during the data collection and analysis process.

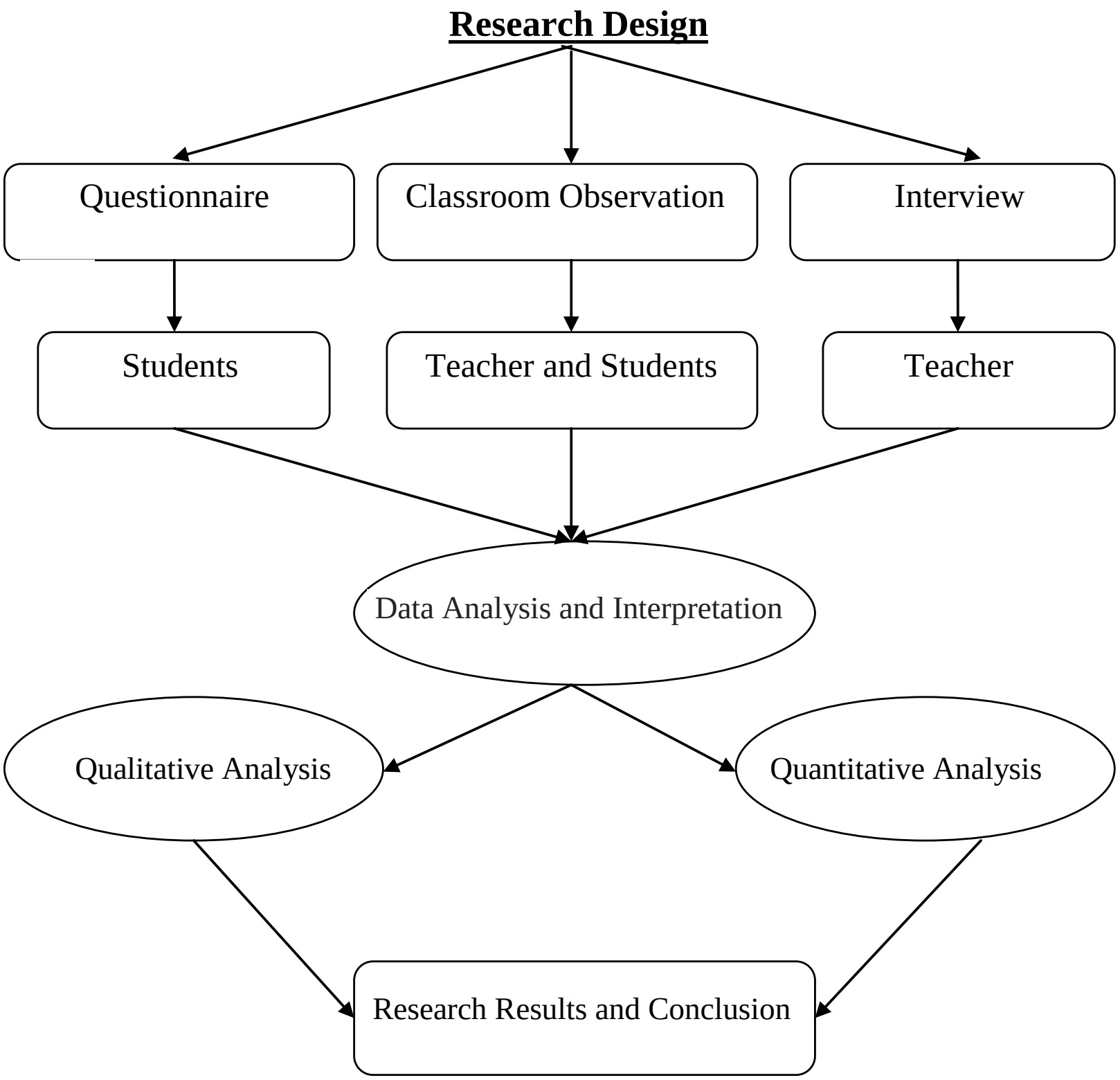


Figure 2.1: Research Design

2.9 Conclusion

This chapter is devoted to the description of the ESP teaching/learning situation in the department of Biology at SALHI Ahmed University Center of Naama. In this part, the researcher tries to give a clear picture on the ESP practices in that department. She attempts to shed light on the sampling chosen and to describe the methodology used to gather data and; hence, find out satisfactory answers to the research questions and test the hypotheses in the next chapter.

CHAPTER Three

Data Analysis and Interpretation

Chapter Three: Data Analysis and Interpretation

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3.1 Introduction

This chapter represents the practical phase of the research. The researcher, at this stage, tries to analyse the information obtained from the students' questionnaires, teacher's interview and the data collected through classroom observation by using tables, bar-graphs and pie-charts. Moreover, the investigator attempts to manage the data obtained bearing in mind answering the research questions and test the hypotheses.

3.2 Data Analysis

Data analysis is an important stage of any research process. It is the process of inspecting, cleaning, transforming and modelling data with the goal of highlighting useful information, suggesting conclusions and supporting decision making. This process is more important than data collection process since data in itself cannot provide any meaning unless it can be delivered in a proper way.

In the present investigation, the researcher adopts both quantitative and qualitative approaches because it is generally believed that any investigator may use a "*combination of qualitative and quantitative constructs which are often regarded as a matter of continuum rather than a clear-cut dichotomy."* (Newman and Benz, 1998).

Qualitative data is a measurement expressed not in terms of numbers, but rather by means of verbal accounts in a natural language description. Such data can include concepts as gender, attitudes, nationality, motivation and so on. Whereas, quantitative data is measured on a numerical scale and it can be analyzed using statistical methods. In fact, the researcher uses the qualitative approach in analysing teacher's interview, in addition to the data collected during classroom observation and the quantitative approach as well to analyze students' questionnaires.

3.3 Analysis of Students' Questionnaire

The questionnaire was submitted to thirty (30) biology students at their first year during the second semester of the academic year (2015/2016). It focused mainly on checking the respondents' views and attitudes towards English

instruction and assessing their needs in the field (see Appendix A). The questionnaire was employed to investigate the research questions and hypotheses and to gather useful data about the students' needs.

The data obtained from students' questionnaire were highly important and enabled the researcher to get a clear picture of the target situation and helped in determining students' lacks, difficulties and needs in English.

Question 1: Students' Previous Experience in English

Concerning this question, five informants did not answer while the other's answers differ from one student to the other; they are better illustrated in the following table:

Period of English Instruction	Frequency	Percentage
8 years	21	70%
9 years	04	13.33%

Table 3.1: Period of Students' English Instruction

Question 2: Students' English Instruction at University Level

Regarding this issue, all respondents (100%) revealed that they received English courses at university level. (57%) of them stated that these courses are mainly about tenses and some scientific texts.

Question 3: The Importance of English

Concerning the importance of English in the biological studies, almost all the students admitted that English is very important for them and have justified their answers by saying that English is the language of the whole world and all scientific publications are in English. Only eight informants qualified the language as only important.

