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**An Assessment of Teaching the Speaking Skill:  
The Case of Second-Year LMD Physics Students at Abou  
Bekr Belkaid University-Tlemcen**

*This dissertation is submitted to the department of foreign languages as a partial fulfillment for the requirement of the 'Magister' degree in ESP*

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*To my dear parents, my lovely sisters and brother*

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## **Abstract**

English is the language of Science and Technology as it is a means of communication. It is also the language which taught in different fields to achieve occupational and academic purposes.

Accordingly, the present study dealt with teaching English in the field of Physics. It is taught in this field at university for scientific and technical purposes. Learners of second year in Physics, in the faculty of Sciences at Tlemcen University face problems in using the English language. However, they have to use this language effectively in their field of study for scientific purposes.

Thus, the aim of this research work was to investigate the status of the speaking skill in this field. The present study also tried to identify the reasons behind learners' weaknesses in this skill. Yet, to provide some suggestions that may enhance the teaching of this skill in this field to help learners face their difficulties.

This dissertation is a case study research since it dealt with an in-depth description of the speaking skill in Physics. In order to answer the research questions and to confirm the research hypotheses, this research work focused on three research instruments for data collection which are : students' questionnaire, teachers' interview and classroom observation. Both qualitative and quantitative methods for data analysis were used in this research work to analyse this data.

The results shed light on the idea that the teacher did not focus on the speaking skill when teaching English in this field. Moreover, these learners had weaknesses in vocabulary and grammar. On the other hand, the teacher did not use activities for these learners, because they were not motivated as they relied on translation of technical words.

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## **List of Acronyms**

COLT :Communicative Orientation of Language Teaching.

EAP :English for Academic Purposes.

EBP :English for Business Purposes.

EFL :English as a Foreign Language.

ELP :English for Legal Purposes.

ELT :English Language Teaching.

EMP :English for Medical Purposes.

EOP :English for Occupational Purposes.

ESP :English for Specific Purposes.

EST :English for Science and Technology.

LMD :Licence-Master-Doctorat.

PMC :Physics, Mathematics and Chemistry.

PSA :Present Situation Analysis.

TSA :Target Situation Analysis.

USA :United States of America.

## **General Introduction**

The widespread use of English as a means of global and international communication has maintained a huge need to learn and teach it for specific purposes, since it imposes itself in all the domains. Businessmen, engineers and scientists must know this language because it is the international means of exchanging information and experience.

English is the language of Science and Technology as it is a means of communication. For this reason, the speaking skill is one of the necessities of these learners. They face communicative situations through which they have to use this language in their speciality.

Moreover, the primary goal of the ESP course is to be communicatively competent in English according to the situation, purpose and specific roles. It extends the learner's grammatical, lexical and functional skills. As a result, this research work deals with the teaching of the speaking skill among LMD Physics students, in the faculty of Sciences at Tlemcen University.

These learners do not use the English language in the classroom since they face weaknesses in this skill. On the other hand, during the course, only the teacher speaks. Also, he does not focus on activities to make them speak. This has given birth to the lack of interest from learners towards English. However, second year LMD students of physics do not study English in the first year.

Accordingly, this dissertation tries to answer the following research questions:

- 1)-Does the teacher of English focus on the speaking skill when teaching English to second year LMD students of Physics?
- 2)-What are the reasons behind learners' weaknesses in speaking English during the course?
- 3)-What are the difficulties that the teacher encounters when designing activities for these learners?



The answer to these questions may raise the following research hypotheses:

1)-The teacher of English in Physics does not focus on the speaking skill because learners are not motivated.

2)-The reasons behind learners' weaknesses in speaking English during the course are:

- The use of technical questions by the teacher.
- Difficulties in terms of pronunciation.
- Lack of vocabulary to speak.

3)-The difficulties that the teacher encounters when designing activities to these learners are:

- To select activities to make learners speak.
- Students rely on translation of technical words and they speak in French during the course
- The teacher does all the work in the classroom.

Accordingly, this research work is divided into four chapters. The first chapter is a literature review. It attempts to give a background and definitions about both the speaking skill and ESP in order to provide a description of this skill in an ESP context. Furthermore, it focuses on needs analysis and findings related to it.

The second chapter deals with the methods and procedures for data collection. It describes the three research instruments used in this study to draw a profile of learners needs and the aims of each one. In addition to that, it provides an idea about the category of this research as well as approaches to data analysis that are used in order to analyse the collected data.

The third chapter is about data analysis and interpretation. It is devoted for the analysis of this data about students' needs according to the description of each research instrument. These results give a final answer to the research questions and confirm the research hypotheses too. The discussions of these results are also available in this chapter with an interpretation of the main results.

The last chapter is devoted to suggestions and recommendations. It attempts to propose some solutions in order to enhance the teaching of the speaking skill for the students of Physics. All the suggestions and recommendations that are mentioned in this chapter are based on the results obtained from the previous chapter. These suggestions rely on activities that may help learners to overcome their weaknesses in this skill.

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## **Chapter 1:**

### ***Literature Review***

#### **1-1 Introduction:**

The emergence of English as a global language gives birth to the appearance of a new field in English language teaching which is ESP. Hence, there is a necessity to cope the different teaching situations and needs of learners. ESP addresses the communicative needs and practices of particular professional or occupational groups. Thus, the students need to be communicatively competent in this language. Such needs require a deep understanding of different concepts, features and classification of ESP.

Accordingly, this chapter deals with the background of ESP in terms of the concept of specialized language, types of ESP and needs analysis. It also provides different aspects in the speaking skill. Finally, it represents a relationship between ESP and the speaking skill.

#### **1-2 Background of ESP:**

The field of English for Specific Purposes has developed to become a major force and prominent area in ELT and research. It refers to the teaching of a specific language whether scientific or technical to students with specific goals in all domains.

##### ***1-2-1 The concept of Specialized Language:***

ESP is an approach to language teaching. In this new branch of teaching, the methods and content are based on learner's goals. In other words, it looks for the reasons behind learning this language as well as the nature of the learning context. Hutchinson and Waters (1987:19) state that: "ESP is an approach to language teaching in which all decisions are based on learner's reason for learning". Thus, ESP is an approach to language teaching which is directed by specific and determined reasons for learning.

The term specialized represents situations where the learner has some specific goals to learn English. In the same vein, Harmer (1983:1) defines ESP as follows: “Situations where the student has some specific reasons for wanting to learn a language” .i.e. ESP has developed to meet specific learners’ needs of language.

Moreover, Basturkmen (2006:18) argues that:

In ESP, language is learnt not for its own sake or for the sake of gaining a general education, but to smooth the path to entry or greater linguistic efficiency in academic, professional or workplace environments.

This means that ESP seeks to develop the learners’ competencies in different areas, such as: specific field, profession or workplace.

Finally, it is necessary to add that ESP is an important branch of ELT. To the extent that it gives importance to the learning process. In other words, the focal point of this area of research is the learners’ needs in their speciality. This enable them to use the language appropriately in the different specific contexts.

### ***1-2-2Types of ESP:***

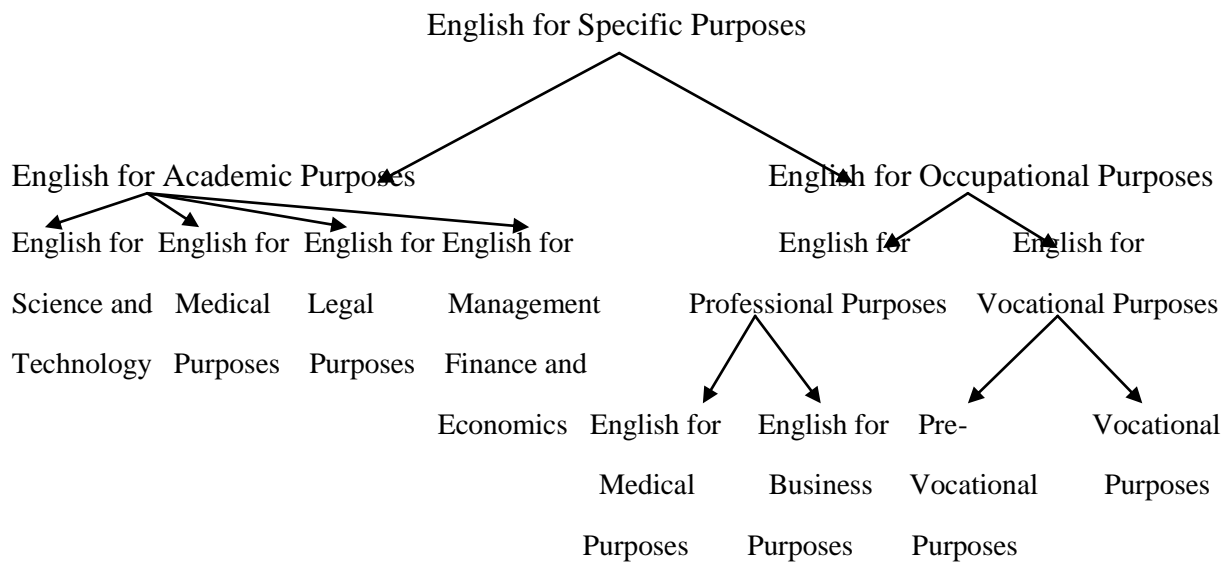
Due to its development, ESP is divided into two main categories according to Hutchinson and Waters (1987) which are:

- English for Academic Purposes (EAP).
- English for Occupational Purposes (EOP).

Robinson (1991:2) points out that:

The students study English not because they are interested in the English language or English culture as such but because they need it for study or work purposes.

That is to say, English is learned whether for Academic or Occupational Purposes. This is related on the field of study in which English is taught. Evans and St John (1998:7) have provided a diagram through which they classify EAP and EOP according to discipline or professional area:



**Figure1-1 ESP Classification by Professional Area (adapted from Dudley Evans and ST John, 1998:6).**

In EAP, English for Science and Technology (EST) has been the main area. It is a discipline that includes this language at tertiary level. English is also taught for Medical Purposes (EMP) and for Legal Purposes (ELP) at this level. English is taught in all the domains: Business, Finance, Banking and Economics. Thus, learners have to study English to achieve educational purposes as Kennedy and Bolitho (1984) note that: “EAP is taught, generally within educational institutions to students needing English in their studies”. Thus, English is available in all the domains for making learners as competent as possible to communicate in different specialities.

Whereas the term EOP refers to professional purposes in administration, Medicine, Law and Business. Moreover, in vocational purposes, there are two subdivisions: *Vocational English* is concerned with the language of training for specific trades or occupations, and *Pre- Vocational English* is concerned with finding job through interview skills, Dudley Evans (1998).

This research is concerned with English in Physics for scientific purposes. It is considered as a branch of EST. Thus, learners have to be informed with all the new investigations in this area which is provided in English language.

### 1-3 Needs Analysis:

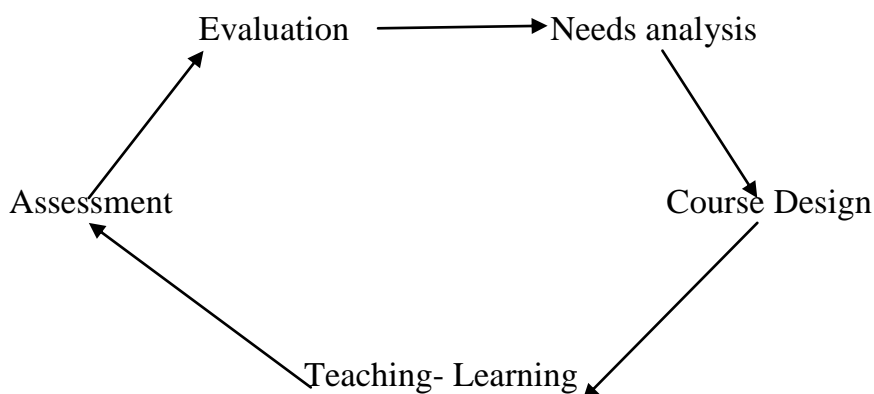
After dealing with the concept of specialized language and the types of ESP. This chapter also speaks about needs analysis because ESP course is designed to meet specific needs of the learners. Therefore, it is necessary to analyse the needs of second year LMD students of Physics.

#### *1-3-1 Definition:*

ESP is understood to be about preparing learners to use the English language within academic, professional or workplace environments. So that, the first step in an ESP course design is *Needs Analysis*. It is also known as needs assessment. It has an important role in the process of designing and carrying out any language course, especially in English for Specific Purposes (ESP). In this vein Hutchinson and Waters (1987:54) argue that:

If we had to state in practical terms the irreducible minimum of an ESP approach to course design, it would be needs analysis.

Evans (1998:121) has established the key stages in ESP which are needs analysis, course and syllabus design, teaching and learning situation, assessment and evaluation. These are the major steps of ESP content as they are shown in the following cycle:



**Figure 1-2 Stages in the ESP Process: Theory (adapted from Dudley Evans and ST John, 1998:121).**



Thus, Evans sees that these are the major steps to contribute ESP content. One of them is needs analysis. In the same vein, Nunan (1988:13) focuses more on information-gathering process, he states that: “techniques and procedures for collecting information to be used in syllabus design are referred to as needs analysis.”

According to Iwai et al (1999), the term needs analysis generally refers to the activities that are involved in collecting information. It will serve the basis for developing a curriculum that will meet the needs of a particular group of students.

On the other hand, Richards and Platt (1992: 242-243) define needs analysis as: “the process of determining the needs for which a learner or group of learners requires a language and arranging the needs according to priorities”.

Thus, this explains the specific purposes for which the language is needed and the situation in which the language will be used. It relies on gathering information about learners’ level of proficiency in the English language through different methods taking into account:

Age, sex, previous experience with second language learning, proficiency in the native language, personality factors, language attitudes and motivation, learning intelligence, sense modality preference, sociological preference, cognitive style, learner’s strategies and learner’s errors.

(Altman and James, 1980: 5)

As a result, the notion of needs analysis deals with both personal and social developments of learners. It tries also to identify their behaviours through this language as well as methods of learning.

Moreover, needs analysis is interpreted in two different ways. This represents what has been stated earlier:

On the one hand, it can refer to what learner needs to learn to do with language once he or she has learned it. This is goal-oriented definition of needs and relates to terminal

behaviour, the ends of learning. On the other hand, the expression can refer to what the learner needs to do actually to acquire the language. This is a process-oriented definition of needs to transitional behaviour, the means of learning.

(Widdowson, 1981:2)

As a result, needs analysis explains *what* and *how* of a course. In other words, it determines the content of the course and behaviours of learners towards the language. In addition to this, it denotes what learners have to do in order to acquire the language in the specific context.

### ***1-3-2 Types of Needs:***

Hutchinson and Waters (1987:55) identify the following sub-divisions or taxonomies of needs analysis:

#### **1-3-2-1 Target Needs:**

They see that target needs are an important aspect in needs analysis, since they fall under three types of distinctions which are:

##### ***1-3-2-1-1Necessities:***

Necessities are determined by the demands of the target situation (Hutchinson and Waters: 1987), what the learner has to know in order to function effectively in the target situation. Thus, it is concerned with learners' needs in the target language for the sake of being communicatively competent and to use the language effectively in the specialized field.

##### ***1-3-2-1-2Lacks:***

Learners' necessities are not enough step in target needs. According to Hutchinson and Waters (1987:55-56) the concern in ESP is with the needs of particular learners. It is necessary to know what the learner knows already in order to decide which of the necessities the learner lacks.

### ***1-3-2-1-3 Wants:***

This step takes into consideration learners' views and wants and the reasons behind integrating this language in their specialization. Since they have an idea about their necessities as well as their lacks, certainly they can detect their wants from the previous steps towards that language. This step can help a lot teacher for course design since, they are informed about learners' wants for successful language learning and teaching Hutchinson and Waters (1987).

### **1-3-2-1 Learning Needs:**

This step will determine how learners will be able to move from the point of lacks to necessities. Hutchinson and Waters (1987:61) claim that:

It is naive to base a course design simply on the target objectives, and that the learning situation must also be taken into account. Since the target situation is not a reliable indicator.