Importance of the English Language	Frequency	Percentage
Very important	22	73.34%
Important	08	26.66%
Not so important	00	0.00%

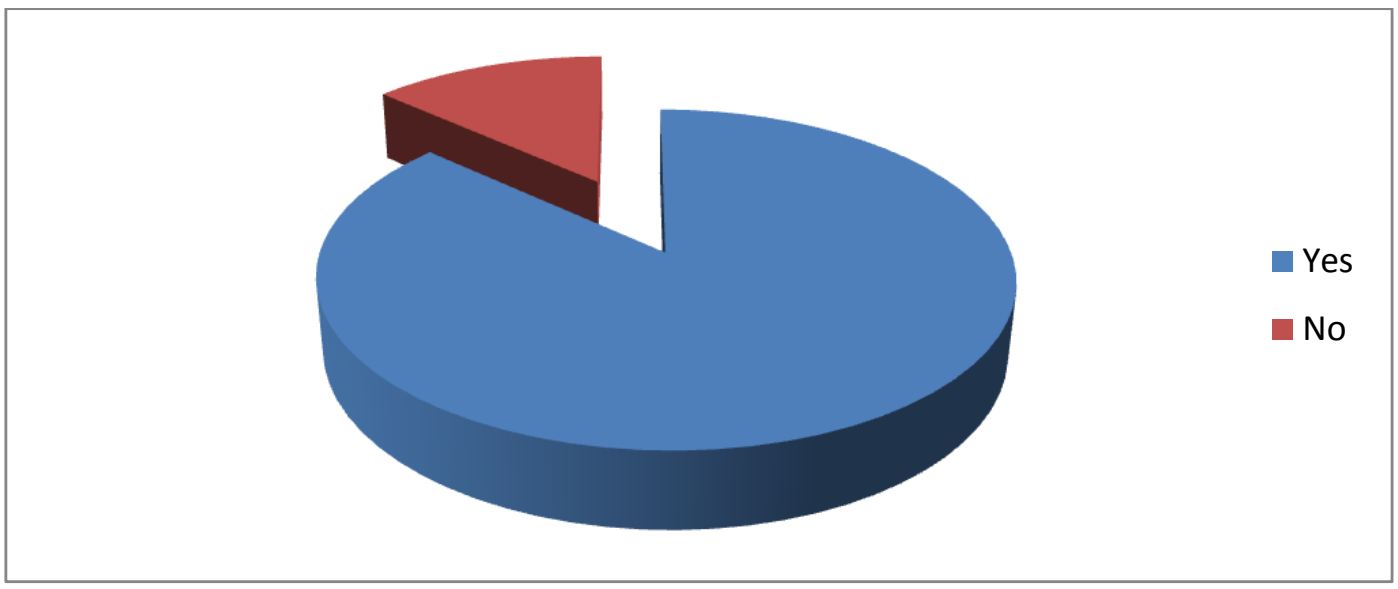
Table 3.2: Importance of English for Biology Students

Question 4: Benefit and Usefulness of the ESP Course

All of the respondents (100%) said that the ESP course is very beneficial for them and it is an opportunity to practise and learn more about this global language.

Question 5: Classroom Attendance

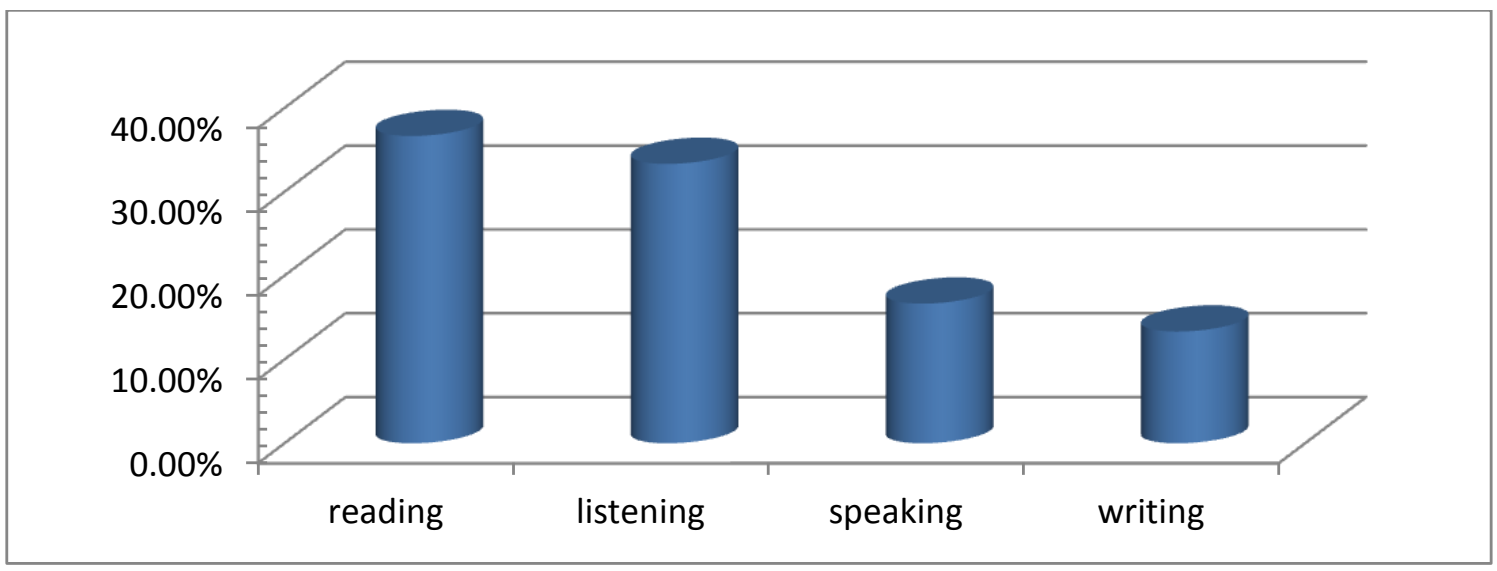
Regarding this question, nearly (13.33%) of the informants admitted not attending regularly the ESP course. The rest of them (86.66%) stated that they attend the lectures. The following pie-chart demonstrates the answers:



Pie-Chart 3.1: Students' Attendence to the ESP Course

Question 6: Skills' Importance

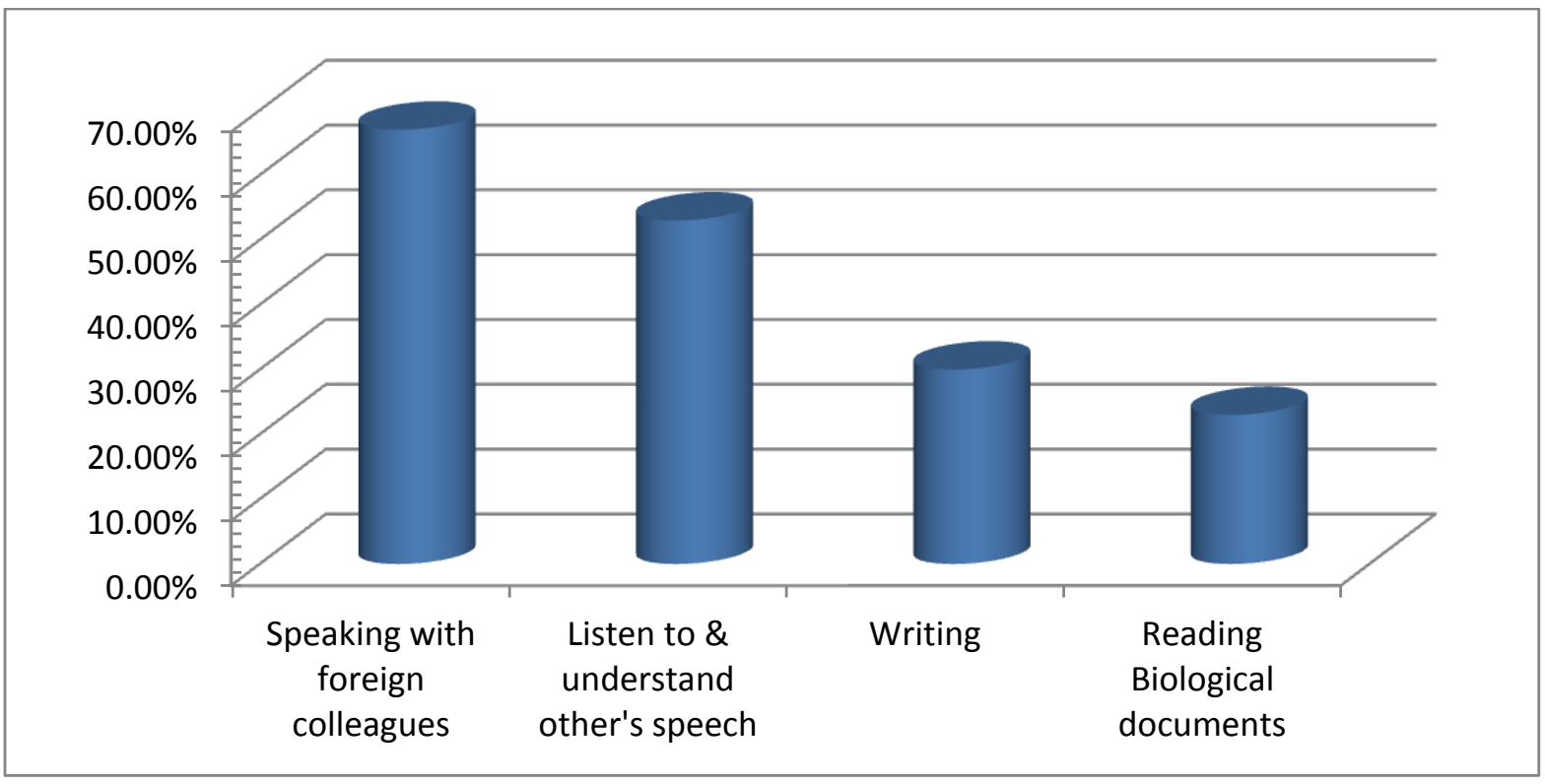
The students' answers showed that the four language skills are important, but they focused more on reading skills with 36.66% of them, comes right after the listening skill with 33.33% then speaking about 16.66% and followed by writing with 13.33% . The results are as follows:



Bar-Graph 3.1: Classification of the Four Skills According to their Importance

Question 7: The Difficulties Faced by the Students

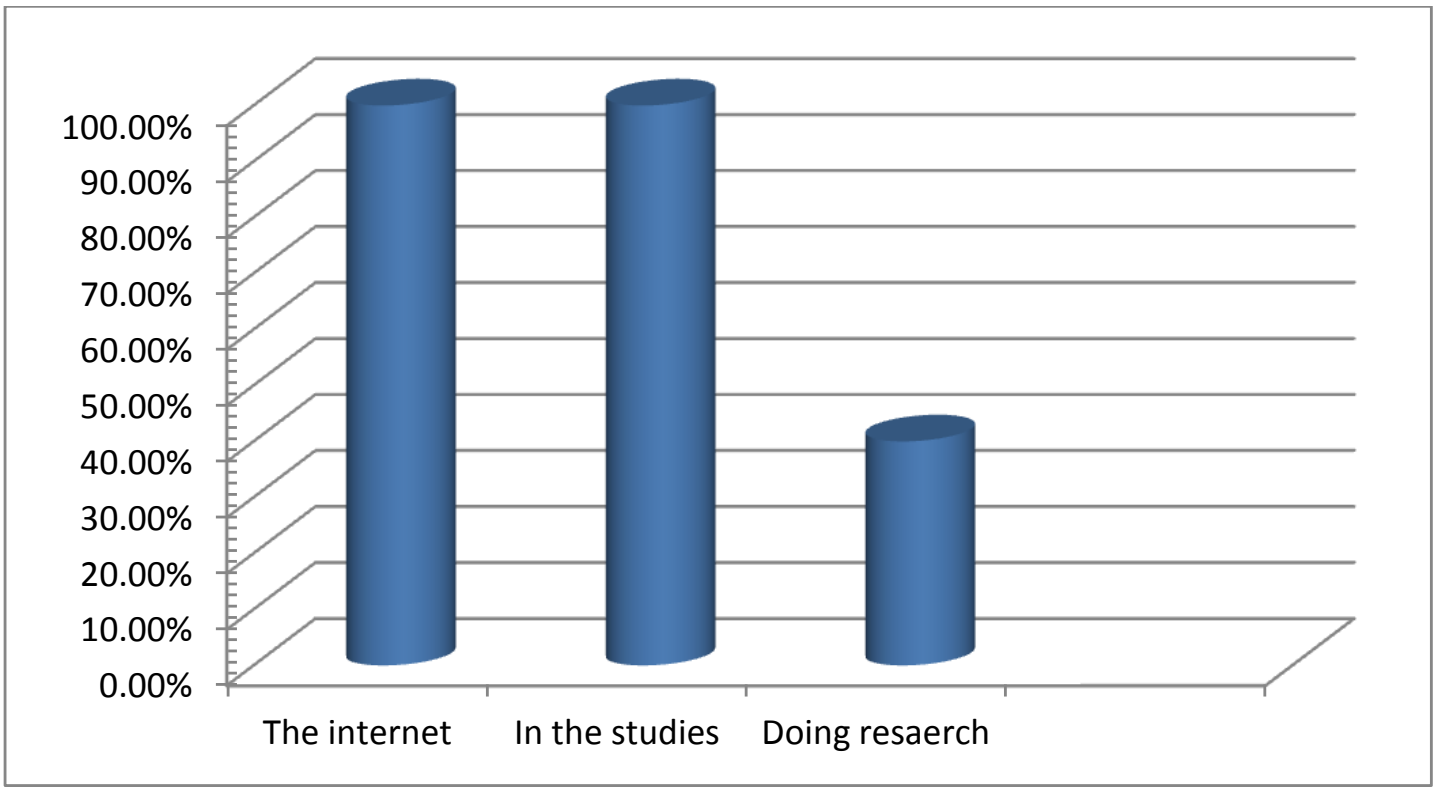
From this question, it clearly appears that the majority of the informants (67%) agree that speaking is the most important barrier in English. Then, (53%) see that listening is another real difficulty followed by writing with (30%). Finally, reading comes with (23%) which is regarded as less difficult.



Bar-Graph 3.2: The Difficulties Faced in English

Question 8: Areas of English Language Use

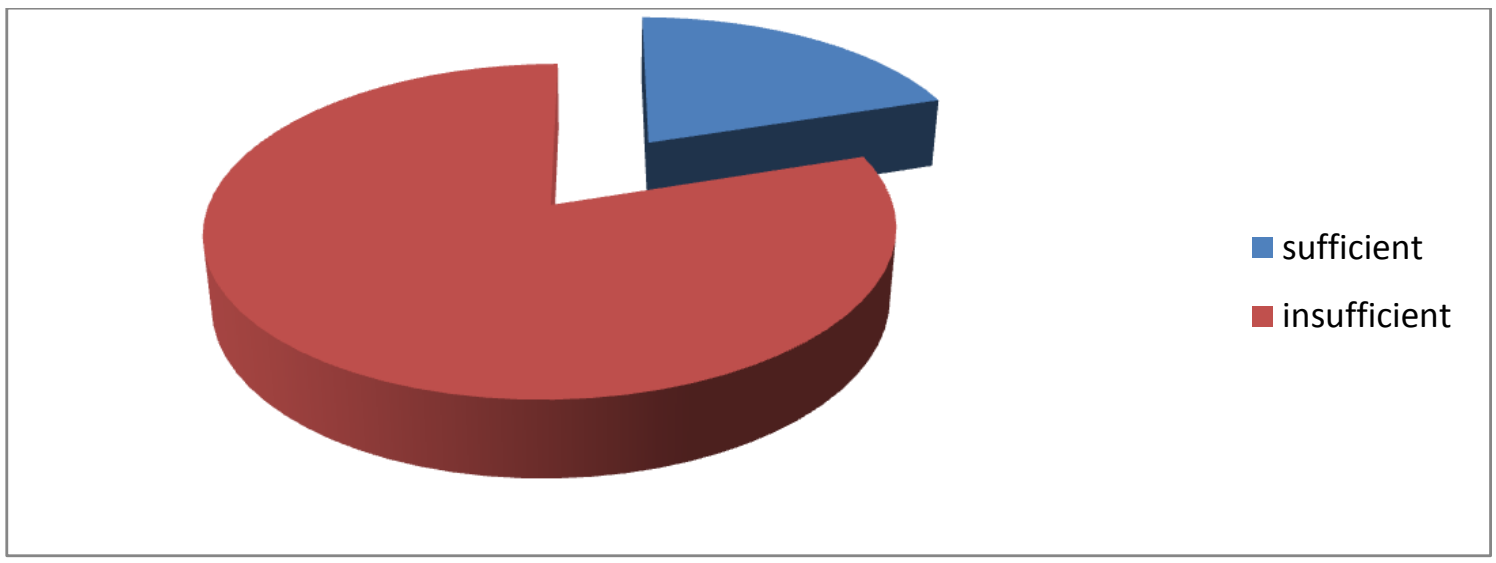
From this question, it is noticeable that all biology students use English when accessing the internet and in their studies as well. Undertaking research comes after with (40%) of them. The following table summarizes the results:



Bar-Graph 3.3: Areas of Language Use

Question 9: Time Allocation to the ESP Course

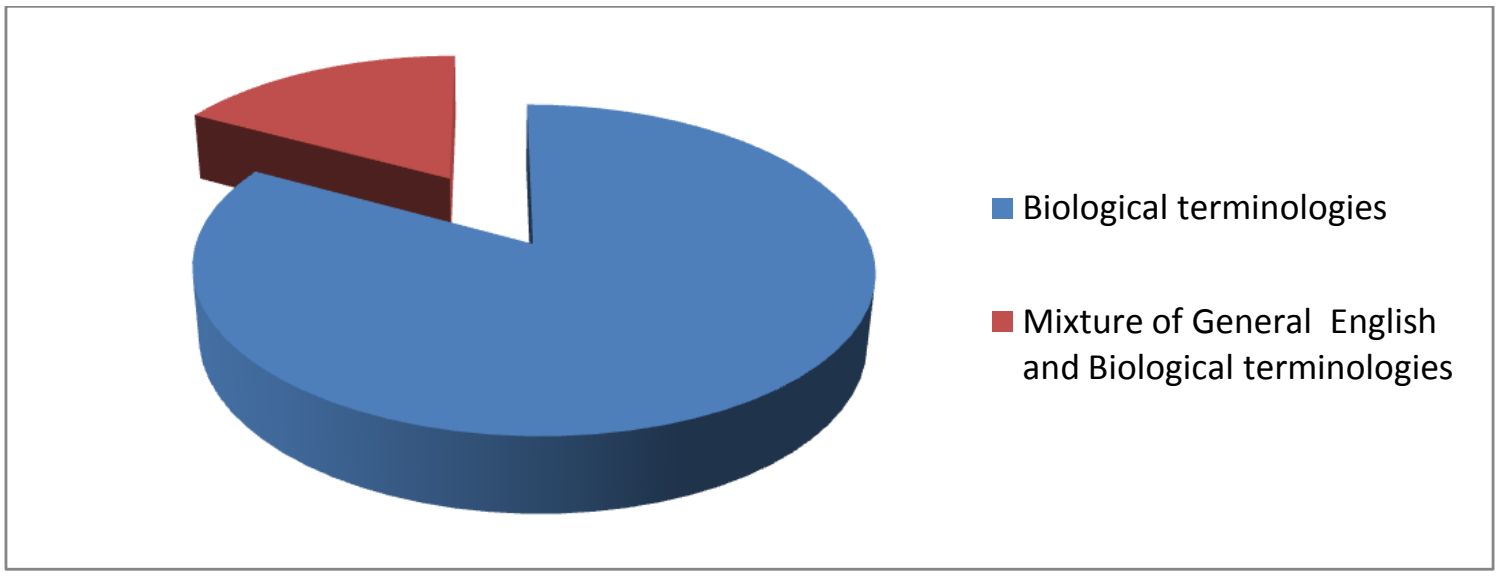
Concerning this question, (80%) of the informants were not satisfied with the time devoted to the English course and suggested to have more hours in the week. Whereas, (20%) of them said that the time allotted to the course is sufficient. The results obtained are shown in the pie-chart below:



Pie-Chart 3.2: Time Allocation to the ESP Course

Question 10: Nature of the ESP Course

Regarding students' opinions on which type of English to learn, (83%) of them preferred learning a mixture of general English and biological terminologies. For the rest of them, (17%) have chosen the learning of biological English only.



Pie-Chart 3.3: Nature of the ESP Course

Question 11: Students' Suggestions

Concerning this question, the majority of students did not give suggestions to enrich the ESP course, while others suggested the use of translation, having more topics related to Biology and using photos or videos to support their understanding.

3.4 Analysis of Teacher's Interview

The interview was the second research tool used in this work to collect data about the various practices of ESP teaching in the department of biology. Thus, this part is concerned with the analysis of teacher's interview (see Appendix B).

In fact, the analysis of teacher's interview provided interesting and valuable results which are presented as follows:

Question 1: Introduction of ESP Courses in the Department of Biology

The informant teacher is in favor for the introduction of English instruction in the biology department. She stated that the most important books and articles related to biology presented in the internet basically are in English and added that for those people who want to continue their master or PhD studies and become great researcher need English because it is the language of research.

Question 2: Students' English Proficiency Level

According to the teacher's answer, some students have an intermediate level while the others are beginners.

Question 3 & 4: Students' Motivation During the ESP Course and ts Reasons

Teacher's answer to this question showed a certain kind of dissatisfaction with students' performances during the ESP course. As for the reasons lying behind such demotivation, the teacher said that the students are not aware of the importance of English and focus only on their scientific modules.

Question 5: Assessing Students' Needs

The teacher believes that needs analysis is the core of any ESP course and it should come before deciding about the course contents.

Question 6: Importance of the Language Skills

The informant has indicated that the most important skill to be developed is listening, followed by writing and then the focus should be on teaching the speaking skill and finally reading.

Question 7& 8: Provision of Syllabi and Teaching Materials

The respondent's answer was negative, i.e. teachers were not provided with any kind of help from the department.

Question 9: Course Planning

This question showed that the teacher has a specific course plan. In her opinion, student's level, need analysis and the objective of the course are three elements to be taken into consideration in planning a course.

Question 10: Relevance of Course Content to Students' Needs

The respondent's answer was positive; she claimed that the content of the course provided was relevant to the students' needs.

Question 11: The Most Appropriate Activities for an ESP Course

From this question, it appears that the most important activities that the teacher focuses on are teaching vocabulary and grammar, while the other activities are seen as less important. The results are illustrated in the following table:

Activities for the ESP course	Teacher
Teaching vocabulary & biological terminologies	40%
Teaching grammar	20%
Listening comprehension	10%
Reading comprehension	10%
Writing	10%
Speaking & topic discussion	10%

Table 3.3: Activities for an ESP course

Question 12: Problems Encountered in Teaching ESP

In fact, the main problem faced and stressed by the teacher is students' low level and lack of motivation.

Question 13: The Time Devoted to ESP Teaching

Concerning the weekly teaching time devoted to English instruction, the informant considered one session a week as insufficient period and propose two or more sessions.

Question 14: Teacher's Suggestions

The teacher suggested that the administrators should organize seminars to guide biology students and make them aware about the importance of English as a world language. She has proposed offering rewards as a kind of extrinsic motivation to encourage students learning English.

3.5 Classroom Observation Results

Classroom observation was a useful tool in collecting interesting data about the teaching-learning situation. Basing on the data collected throughout the classroom observation, the researcher noticed that the teacher always began the lecture by a revision of what was done previously as a warm-up technique. All the ESP courses observed revolved about dictation which was corrected by the teacher in the blackboard at the end of the session. Additionally, the teacher explained in English and used Arabic or French when dealing with difficult

terms. In informal discussion with the informants, the investigator knew that all lectures were basically about grammar tenses.

The approach adopted seemed to be teacher-centred. This means that the teacher was knowledge provider, she provided the lecture, explained the grammar rules, and asked the students to do the activities. So, the approach used was teacher-centred which means that there was not much interaction between the teacher and the students. However, when dealing with the activities, the students work together asking about the meaning of words or the correct structures using French. There was little interaction when correcting the activities on the blackboard.

Through the type of activities the students were introduced to, the researcher understood that the skills the instructor intended to develop were grammar and vocabulary acquisition. At the beginning of the observation process, the students seemed not interested by the lectures and were passive participants when fulfilling different tasks. The observer noticed that the students' proficiency level in English was poor during the lecture; they seemed to be lost as the teacher kept explaining things in English, at those moments, some students consulted each other in an attempt to understand what was said.

3.6 Summary of the Main Results

Through students' questionnaire, the researcher could investigate biology students' language needs required in the target situation. This research instrument also enabled the researcher to check students' opinions about the importance of English in their studies and future carriers as well. Furthermore, the investigator tried to identify students' lacks in the language. The interviews conducted with the teacher enabled the researcher to discover the conditions of ESP teaching in the Department of Biology. As for classroom observation, it was used to get truthful idea about the ESP teaching, measure students' motivation and attitudes, and observe the teacher-learner relationship.

The most important data revealed that biology students had a poor level in the English language and face many barriers in acquiring the necessary

knowledge. Additionally, the informants stated that they face great difficulties in English, mainly in speaking and listening which is due to the insufficient period of instruction, for this reason, most of them want to have at least three sessions per week.

The questionnaire provided interesting results on students' needs in terms of skills; all of them agree that the four language skills are important and deserve to be developed all together; however, they see that the first skill which has the priority to focus on is reading followed by the listening skill, after that comes speaking and last writing. Thus, such results have affirmed the first hypothesis.

The data collected through teacher's interview and classroom observation showed that the ESP course administered by the teacher only without any kind of administrative supervision or support. As a result of non-provision of any syllabus or teaching materials, the teachers do not follow a fixed syllabus and concentrated most time on grammar lectures which does not catch students' attention and thus, students become demotivated. Consequently, the results obtained from the interview and the classroom observation have again confirmed the second and the third hypotheses.

In sum, all the informants agree on the importance of teaching the receptive skills which are much more needed than the productive ones, to concentrate on the acquisition of biological vocabulary and to focus on translation activities because of their usefulness in the field, especially through the use of visual aids which can be effective in learning.

3.7 Conclusion

The third chapter tried to analyze and interpret the results derived from the students' questionnaire, teacher's interview and the data provided through classroom observation. Interesting findings were achieved in terms of students' needs and interests as well as teacher's opinion and recommendations. Additionally, the research results enabled the investigator to identify the teaching/ learning difficulties and to sort out the elements that should be taken

into consideration for a successful ESP course; in addition, all the hypotheses have been confirmed. As a matter of fact, the analysis of students' needs is an important phase to fulfil the design of a suitable ESP course which will be introduced in the next chapter.

CHAPTER FOUR

Suggestions and Recommendations

Chapter Four: Suggestions and Recommendations

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4.1 Introduction

This chapter aims at providing remedial suggestions related to the role that each element in the ESP process should play, starting from the administrative one to the teacher, and the learners as well. Additionally, it puts into practice the theoretical assumptions about the course by providing a sample unit to interpret the results obtained and to exemplify course components.

4.2 The Role of the Administration

During this investigation and after the analysis of the situation and the population under study, according to the results of data analysis, the researcher strongly believes that the reforms should first start from the administration. In order to have an effective course, the researcher, based on Biology students' answers who recommend more than two sessions per week for English instruction. In addition, the ESP course should have a coefficient of 2 or 3 so that to give the module importance and more consideration especially from the part of the students. Moreover, it is necessary that the administration should provide the teachers with appropriate syllabi.

What is more, it is necessary that the administration make a link with the ESP teachers, and provides them with the necessary means such as a computer and a data-show device that should be put at the disposal of any teacher who needs this type of instruments that will ease and support the teaching task. In the same vein, the administration should also organize conferences where some interventions are in English in order to guide biology students and make them aware of the importance of English as a world language and that of science too. The organization of such conferences will catch students' focus and make them think about the role that English plays in our lives.

Furthermore, the researcher recommends putting into practice a weekly or monthly meetings gathering ESP teachers who should be supervised by an experienced teacher. This opportunity will enable them to meet with their colleagues and raise discussion about the difficulties and the problems they face

and also exchange opinions about their lectures' and students' progress.

Concerning teaching materials, the researcher suggests to create an ESP library which will gather any type of books, journals, and texts in relation with ESP with all its sub-fields so that to be a reference for the teachers who encounter difficulties in finding the appropriate materials for their lectures.

4.3 The Role of the Teacher

Regarding ESP teaching, teachers should know that the starting point of their teaching task is 'needs analysis' which is an important step that cannot be avoided. Conducting a needs analysis helps the teachers determine what learners already know and what they need to know. Then they must determine goals and objectives for their learners after that, developing effective teaching strategies to reach those goals and objectives.

As previously mentioned, the approach adopted by the observed teacher was teacher- centered. Based on this, teachers should understand that in the classroom they are no more 'teachers' but facilitators of learning that must transform students into active learners. Moreover, teachers should create a learning environment in which collaboration is encouraged by putting into practice team-based learning i.e. small-group learning activities. In such type of learning, students are given frequent feedback from each other; this type is proved to be an effective procedure in enhancing students' learning.

Concerning needs analysis results, it showed that for biology students, the four language skills are all important and should be developed altogether. However, students put much emphasis on developing the reading and listening ones. In addition, in the process of learning new language, learners begin with receptive understanding of the new items, then later move on to productive use. For this reason, the researcher proposes the teaching of the receptive skills at first, so that to introduce students to new vocabulary and grammatical structures, and therefore facilitate the teaching of the productive skills.

Furthermore, no one can deny the role of grammar in learning a language, but what the researcher heard in informal discussion with the students is that the teacher adopts explicit teaching of grammar which resulted in demotivated students. Thus, according to the research results, grammar should be taught inductively by linking grammar with students' real uses of English i.e. to find a common grammar point in some of the phrases that have been practised for functions like describing, comparing, presenting, for instance, asking them to find out the similarities and differences between the animal and vegetal cells in purpose of using conjunctions such as both...and, whereas and so on.

Undoubtedly, biology students need to know the terminology related to their specialty in order to eliminate any kind of misunderstanding. Accordingly, the teacher needs to provide the students with the most common biological terms, so that to be familiar with and this should be the primary goal of English instruction. Last but not least, teachers should provide learners with a visual support that attracts their attention, keeps them stimulated and therefore raise their motivation.

4.4 The Role of the Learner

Students cannot learn everything they need to know during their school. For that reason, the researcher proposed that learners should not be passive receivers of information relying on teachers only, but rather curious learners and seekers of knowledge, since the time that they spend in the classroom will never be sufficient for them to learn. So, they will have to look for information outside the classroom and become autonomous. In addition, students must learn how to identify their own learning needs and identify appropriate sources for addressing those needs, in such a way they become responsible for their own learning.

4.5 Course Design

Analyzing the specific needs of a particular group of learners serves as the prelude to any ESP course design, because it determines the 'what to teach' and 'how to teach' of the course. After the analysis of students' needs

which enables the teacher to have a big picture about what the course will be like, the teacher then will try to put the course contents.