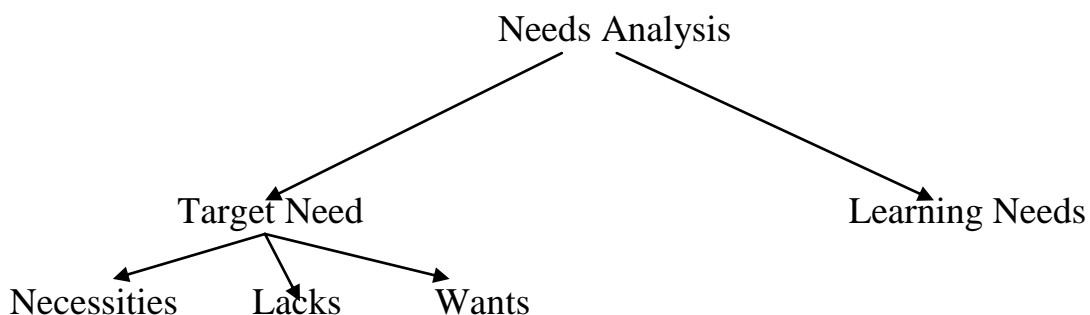
Accordingly, learning needs seek for more steps in the target language. It includes: knowledge, skills, strategies and motivation of learning. These concepts are very important aspects to conduct learning needs as a step in needs analysis.

Bowers (1980) quoted in Jordan (1997: 26) has also 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 program for the learner's own wishes regarding both goals and processes .

Thus, target needs cannot fulfill the concept of needs analysis, since it does not look for the learning needs which are a necessary step in course design. It also looks for what learners need to learn as well as their language background.

Accordingly, needs analysis is divided into two main types: target needs and learning needs. The first one has three main steps which are: *Necessities*, *Lacks* and *Wants*. All these steps can be shown in the following diagram:



**Figure1-3 The Taxonomy of Needs Analysis (adapted from Ounis, 2005)**

### ***1-3-3 Approaches to Needs analysis:***

Under the classification of Hutchinson and Waters (1987) of needs analysis, the following elements have been developed:

#### **1-3-3-1 Target -Situation Analysis:**

Munby's approach (1978:23) focuses on students' needs at the end of a language course and target-level performance. Thus, he is concerned with communicative syllabus design. He adds that:

Model collects data about the learner rather than from a learner ...as a reaction, more recent needs analysis procedures have been developed which deliberately adopt a very different starting point, reasserting the value of the judgment of the teacher or involving the learner from the start.

Thus, he argues that practical constraints should be considered in the needs analysis. Munby's approach is influential to the extent that it focuses on learners' development from starting point. In the same vein, Hutchinson and Waters (1987:59) claim that:

The analysis of target situation needs is in essence a matter of asking questions about the target situation and the attitudes towards that

situation of the various participants in the learning process.

Hence, they see that target situation analysis is concerned with questions about the target language in the learning process. Furthermore, these questions include attitudes and participant's level in the target situation.

### **1-3-3-2 Present-Situation Analysis:**

It is provided by Richterich and Chancerel (1977). The PSA deals with the students' state of language development at the beginning of the language course. Information is sought on levels of ability, resources and views on language teaching/learning. Thus, it is a combination between the two approaches: TSA and PSA.

### **1-3-3-3 Strategy Analysis:**

Allwright (1982) is a pioneer in this area. His starting point was from the perception of the students of their needs. In this sense, he made a distinction between *needs* (the skills which a student sees as being relevant to himself), *wants* (those needs on which the student puts a high priority in the available, limited time), and *lacks* (the difference between the student's present competence and the desired competence). Allwright's concern is also to help students to identify skill areas and their preferred strategies of achieving the skills.

### **1-3-3-4 Means Analysis:**

An important step in the development of needs analysis is the attempt to adapt language courses to local situations, for example: materials, cultural attitudes and methods. This approach has been called means analysis (Holliday and Cooke 1982).

The importance of this approach is that it starts from positive points. In other words, what might be achieved with certain given factors. It allows sensitivity to situations which acknowledges the social context of education and gives more attitudes to teacher.

### ***1-3-4 The Role of Needs Analysis in an ESP Course Content:***

Needs analysis has a vital role in the process of designing and carrying a course in an ESP context as it explains by Basturkmen (2006:18) who states that: “the task of the ESP course developer is to identify the needs of the learner and design a course around them”.

Accordingly, Evans and John (1998:125) argue that needs analysis in ESP determine the following steps (see figure 1-4):

1-Professional information about the learners: the tasks and activities learners are/will be using English for- *target situation analysis and objective needs*.

2-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*.

3-English language information about the learner: what their current skills and language use are- *present situation analysis*.

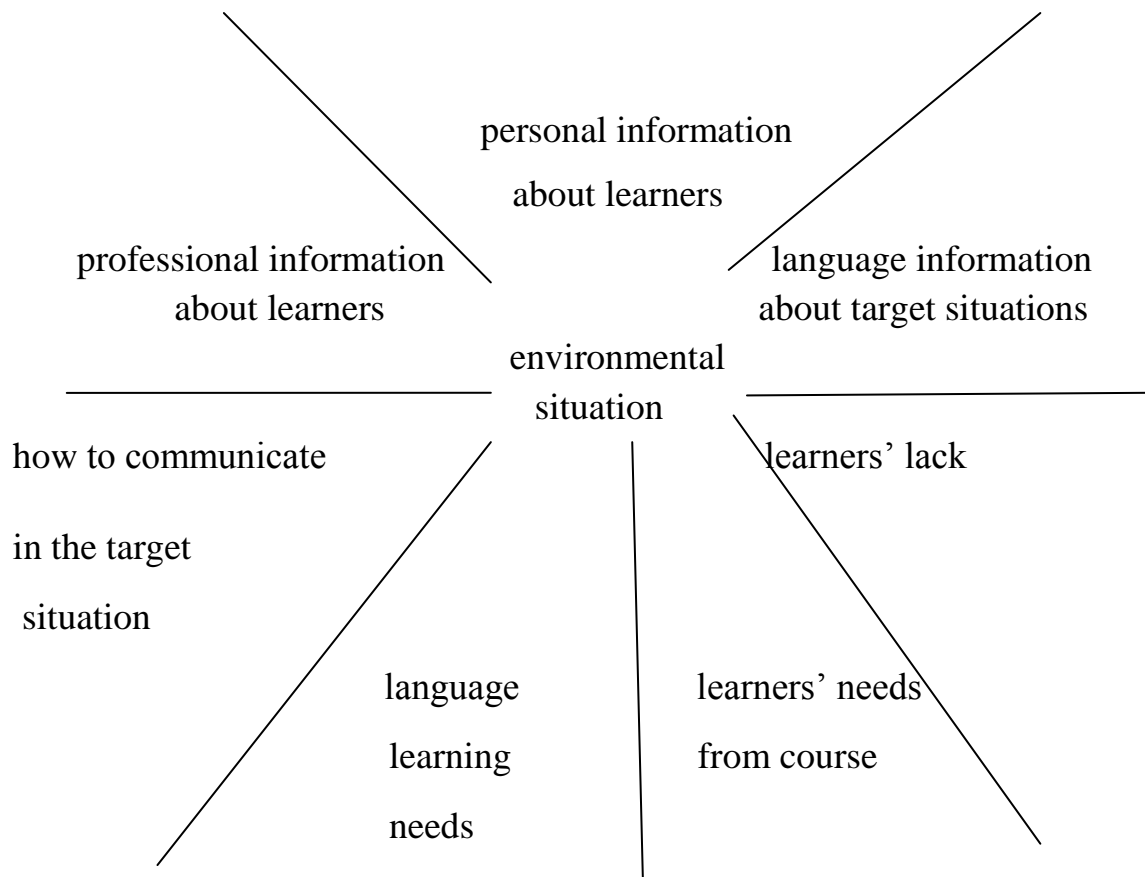
4-The learners lacks: the gap between present situation analysis and target situation analysis-*lacks*.

5-Language learning information: effective ways of learning the skills and language-*learning needs*.

6-Professional communication information about learners: knowledge of how language and skills are used in the target situation.

7-What is wanted from the course.

8-Information about the environment in which the course will be run- *means analysis*.