For the researcher's view, in order to attain a successful ESP course, the teacher should provide the learners with the reasons behind such courses. In this case, biology students face problems in using English and since English is the language of science which they need it, students have to follow a course to learn the knowledge and skills required in their field.

Moreover, learners often have no idea about what to do with all the content they have memorized and what they will be able to do after they have finished the course. Thus, a well- designed course provides learners with a clear destination in the form of a course goal. In this case, biology students, by the end of the course, they should know the biological terminology related to their field, read and listen to biology texts and understand them.

Accordingly, a well- designed course must have objectives that should be specific and measurable; each must be written in a way that allows determining whether the objective has been achieved or not. In this case, biology students should understand a variety of texts and documents written in English related to the field. In addition, they should be able to write good resumes in their field of research and answer written activities. Furthermore, students have to understand lectures and oral presentations as well. They must also have the ability to perform oral presentation and asking questions in class.

4.6 Sample Course

The course chosen by the researcher is prepared for first year Biology students. The aims and objectives of the course are as follows:

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

Objectives: by the end of the unit, the students will be able to:

Listening: to listen to the teacher and then to peers reading the text and understand what is being read.

Reading: to read the text silently and then out loud with correct pronunciations, and answer general and detailed questions.

Speaking: to be able to answer the question asked through the construction of correct sentences.

Writing: to write summaries and answer written activities during the lecture.