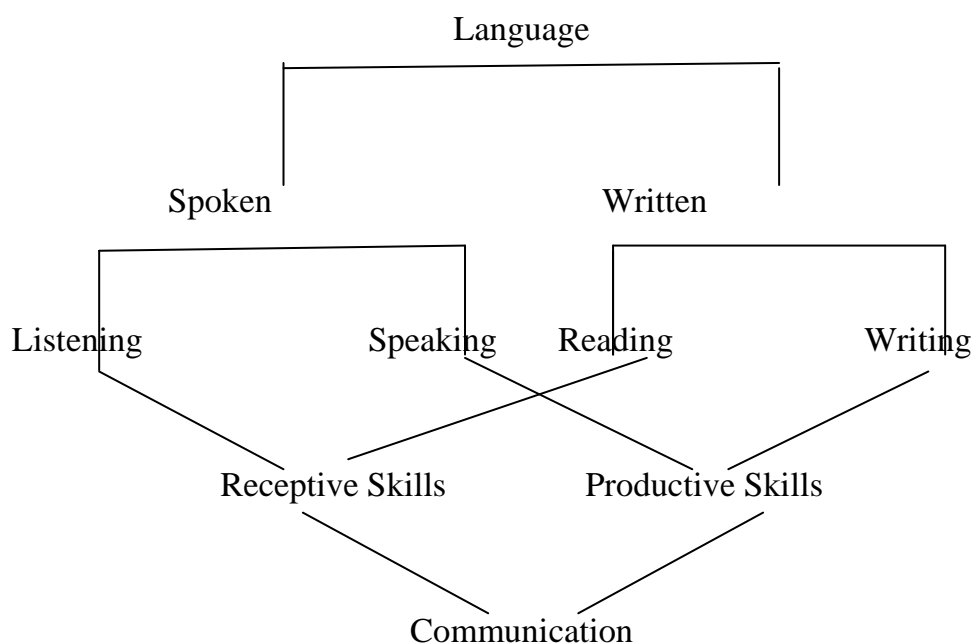


**Figure 1-4 What Needs Analysis Establishes (adapted from Dudley Evans and ST John, 1998:125).**

Therefore, the aim of needs analysis is to know about learners as language users and as language learners. In other words, to know how language learning and skills learning can be maximized for a given learner group .Finally, to know the target situations and learning environment for an appropriate interpretation of data.

#### **1-4 The Speaking Skill:**

All four language skills (Listening, Speaking, Reading and Writing) are needed in an ESP context according to the needs of particular group of learners in the specialized area. One of these skills is sometimes more emphasized than the others. This depends on the objectives of language course, methods of teaching and needs of learners Derradji (1995). However the four skills are interrelated. This is clarified in the following diagram:



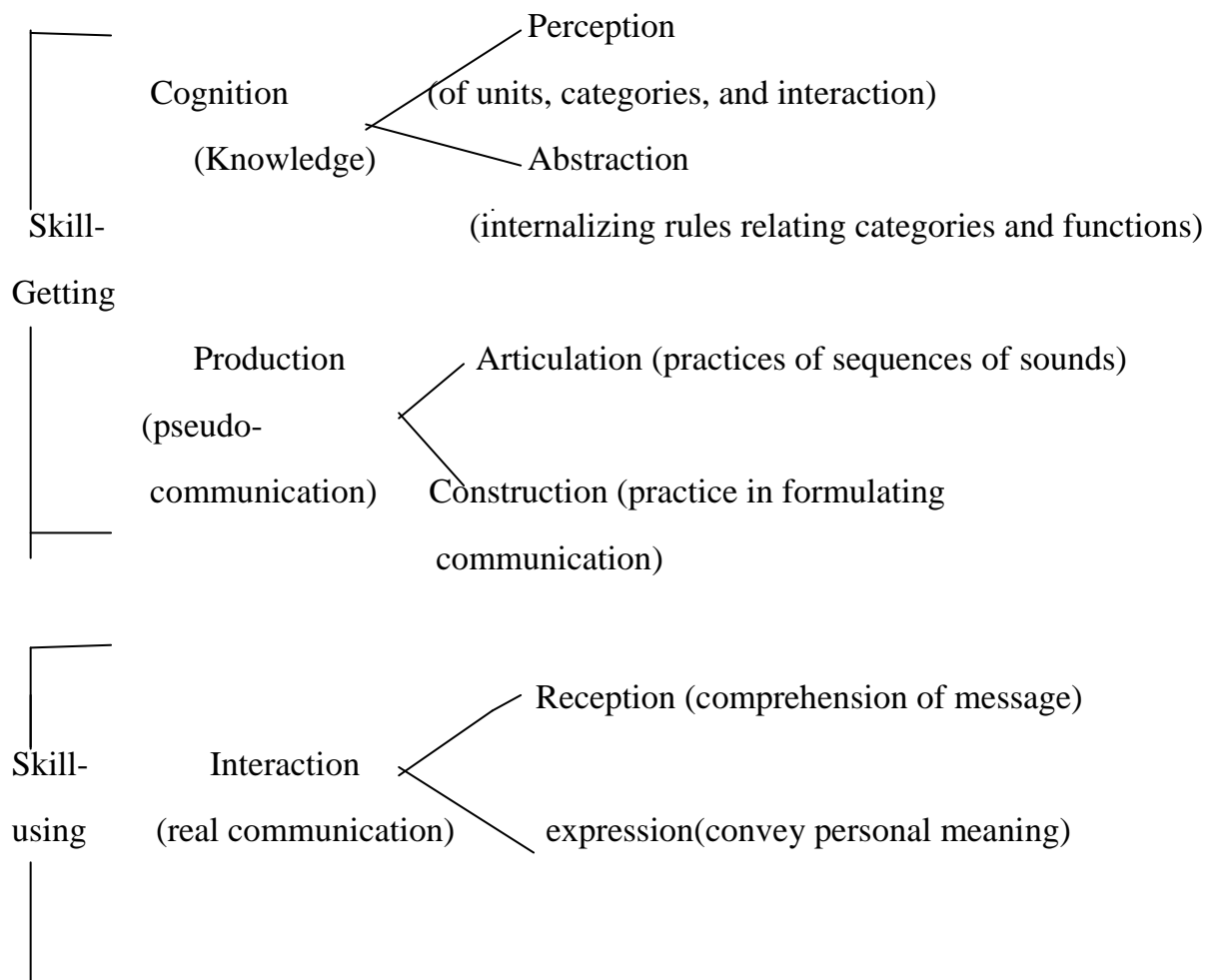
**Figure1-5 Inter-Relationship of the Four Skills (adapted from Robinett: 1978).**

Language can be either spoken or written. Spoken language is divided into: listening and speaking. Whereas, reading and writing are classified under the written language. Furthermore, Listening and Reading skills are considered as receptive skills since there is a direct contact to the target language. In addition to this, speaking and writing are productive skills through which there is a performance of language capacities in terms of speaking the language.

Furthermore, Rivers and Temperley (1978) provide a diagram which represents the processes involved in learning to communicate and which distinguishes between skill-using and skill-getting.

The authors make two points about this diagram: firstly, skill-getting and skill-using do not represent successive stages in language learning. Secondly, there is a gap bridged between the two processes. For this reason, they suggest using pseudo-communicative to skill getting activities which lead naturally into spontaneous communication.





**Figure1-6 Skill Getting and Skill Using (adapted from Rivers and Temperley’s Framework, 1978:55).**

We can deduce from this diagram that language skills are divided into: skill getting and skill using. Skill Getting is divided into cognition which derived from perception or abstraction, in addition to production through practicing sounds which leads to spontaneous communication. Skill using deals with interaction through reception and expression for conveying message and this is a real communication.

***1-4-1 The Nature of Oral Communication:***

Oral communication is a process between speaker and listener which involves the productive skill of speaking and receptive skill listening with understanding.

The interaction between speaker and listener is a complex process since the speaker has to encode the message he wishes to convey, while listener has to decode or interpret it.

One of the most important constraints under which the language is produced is time pressure which tends to affect communication in two main ways. On one hand, speakers use some strategies in order to facilitate production, and on the other hand, they often have to compensate for the difficulties they face while performing a language.

Brown and Yule (1983: 13) refer to two main types of talk: interactional and transactional. Interactional talk is concerned with maintaining social relationship, assumes shared knowledge between speaker and listener. Whereas the transactional one deals with the conveying of information and message oriented which is often involved more specific vocabulary. According to Brown and Yule (1983), foreign students needing to learn spoken English outside an English speaking environment are likely to acquire it for a transactional purpose for requiring information.

They maintain that most foreign students need to be able to produce long transactional turns in the foreign language and to acquire the ability to sustain spoken discourse. As a result, they suggest to concentrate on mastering language at sentence level.