Unit contents: The cells structures

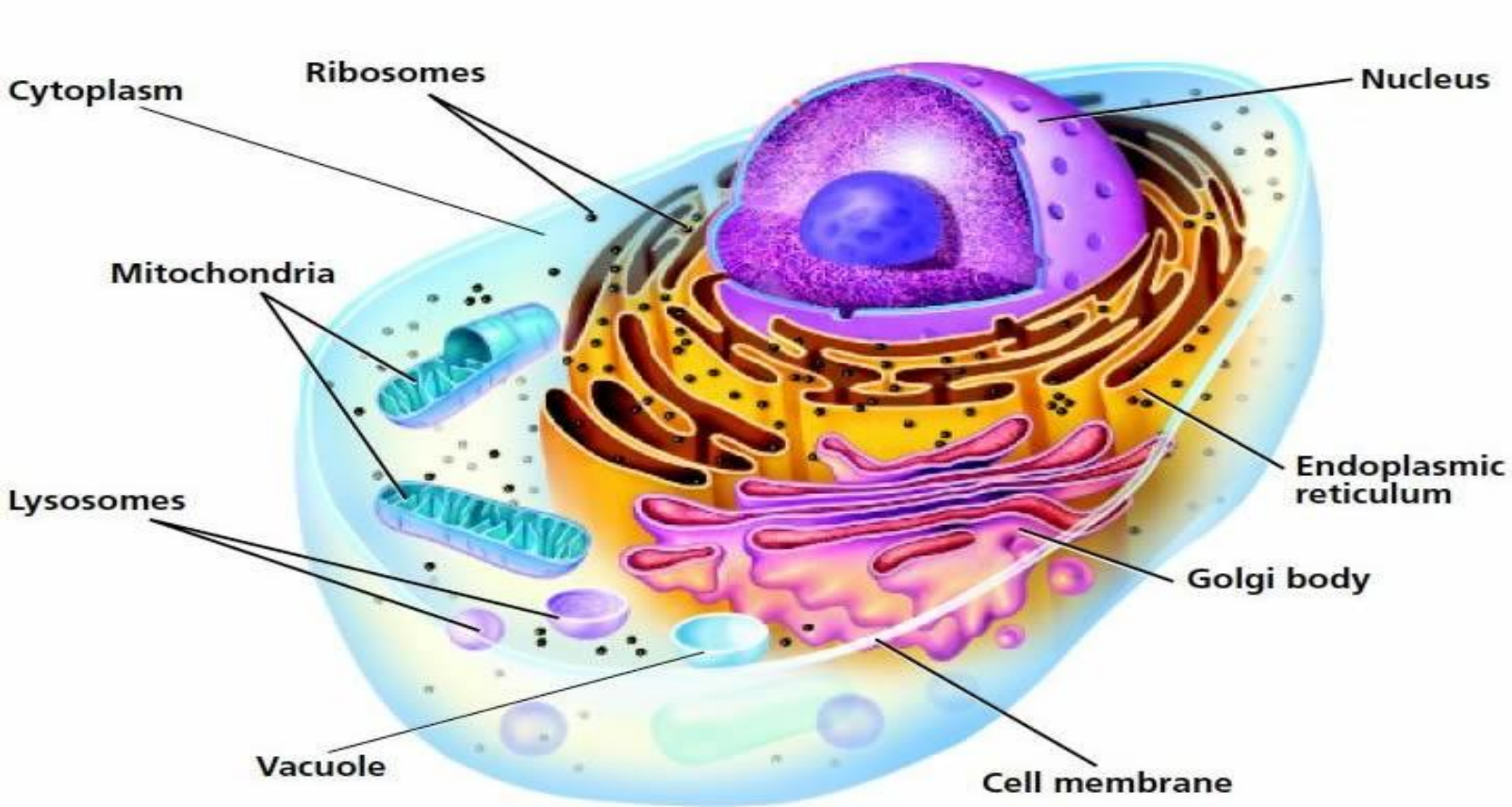


Figure 4.1: The Animal Cell Structures

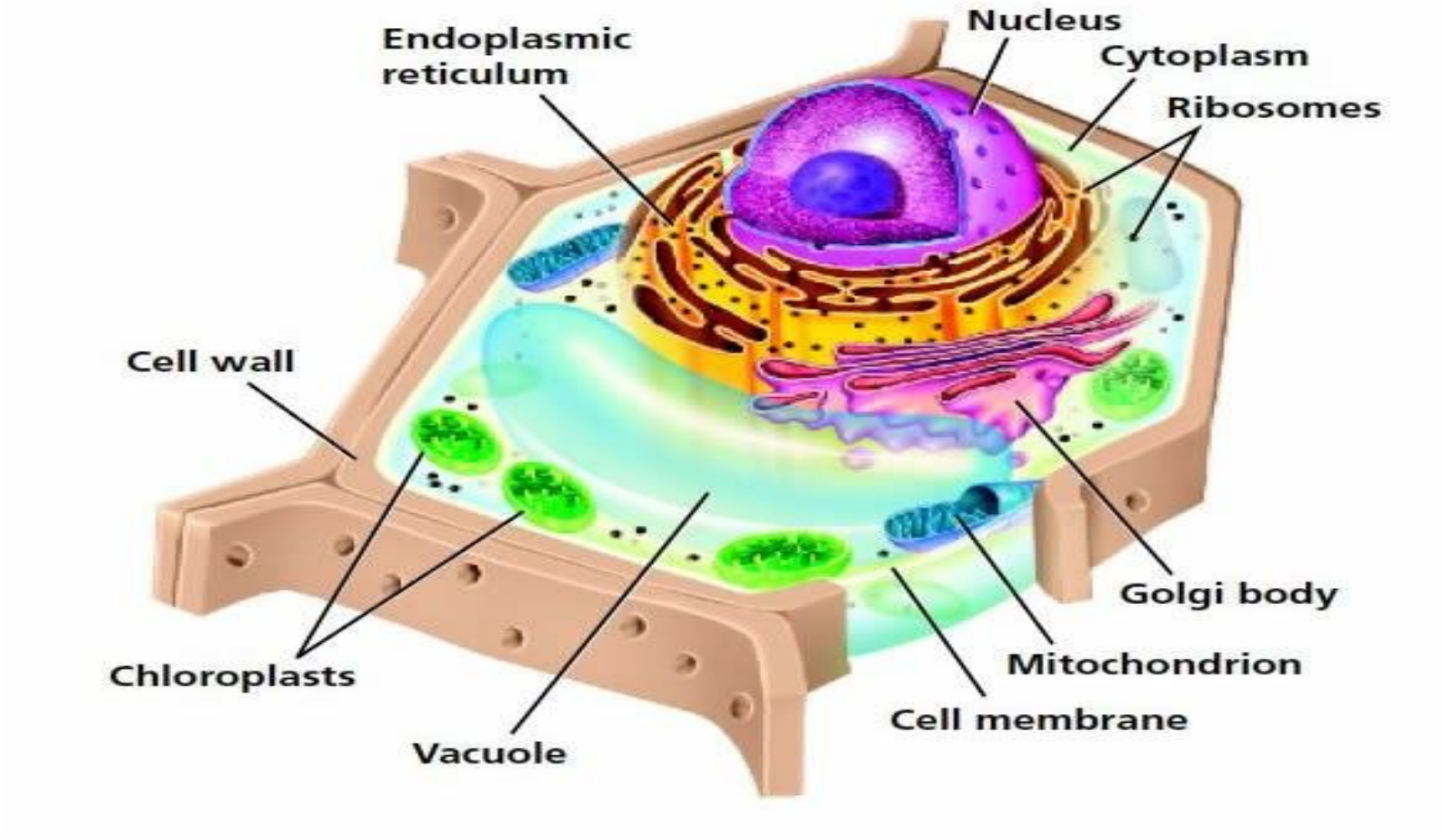


Figure 4.2: the Vegetal Cell Structure

Part One: Reading Comprehension

Look at the diagrams and read the following text (text1):

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

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. The plastids are small structures that are given the name of organelles. Among the variety of plastid we find the chloroplasts which 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 body as a primary site for the packaging of the cell secretions. Both animal and plant cells contain vacuoles which 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)

Task 1

1) What is the text about?
2) What are the main elements of a cell?
3) What does the nucleus represent in a cell?
4) What is the role of the nucleus?
5) Do all cells contain the same elements? Justify your answer.

Task 2

Read the text again and match each word with its appropriate definition

Cell reproduction	The creation of proteins by cells
Reticulum	The process by which cells divided to form new cells.
Protein synthesis	A fine network structure.
Organelles	The process by which green plants and some other organisms use sunlight to synthesize foods from carbon dioxide and water.
Pigments	Any organized or specialized structures within a living cell.
Photosynthesis	The natural colouring matter of animal or plant tissue.
Secretions	A process by which substances are produced and discharged from a cell for a particular function in the organism.

Task 3:

Read the text again and say whether the following statements are ‘true’ or ‘false’

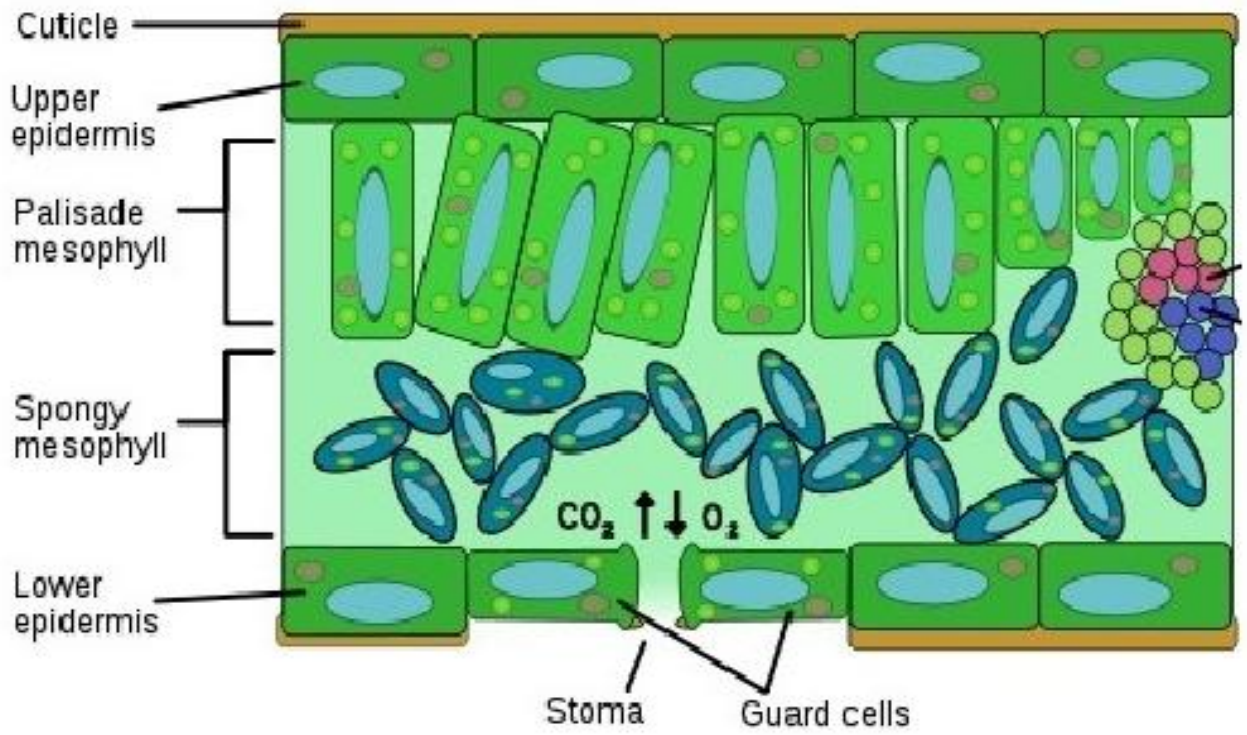
- Every cell contains different elements and one or more nucleus.
- The boundary between the nucleus and the cytoplasm is called the cell membrane.
- The chloroplasts are involved in photosynthesis.
- Golgi apparatus is the powerhouse of the cell.
- Both animal and plant cells contain vacuoles.

Part Two: writing

Task1:

You need to be divided into groups of three, and write a paragraph of about 8 to 10 lines in which you **describe** the main components of the cells, **identify** the functions of each element and **write** the differences between the animal and plant cells. Exchange your texts with your friends from the other groups. Read each other`s text carefully and try to correct each other`s mistakes.

Part Three: Listening Comprehension



Figures 4.3: Cell Structure of the Leaf

Look at the diagrams and listen to the teacher (text2):

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 called the palisade mesophyll and the spongy 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. 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)

Task 1

Listen to the text and choose an appropriate title:

- The animal cell structure.
- The vegetal cell structure.
- The cell structure of the leaf.

Task 2

Listen again to the text and:

- Write down the terms that you never heard before.
- Find out their meaning in the dictionary.
- Give their synonyms in French.

Task 3

Listen to the text and say whether the following statements are ‘true’ or ‘false’

- The cells of the epidermis contain chloroplasts.
- The guard cells situated on the upper epidermis.
- The middle part of the leaf is made up of one layer
- The spongy mesophyll contains more chloroplasts than palisade mesophyll.
- There are large air spaces between the spongy layers.

4.7 Conclusion

The fourth chapter aimed at providing some remedial recommendations and suggestions which, hopefully, will enrich the teaching of ESP in the department of biology. The second part of the chapter was devoted to the application of the theoretical assumptions about the course intended for biology students, exemplified in a sample course that covers the teaching of the language skills most needed by the informants. These recommendations

and suggestions remain just theories if they do not come into practice. Practice is then needed to meet students' needs.

General Conclusion

General Conclusion

English has become the language of the whole world and that of science for a long time ago, especially within the globalization process. Today, students are often exposed to English language because most modern studies and developments are in English. Despite this fact, English instruction frequently is not given its share of attention. Consequently, the researcher has conducted the current study in the department of biology at the University Center of Naama.

This research is a case study which shows a great need expressed by biology students for English instruction to equip them with the linguistic tool which will ease for them their present studies and their future career as well. Accordingly, the investigator based her research on a needs analysis to check students' needs, lacks and attitudes towards English instruction, in addition to sort out the teaching/learning difficulties so that to design an appropriate ESP course enriched with new elements that respond to students' requirements.

This investigation started by chapter one in which, the researcher put the background related to the ESP literature and key notions used in this investigation. Chapter two was concerned with the detailed description of the situation under investigation in terms of sampling and research design. The third chapter tried to analyze the data collected through students' questionnaire, teachers' interviews and classroom observation in order to answer the research questions and confirm or disconfirm the hypotheses. Finally, based on the research results, the researcher in chapter four proposed some remedial suggestions in the first part. The second part of the chapter was devoted to the application of the theoretical assumptions about the course intended for biology students.

Needs analysis showed that biology students are interested and motivated to learn English, however they have poor proficiency level in the language. Such difficulties are due to lack of practice and insufficient period of instruction. They expressed a primary need to develop first the reading and

listening skills, then the speaking skill and finally the writing one. This means that regarding the first hypothesis, the order of the language skills put by the researcher is the same expressed by biology students and therefore the first hypothesis has been confirmed.

Concerning the second hypothesis, various teaching/learning difficulties have been uncovered. The researcher noticed that the administration give no support to the ESP teachers, do not make students aware about the importance of this course, besides, teachers are not provided with any type of teaching materials or syllabi. The ESP teacher has also his/her share of responsibility in the ESP process; the course administered to students was not based on needs analysis and therefore it was far from students' requirements. Moreover, the approach adopted was not students-centered which made the ESP course a simple process of receiving information only; there was no stimulation or motivation-raising from the part of the teacher. On the other hand, the learners were not active participants in the classroom and relied on the teacher in every task, there was no sign of active learning or self-directed learning. This is to state that these findings confirm the second hypothesis put by the researcher.

Regarding the third hypothesis, it was closely linked to the second one i.e. what was found as preventing elements are recommended as remedial suggestions to improve the present situation.

In the light of what was mentioned, the researcher should say that there were a number of limitations in the current case study. For instance, the investigator believes that because of the limited number of the informants, this research cannot be generalized. For this reason, this investigation calls for further research.

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Appendices

Appendix A

Students' Questionnaire (Questionnaire des étudiants)

Dear Student;

I am presently carrying out a research to identify the most important elements in designing an ESP course that meets your needs. To do so, you are kindly requested to answer this questionnaire as clearly as possible.

Cher Etudiant;

Dans le cadre d'une recherche ayant pour objet de définir les éléments les plus important pour la conception d'un cours d'anglais qui répond à vos besoins, veuillez compléter ce questionnaire aussi clairement que possible.

Thank you (Merci)

Genre (Gender): Masculin (Male) ☐ Féminin (Female) ☐

1- Pendant combien d'années avez-vous étudié l'Anglais ?

(For how many years have you been studying English?)

2- Avez-vous eu des cours d'Anglais au niveau de l'université? Oui ☐ Non ☐

(Have you received English courses at university level?) Yes ☐ No ☐

Si oui, quelle était la nature de ces cours? (If yes, what was the nature of these courses?)

.....

3- Pensez-vous que l'Anglais est important pour vous?

(Do you think that English is important for you?)

Peu important (not so important) ☐

Important (important) ☐

Très important (very important) ☐

Pourquoi (why?)…..

4- Pensez-vous que les cours d'Anglais sont bénéfiques pour vous ? Oui ☐ Non ☐

(Do you think that the English course is beneficial for you?) Yes ☐ No ☐

Pourquoi? (why?)…..

5- Etes-vous régulièrement présent au cours d'Anglais ? Oui ☐ Non ☐

(Do you regularly attend the English course?) Yes ☐ No ☐

Pourquoi? (why?)…..

6- Voulez-vous classer ces aptitudes en fonction de leur importance pour atteindre vos objectifs? Du plus important ⟶ au moins important (1⟶4)

(Would you classify these skills according to their importance to fulfil your needs?)

From the most important ⟶ the less important (1⟶ 4)

Writing (l'écriture)

Reading (la lecture)

Listening (l'écoute)

Speaking (le parler)

7- Quelles sont les difficultés que vous rencontrez en Anglais ?

(What are the difficulties you encounter in English?)

Ecrire des articles scientifiques et biologiques

(To write scientific and biological articles) ☐

Lire des documents scientifiques et biologiques

To read biological documents ☐

Comprendre des collègues étrangers parlant de la Biologie ☐

(Listen to and understand foreign colleagues speaking about Biology)

Parler avec des collègues étrangers ☐

(To speak with foreign colleagues)

8- Quels sont les domaines dans lesquels vous utilisez l'anglais le plus?

(What are the domains in which you use English more?)

L'internet (The internet) ☐

Faire de la recherche (Doing research) ☐

Dans les études (In the study) ☐

9- Le temps alloué au cours d'anglais est-il: suffisant ☐ insuffisant ☐

The time allocated to the English course is: sufficient ☐ insufficient ☐

Si insuffisant, combien d'heure par semaine suggérez-vous?

If insufficient, how many hours a week do you suggest?

10- Quel type d'anglais voulez-vous apprendre?

(Which type of English do you want to learn?)

L'anglais en general (General English) ☐

Terminologies biologique (biological terminologies) ☐

Les deux (Mixture of the two) ☐

11-Avez-vous des remarques ou suggestions concernant votre besoin d'apprendre l'anglais?

(Do you have any remarks or suggestions concerning your need to learn English?)

Merci de votre cooperation

(Thank you for your cooperation)

Appendix B

Teacher's Interview

I am presently carrying out a research to identify the most important elements in designing an ESP course for biological students. I would be very grateful if you could answer these questions.

1- Do you think that the introduction of an ESP course in the biological department is a good initiative? (Why)

2- How do you evaluate your students' proficiency level?

Advanced ☐
Intermediate ☐
Beginners ☐

3- Are they motivated during their English course?

Yes ☐ No ☐ Not so much ☐

4- What is it due to?

.....

5- Did you conduct a need analysis before deciding about the content of your course?

6- What is the importance devoted to each language skill during an ESP course?

Reading ☐
Writing ☐
Listening ☐
Speaking ☐

7- Is there any syllabus provided by your department?

8- Is there any material provided by your department?

9-How do you plan your course?

10- Do you think that the content provided to your students is relevant to their needs?

11-Among these activities, which are the most appropriate for an ESP course for biological students?

Listening comprehension.....%

Reading comprehension.....%

Speaking and topic discussion.....%

Writing.....%

Focusing on grammar.....%

Teaching vocabulary and biological terminology.....%

12- What are the problems encountered when teaching ESP?

13- Do you think that the weekly teaching time devoted to English teaching is sufficient?

Sufficient ☐ Insufficient ☐

If you find it insufficient, what do you suggest?

14-Do you have any suggestions or remarks concerning the design of an ESP course for biological students?

Thank you for your co-operation.

Appendix C

Classroom Observation Sheet

		Session 1	Session 2	Session 3
Approach	Teacher-centered			
	Students-centered			
Patterns of interaction and class work	Teacher- students			
	Students-teacher			
	Individual work			
	Pair work			
	Group work			
materials	Textbook			
	Handout			
	Audio			
	Video			
Skills developed	Listening			
	Reading			
	Speaking			
	Writing			
	Grammar			
	Translation			
	Specialized vocabulary			
Classroom activities	Note-taking			
	Discussion and debate			

	Drills			
	Summarizing			