This can be reached by the support of teachers to make learners use the language appropriately in their field. As it is stated by Broughton et al (1980:76):

The speech produced by the student should be tightly controlled at first by the teacher, and then as progress is made there should be less guidance where the student is free to produce utterances appropriate to the situation.

As a result, guided oral practice aims to give the student limited freedom to use and practice what he has learnt. For this reason, the teacher should take into consideration the speaking skill in the classroom .This leads to a direct contact with the target language.

### ***1-4-2 Oral Communication Techniques:***

There are techniques for oral communication that facilitate and stimulate the interpretation of a message, self expression and collective negotiation. These techniques can be: Group Work, Problem Solving, role play and discussion. These areas overlap and relate to each other.

#### **1-4-2-1 Group Work:**

It is considered as a classroom situation where the students work through smaller groups. This creates an atmosphere to oral exchanges and learner-learner interaction. For example: students listen to, or read a text of five paragraphs as they are divided into groups. Each one of them chose a paragraph of the text just to read it and prepare themselves to answer questions asked by the other groups. This technique will promote oral interaction asking and answering questions, proposing, agreeing or disagreeing Derradji (1995). Furthermore, it gives an opportunity to the student to interact and to develop the speaking skill under the teacher's control of students' mistakes .

Moreover, group work draws the following advantages:

- 1)-The members of group engage in authentic negotiation, Breen (1979) is an attempt to solve a problem as they interact orally with a purpose.
- 2)-Students can speak and use the language spontaneously.
- 3)-During this oral interaction between learners, there is a presence of interpreting and evaluating utterances as well as expressing own views.

On the other hand, group work involves also communicative tasks which are an essential step for promoting communication, since it creates a situation of learner-learner interaction.

Finally, we can conclude that this technique is important because it requires maximum students' participation in an oral activity with a specific purpose.

### **1-4-2-2 Problem Solving:**

At this level, learners are required to interpret a task and develop it through oral expression and negotiation. Problem solving can either be an individual or collective basis. It calls for cooperative negotiation. It is divided into two kinds: short term task and project. The first one can be completed during the course, while the second needs more preparatory research.

An example of short term task in problem solving activity, is to provide the students with a text which is unfinished so that, they have to make an end or a conclusion. An example can be also explained through recordings presented to the students. They have to listen to and the teacher asks them to indicate the speakers, the place and the situation. All these tasks seemed to be achieved in one class session.

Concerning group project, students are asked to make an oral presentation in which they present a work related to their field Derradji (1995). This indicate that a project is more time consuming as it requires more information search and information exchange.

Both short term task and project tasks enhance students to interact orally and collaborate in order to accomplish the task. The selection of activities should take into consideration the learners' level. In addition to their language proficiency and the language skills that are needed to be used.

Problem solving is an important technique for developing oral proficiency because:

- 1)-Students will find themselves in a direct contact with the language as they are motivated by producing this type of tasks.
- 2)-Self expression is enhanced through projects in which each student attempts to find solutions to problems during and after the presentations.
- 3)-Through this technique, students can communicate orally with group members for the exchange of information on the subject.

4)-Oral presentations give opportunity to the others to ask questions, make comments and different observations. By this way, there is a deep oral communication.

Problem solving situation has limitations which can be summarized in the following points:

1)-The teacher do not possess all the variables needed by a subject specialist to assess the technical content.

2)-It is difficult to supervise various activities and projects at the same time.

We can conclude by adding that problem solving is an opportunity to create an interactive atmosphere that helps learners to develop their speaking skill. Moreover, it includes two aspects short term task and project. They contain different activities to make learners speak according to the context.

### **1-4-2-3 Role Play:**

Revell (1979:60) sees role play as: “an individual’s spontaneous behavior reacting to others in a hypothetical situation”. This explains that this technique relies on a fictitious identity in an imagined situation to present the view of a person without sharing that with them.

Role play is an appropriate technique to develop interaction in foreign language classes. It represents a shift of emphasis to more realistic conversation and communication. Role play encourages interaction among the learners as they relate to each other through their new identities and roles.

Robinson (1981) suggests that role play may take many forms where the participants build up their own characters, talk, movements, situations, themes and messages.

Role play presents the following advantages at the level of oral communication:

1)-There is an active participation from students, as it encourages spontaneous oral exchanges between participants.

2)-Learner's language fluency and knowledge of syntax can be tested through this technique since there is an increase in individual's speaking time.

#### **1-4-2-4 Discussion:**

It is intended to provide an open atmosphere for learner's views about certain issues to learn from others in order to exchange ideas on certain areas of topical interest. It is also necessary to mention that topics for discussion are not selected randomly. There are parameters for selection of topics Derradji (1995):

- 1)-Relevant to professional/educational and age of learners' needs.
- 2)-The level of student's knowledge in order to feel comfortable with the topic.
- 3)-In order to enable learners to concentrate on discussion, a short text is enough.

This technique encourages learners to interpret utterances through which they can initiate their own language and put it to communicative use. Also, there is an exchange of information to the extent that there is a great deal with the subject during the session.

Furthermore, the student has to prepare himself in advance for debates and discussion since it does not involve only the speaking and listening skills, comprehending or interpreting utterances but also responding appropriately.

#### **1-5 The Speaking Skill in ESP:**

Speaking for academic purposes in an ESP context used to describe spoken language in various academic settings that is associated with the genre or activity. Moreover, Richards and Rodgers (2001:161) offer the four communicative views of language in which the researcher find that they focus more on the speaking skill:

- Language is a system for the expression of meaning.
- The primary function of language is for interaction and communication.

- The structure of language reflects its functional and communicative uses.
- The primary units of language are not its grammatical and structural features, but categories of functional and communicative meaning.

### **1-5-1 Spoken Interaction in EAP and EOP:**

The speaking skill is required in these circumstances where participants have dual roles as listeners and speakers. The term *Spoken Interaction* is used by Evans and St Jon (1998) to cover situations where both these skills are employed as it received no attention in the earlier years of ESP development. In EOP, teaching has been more attention to *Spoken Interaction*. In fact, courses may concentrate on this aspect only for more effective spoken language which encourages talking as well as it controls the direction of the interaction.

### **1-5-2 The Teaching of Spoken interaction:**

Evans and St John (1998) add that in an ESP course, the teaching of effective *Spoken Interaction* involves task-based activities and group works to provide learners with practice of the language. they also argue that speaking activities often provide interaction where learners may find it helpful and successful. Accordingly, it emphasizes on the use of appropriate language and skills. For instance, evaluation at the level of learners' feedback.

### **1-6 The Spoken Language: *Key Descriptive features.***

Carthy (1998:50) argues that there are four main features that describe spoken language in terms of sentence structure and discourse, they are:

#### ***1-6-1 Structural Features:***

Three fundamental structural units to all spoken interaction emerge from a wide range of studies in discourse and conversational analysis: *transaction, the exchange and adjacency pair.*

### ***1-6-1-1 The Transaction:***

The term transaction here is used broadly in the sense that Sinclair and Coulthard (1975) use it to label stretches of talk identified by certain type of activity uttered with intonation. For example, in the classroom, the teachers will typically divide the business of a lesson by marking the transition to new phase with some sort of conventional marker (now, so, right). They also argue that the transaction as a unit of discourse may present a problem on two distinct levels.

First level, there may be a problem of awareness among teachers and learners in the transaction. Also, it is an important part of behaving linguistically in the target language.

Second level, the problem is concerned with a lexical one: how does the target language realizes such marking? .But even if the awareness of lexical problems can be resolved, there is still problem of generating classroom activities that offer the learner opportunities for transaction-marking in different setting.

According to Carthy (1998:51) the notion of transaction includes the questions asked for all the discourse features, they are:

- 1)-Are discourse features automatically transferred from L1 behaviour to L2?
- 2)-Is teacher/learner awareness of the spoken language sufficient to address the possible problems?
- 3)-Is communication in foreign language without the performance of features such as transaction-marking adequate, sati and satisfying for learners?

All these questions bring the awareness of spoken language. They may also indicate types of classroom activities. Thus, learners participate in discourse by transaction marking.

### ***1-6-1-2 The Exchange:***

According to Carthy (1998) the exchange is the minimal structural unit of interaction, consisting of an initiation and a response (For example, a question and its



answer or greeting and a return greeting). But this minimal condition is typically elaborated in casual conversation to include a third function, follow-up, and is in fact realized in quite complex situations. It is sometimes noticeable in classroom pair-work where the teacher is often monitoring performance. The exchange has interactional function where relational features seemed as the same priority of transactional ones.

He adds that the awareness problem in this case is usually related to learner's expectations that it will be the teacher who follows up, normally by evaluating the linguistic quality of learner's response (whether a response to a teacher-initiation or initiation by student in pair or group work). Thus, careful observation have to be present in this case.

### ***1-6-1-3 The Adjacency Pair:***

It is a unit associated with American conversation analysis. Carthy (1998:54) states that: "It is typically concerned with how participants behave in interaction in terms of alignment (how they make position for themselves socially to achieve goals and negotiate)" .As a result, speakers naturally orientate themselves to bring together in the discourse utterances.

Thus, adjacency, as a global notion, is interesting but may not be an essential component of a relevant linguistic model for pedagogy according to Carthy (1998). Probably, it does not need to be taught and it can be treated as an aspect of the lexico-grammatical content of syllabus.

Consequently, according to him, learners gain better awareness from exploratory and problem-solving encounter with real data, rather than having it interpreted for them and presented by teachers.

### ***1-6-2 Interactional Features:***

This type of features includes situations where speakers make interaction in order to proceed effectively towards their goals .According to Carthy (1998), these features include the following points:

### ***1-6-2-1 Turn-Talking:***

He argues that it is the area where English language teaching materials do not succeed in terms of lexical issue and cultural problems which need to be conducted in the classroom. It is closely related to the term *interruption* where conventional phrases are present such as: *sorry to interrupt, may I add something*. So that, here the conversation is interrupted and facilitates the interaction and discussion whether in academic or professional settings.

### ***1-6-2-2 Discourse Marking:***

Discourse marking has a relationship with transaction marking but it is widely used for different functions in conversation. Watts (1989) speaks about how unconscious native speakers can be of their own use of discourse markers that seem to display an automaticity characteristic of the more routine of speech.

Furthermore, an available method can be provided for learners for inputting discourse markers. According to Carthy (1998), this is for producing them successfully in pair or group-work to allow the use of these markers in suitable opportunities.

### ***1-6-2-3 Information Staging:***

Carthy (1998) states that information staging focuses on the grammatical level as opposed to lexically and culturally-oriented interpretations. He Adds that it allows students to write correct sentences. It also enable teachers and learners to reconstruct the original utterances through tasks and tails in which also interaction function is present.

### ***1-6-3 Generic Features:***

Carthy (1998) refers the term genre in spoken language to the participant who is involved in a particular language event. It is possible to define the elements or phrases which are usually recognized in their linguistic realizations in different contexts. They need to know just what sort of language event they are involved with the evidence of

learners' awareness about activities. Also, how their previous experiences influenced their views through this feature and to contribute the classification of texts.

#### ***1-6-4 Contextual Constraints:***

Carthy (1998) explains this feature in the way speakers encode contextual features in spoken language, such as language in action where it is generated by some tasks as it enhance oral communication. So, learners offer lexical items appropriate to the natural context without translation to other languages. This feature can be considered as an interesting step in classroom for language learning.

Finally, one can say that these features can describe spoken language in terms of markers, grammatical functions, discourse comprehension and especially language interaction and interpretation. Through these features, students can participate in conversation with the intervention of the teacher.

#### **1-7 The Speaking Skill in Physics:**

As it has been stated earlier, ESP is about to meet the learner's needs to learn the language. Also, it is concerned with their communicative needs whether in academic, professional or workplaces. So, it is necessary to include productive skills and particularly the speaking skill in an ESP course. This can be achieved through oral communicative techniques or task-based activities. This creates a sort of interaction between learners which leads to spontaneous communication. This can be applied for EAP.

On the other hand, learners of physics in second year LMD learn English for scientific and technical purposes. They need to develop the speaking skill in English language, in order to prepare them for future researches.

#### **1-8 Conclusion:**

This chapter has given an overview on the field of ESP. The researcher also tried to show that the speaking skill can be a requirement of the target situation in an ESP context.

Furthermore, the chapter shows the importance of needs analysis to determine the content of an ESP course. Accordingly, different methods are used to draw the profile of needs of learners which is the concern of the following chapter.

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## **Chapter 2:**

### ***Methods and Procedures for Data Collection***

#### **2-1 Introduction:**

This research work is conducted in order to investigate the status of the speaking skill when teaching English in Physics. Furthermore, it seeks for the difficulties faced by both teachers and learners in this skill. In order to reach these objectives, different methods of data collection are used which are: Students' questionnaire, teachers' interview and classroom observation.

Accordingly this chapter describes the different research instruments used to collect data. In addition to this, it explains the categorization of this research.

#### **2-2 General Description of Teaching/Learning English in Physics:**

This research work involves Physics students of second year LMD in the faculty of Sciences, in the department of Physics at Tlemcen University.

In this field, English is not taught from the first year. In other words, these learners have this module in the second and third years. Whereas, the period allotted for teaching this module is one hour and a half a week. The following table shows the time allotted for the English module in the second and third years:

<b>Years</b>	<b>1<sup>st</sup> year</b>	<b>2<sup>nd</sup> year</b>	<b>3<sup>rd</sup> year</b>
<b><i>Time allotted/ Per week</i></b>		1:30	1:30

**Table2-1 Time Allotted for Teaching English in Physics.**

The teaching of this module is divided into two semesters. The first one deals with: visions and impressions about science through texts. In the second semester, these students have terminology such as: Physics, Science, and chemistry.

Consequently, they possess some concepts about the field of Physics because learning English is important for scientific and technical purposes. Furthermore, language structure is integrated in this field during the course.

### **2-3 Research Questions and Hypotheses:**

English is the language of Science and Technology as it is a means of communication. For this reason, the speaking skill is one of the necessities of these learners since they face communicative situations through which they have to use this language.

However, Physics students of second year LMD do not use English language in the classroom. On the other hand, during the course, only the teacher speaks. This has given birth to the lack of interest from learners towards English.

1)-Does the teacher of English focus on the speaking skill when teaching English to second year LMD students of Physics?

2)-What are the reasons behind learners' weaknesses in speaking English during the course?

3)-What are the difficulties that the teacher encounters when designing activities for these learners?

The answer to these questions may raise the following research hypotheses:

1)-The teacher of English in Physics does not focus on the speaking skill because learners are not motivated.

2)-The reasons behind learners' weaknesses in speaking English during the course are:



- The use of technical questions by the teacher.
- Difficulties in terms of pronunciation.
- Lack of vocabulary to speak.

3)-The difficulties that the teacher encounters when designing activities to these learners are:

- To select activities to make learners speak.
- Students rely on translation of technical words and they speak in French during the course
- The teacher does all the work in the classroom.

## **2-4 Informants:**

This research work involves teachers of English and Physics students, in the faculty of Sciences, in the department of Physics at Tlemcen University. We can describe these learners as follows:

### ***2-4-1 Learners' Profile:***

The sample population included in this research work is aged between twenty and twenty four years old. Most of them obtained the baccalaureate exam from mathematic, natural and experimental sciences as well as electrotechnics streams.

There are two sections of Physics students. They study English through sections; each section is composed of two groups. Most of the students do not attend the English lectures as they do not give importance to this module. Thus, the researcher decided to take the two sections; that is to say, 10 students from each section. Therefore, this research work includes 20 students from both sections.

### ***2-4-2 Teachers' Profile:***

This research work involves three teachers .One of them is in charge of teaching English for second year Physics students for both sections.

He holds a doctorate degree in technical English. He has been teaching English for eight years: he taught English in secondary school for two years in technical stream.

In addition to this, he taught English in the faculty of Technology for six years. Moreover, he also teaches students of second year in Mechanical Engineering as well as students of master in Computer Sciences and in Civil Engineering.

Since students of Physics have the English module in the third year. This dissertation also involves two other teachers of English in third year. The first one holds a master degree in Network and telecommunication systems in USA. Thus, he is a subject specialist. He has been teaching English for two years in telecommunication.

Whereas the second teacher holds a licence degree in English as he is preparing for his master in English with the university of Hispano in Brazil. He is a language teacher. He has been teaching English for three years to students of third year in the faculty of technology in: Automatics, Micro Electronics and telecommunications as he never teaches English neither in the middle school nor in the secondary school.

## **2-5 Research Methods:**

In order to confirm the research hypotheses stated before, this research work focuses on three research instruments to collect data about the teaching of the speaking skill in this area of research. It is also conducted in order to draw a profile of students' needs, i.e. to identify the needs of learners in terms of target needs and learning needs. These instruments are:

### **2-5-1 Students' Questionnaire:**

This questionnaire was given to 20 students, 10 students from each section. Only six students answered in English and fourteen of them answered in French. Thus, the researcher translates the questionnaire in French (see appendix B). Students' questionnaire involves 17 questions.

### ***2-5-1-1 Aims of the Questionnaire:***

The researcher used this method because students can express themselves freely through the questions. In addition to this, it can give a definite assessment about students' language and skills use as well as difficulties. In the same vein, Jordan (1997:33) states that: "surveys of students' language and skills use as well as difficulties can be also taken under list of questions given directly to the students". This explains to what extent the questionnaire helps the researcher to collect data about language skills and learners' difficulties.

He adds that:

The questionnaire has been established the most common method, through which they can express themselves since it involves the students' awareness of their language use and areas of difficulties as it can be also conducted to teachers of the target language. In other words; it helps us to draw a profile of the learners' needs, lacks, wants, learning styles and strategies.

Thus, through this method the sample population can express themselves freely in terms of their difficulties and language use as it is a step to draw the profile of learners.

Furthermore, the researcher used two types of questions. The first type is the closed questions and it consists of questions where the respondent has to choose among different propositions. According to Mucchielli (1975), closed questions are useful because they:

1-Enable the investigator to classify the respondents into one category or another. Thus, it facilitates the analysis of the questionnaire.

2-Make it possible for the respondent to give a simple answer by crossing the appropriate box.

Thus, this type of questions is used in this research to identify the needs of English in Physics. It also used to classify the students' difficulties through different aspects which facilitate the analysis of these questions.

Whereas the second type of questions is the open questions. It can be explained as questions which do not involve propositions. It gives the respondent the opportunity to express freely his opinion. For Mucchielli (1975), open questions present two advantages:

1-Allowing the treatment of any topic and to get useful data.

2-Allowing the respondent to express his opinion as well as suggestions freely.

Consequently, this type of questions is also used in this research to let students express their expectations, wants and difficulties of the target language. They can also suggest some strategies that can help them to develop the speaking skill in the classroom.

### ***2-5-1-2 Description of the Questionnaire:***

Students' questionnaire includes seventeen different questions (see appendix A). These questions are described as follows:

Questions 1, 2 and 3 are about *learners' profile*. The aim of these questions is to describe the students of Physics in terms of: their baccalaureate stream, the period of learning English before and the reasons behind choosing this field.

Questions 4 to 7 deal with *learners' attitudes towards English*. These questions aim at identifying opinions about the importance of English in this area of research according to these learners.

Question 8 is about *learners' level in English*. It aims at identifying the English level of Physics students.

Questions 9, 10 and 11 deal with *learners' Difficulties in English*. They aim at determining the difficulties of learners when learning English in their field.

Questions 12 and 13 are about *mastering the English language*. These two questions aimed at describing how much learners master the English language in their field.

Question 14 is about *learners' motivation*. It aims at analysing learners' opinions towards motivation in the classroom.

Question 15 is about *learners' expectations*. It aims at identifying what learners expect from the teacher to push them to speak.

Finally, questions 16 and 17 are about *learner' suggestions*. Here the students give different strategies and suggestion which can help them to develop the speaking ability in the classroom as well as to face their weaknesses in this skill.

The following table gives a description about students' questionnaire:

<i>Students' questionnaire</i>	<i>Number of questions</i>	<i>Close questions</i>	<i>Open questions</i>
learners' profile	3		3
learners' attitudes	4	4	
learners' level	1	1	
learners' difficulties	3	2	1
Mastering the English language	2	1	1
learners' motivation	1		1
learner' expectations	1		1
Learners' suggestions	2		2

**Table2-2 Description of Students' questionnaire.**

### **2-5-2 Teachers' Interview:**

Teacher's interview is a structured one directed with three teachers. The first one is in charge of teaching English to students of Physics in second year LMD, in the faculty of Sciences. Whereas the two other teachers are in charge of teaching English

to the third year students in Physics, in order to analyse the process of teaching English during this year.

### ***2-5-2-1 Aims of Teachers' Interview:***

The researcher has used this method because it reveals considerable information about: students' difficulties in the speaking and listening skills as well as attitudes, expectations or suggestions Jordan (1997).

It includes predetermined questions by the researcher, who works through a list of planned questions. This can help the researcher to organize the questions in order to not to forget any detail to ask for it. Mackay quoted in Jordan (1978) favours this method of gathering information, and highlighted its advantages:

1-Since it is a structured interview, none of the questions left unanswered.

2-It can clarify any misunderstanding which may crop in the interpretation of the questions.

3-The most advantageously one is that the gatherer can follow up any avenue of interest which arises during the question and answer session but which had not foreseen during the designing of structured interview.

So, this instrument helps the researcher to state all the questions without forgetting any detail in conducting the interview as well as in the interpretation of these questions. Furthermore, it does not take too much time as it can be analysed easier and facilitates this process.

### ***2-5-2-2 Description of Teachers' Interview:***

The teachers' interview consists of twenty prepared questions (see appendix C). These questions are described as follows:

Question 1, 2 and 3 are about *teacher's profile* including information about their degree and their teaching experience.

Question 4, 5 and 6 are about *students' weaknesses in the speaking skill*. These questions aimed at describing students' level in English, their motivation in the classroom and to determine the reasons behind learners' weaknesses in the speaking skill.

Question 7 is about the *purpose of teaching English* to Physics students.

Question 8 aims at getting information about the *English teaching program* and the available materials.

Question 9 and 10 are about *language skills*. They are designed in order to determine the status of the speaking skill in this area of research as well as the type of skills the teacher focuses on in the English course.

Questions 11, 12 and 13 are about the *teaching methods*. These questions aim at describing the methods used for teaching English to these learners. Moreover, it asked about the materials and the types of activities used by the teacher to enhance them to speak in the classroom.

Question 14 aims at identifying the *role of pronunciation* during the course when teaching English to these learners.

Question 15 deals with the *use of French and Arabic* in the classroom.

Question 16 deals with the *strategies focused by teachers* to make the learners face their speaking weaknesses.

Question 17 is conducted with the teachers to denote if there is a kind of *collaboration with subject specialists* in order to prepare their English course.

Question 18 and 19 are about *teachers' difficulties*. They aim at analysing the difficulties that the teachers encounter when designing activities and teaching the module of English.

Finally, question 20 is about *suggestions* provided by the teachers in order to enhance the learners to speak in the classroom during the course.

### **2-5-3 Classroom Observation:**

One of the methods used by the researcher in this research is classroom observation. The aims of the classroom observation are described as follows:

#### ***2-5-3-1 Aims of Classroom Observation:***

This method is used in order to observe the students' difficulties in the speaking skill and which type of skills teachers focus on when teaching English for these learners Jordan (1997). Furthermore, through this instrument the researcher can also observe the oral communication techniques used by the teacher to enhance his learners to use the English language.

Classroom observation allows the researcher to observe teacher-learner interaction in different forms of activities, through which there is some interaction between teacher and learner. Thus, this means that there is an oral communication because there are questions asked by teachers which need response.

#### ***2-5-3-2 Description of Classroom Observation:***

This method of collecting data is used in this research work in order to be in direct contact with the situation. Through this instrument the researcher observes the attitudes of learners towards English as well as the status of the speaking skill and course design. It determines the classroom interaction in terms of the use of English during the course and language activities to enhance them to speak in the classroom. It can reveal also the difficulties encountered by both teachers and learners during the course

Thus, the grid of classroom observation is about the Communicative Orientation of Language Teaching (henceforth COLT) (see appendix D). The design of classroom observation grid (see table 2-3) consists of two types including ten aspects which are described as follows:



A)-Classroom Activities including:

- Activity type.
- Participant organization
- Content.
- Student modality.
- Materials.

B)-Classroom Language including:

- Use of target language.
- Reaction to code or message.
- Discourse initiation.
- Incorporation of preceding utterance.
- Difficulties encounter by both teachers and learners

The following table shows the patterns which are included in classroom observation grid:

## Classroom Observation

Field:

date:

Section:

A)-Classroom Activities:

Items Observed	Comments
Activity type	
Participant Organization	
Content	
Student Modality	
Materials.	

B)-Classroom Language:

Items Observed	Comments	
Use of target language	<b>Yes</b>	<b>No</b>
Reaction to code or message		
Discourse initiation		
Incorporation of preceding utterance		
Difficulties encounter by both teachers and learners	<b>Teacher</b>	<b>Learners</b>

**Table2-3 Grid of Classroom Observation (adapted from David Nunan, 1992:99)**

## **2-6 Piloting the Study:**

This research work deals with an aspect in EFL teaching which is the speaking skill. Thus, it attempts to identify the status of this skill among second year LMD Physics students. In addition to the difficulties and strategies used by teachers to teach English and the types of activities used to enhance students to speak in the classroom.

It is also concerned with the difficulties that learners encounter in using English in the classroom to provide some suggestions to urge students to speak the English language during the course.

In order to collect data about the speaking skill in Physics, a triangulation method is used in this research. The researcher gives questionnaire which are translated in French to students of Physics. Students' questionnaire aims at drawing the profile of their needs. Also, a structured interview is conducted with the teacher in order to look for the reasons behind learners' weaknesses to speak English language. As well as the teacher's methods to teach this module and the activities used by him in order to enhance the speaking skill in the classroom.

Besides, classroom observation is also used in this research, which allows the researcher to get maximum information through observation especially about: the speaking skill, learners' difficulties and types of activities used by the teacher to push them to speak.

## **2-7 Categorization of Research:**

This research work is an in-depth study about the speaking skill in this field. Thus, it falls under the category of case study research.

### ***2-7-1 Case Study Research:***

According to Jordan (1997), case study is a way of obtaining in-depth information and insights. Case study is defined in various ways. Adelman, Jenkins and Kemmis (1976) quoted in Nunan (1992:74) state that:

A case study should not be equated with observational studies as this would rule out historical case studies, that case studies are not simply pre-experimental, and that case study is not a term for a standard methodological package.

Thus, case study is not only an observational study or pre-experimental, but it is rather a product of methodology.

On the other hand, Adelman et al (1976).quoted in Nunan (1992:75) suggest that:

Case study research may be initiated in one of two ways. In the first of these, an issue or hypothesis is proposed, and an instance drawn from that class and studied. In the second, a case is selected and studied in its own right (rather than an example of class).

Thus, this type of research focuses on a hypothesis that is proposed or a studied phenomenon in a specific context as: "...it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result". Schramm (1971) quoted in Yin (1984:23). It means that this type of research deals with a determined phenomena at a precise point in time.

In the same vein, Yin (1984:23) quoted in Nunan (1992:76) argues that:

A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context of evidence are not clearly evident; and which multiple sources of evidence are used.

Thus, this explains that through case study research, there is a phenomenon studied in a real-life context. For example: this research work deals with the speaking skill in Physics.

Moreover, case study deals with observing a development of a fixed situation or spontaneous speech of one subject. It can be characterized by three aspects which are:

naturalistic, process oriented and ungeneralizable as it is stated by Larsen-Freeman and Long (1991:11-12) quoted in Nunan (1992:76):

A longitudinal approach typically involves observing the development of linguistic performance, usually the spontaneous speech of one subject, when the speech data are collected at periodic intervals over a span of time... The longitudinal approach could easily be characterized by at least three of the qualitative paradigm attributes: naturalistic (use of spontaneous speech), process oriented (it takes place over time) and ungeneralizable (very few subjects).

Hence by discussing the different meanings of case study research, we can say that it is an attempt to provide a portrait of what is going on in a particular setting. According to Denny (1978) quoted in Nunan (1992:77), it must go beyond the description as it must encapsulate a point of view.

## **2-8 Approaches to Data Analysis:**

There are essentially two broad approaches to methodology to conduct a research in human sciences and to analyse data which are:

### **2-8-1 Qualitative Research Method:**

It has been adopted namely in the field of human sciences. As it is an approach for enquiries focusing on exploration and discovery rather than measurement or proof since it is concerned with understanding human behavior from the actor's own frame of reference Nunan (1992).

Merriam (1988) quoted in Nunan (1992:77) states that: “.....the qualitative case study can be defined as an intensive, holistic description and analysis of a single entity, phenomenon, or social unit”. Thus, since it is concerned with analyzing questions addressing 'why?'. It needs a deep description and analysis of the studied phenomenon as it is valid, real, rich and deep data.

## 2-8-2 Quantitative Research Method:

It has been favoured by fundamental sciences. It is also based on complex statistical analysis of large amounts of data which seeks for facts or causes of the phenomenon Nunan (1992).

In addition to that, it is appropriate for analyzing questions about: What? Where? When? .As it can be considered as reliable, hard and replicable data which assumes a stable reality.

Grotjahn (1987) quoted in Nunan (1992:4) argues that:

The qualitative-quantitative distinction is an oversimplification and that, in analyzing actual research studies, it is necessary to take into consideration the method of data collection (whether the data have been collected experimentally or non- experimentally).

Thus, the mixture of these variables provides us with two pure research paradigms. They are:

The first one is the *exploratory-interpretive* one Grotjahn (1987), utilizes a non experimental method, qualitative data, and provides an interpretive analysis of that data.

The second is *analytical-nomological* paradigm Grotjahn (1987), is one in which data are collected through an experiment, quantitative data, which are subjected to statistical analysis.

The following diagram shows the different paradigms that have been stated earlier. This represents the mixture of the two approaches to methodology research which are: *Qualitative Research Method and Quantitative Research Method.*

### *Pure forms*

Paradigm one: exploratory-interpretive

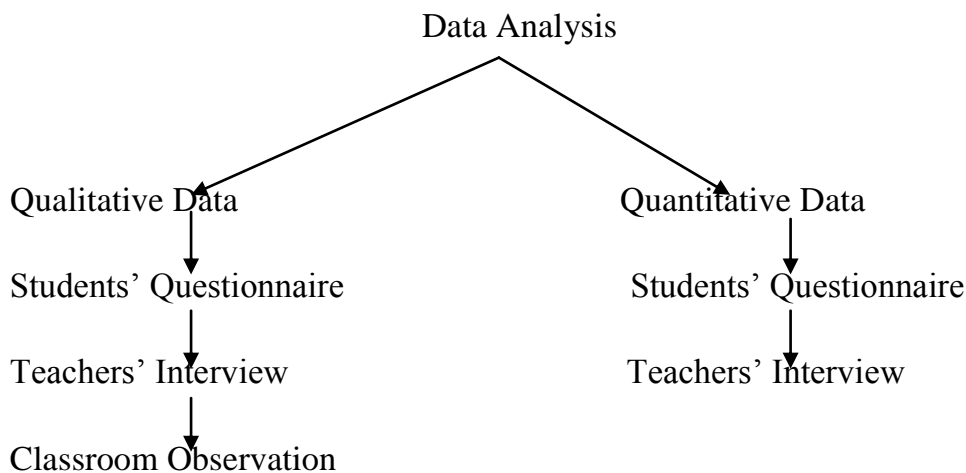
- Non-experimental design.
- Qualitative data.
- Interpretive analysis.

Paradigm Two: analytical-nomological

- Experimental or quasi-experimental design.
- Quantitative data
- Statistical analysis

#### **Figure2- 1 Types of Research Design (Adapted from Grotjahn, 1987: 59-60)**

Consequently, this research work focuses on the two approaches to analyse data. Concerning Students' questionnaire and teachers' interview, both qualitative and quantitative methods are used to analyse data. Whereas classroom observation only qualitative method is used by the researcher to analyse what has been observed. The following diagram shows the methods of data collection which are used in this research:



#### **Figure 2-2 Methods of Data collection and Data Analysis Used in this Research.**

Accordingly, this explains the design of the research instruments which are used in this dissertation and the different procedures for data analysis

## **2-9 Conclusion:**

This chapter is an attempt to describe the methods used in collecting data that draws a profile of needs of Physics students in the faculty of Sciences, the department of Physics. It involves twenty students from both sections out of ninety two during the academic year (2010-2011). Thus, it provides a description about the teaching of English in this field. On the other hand, it describes the different methods which are used in this research in order to collect data about the process of the speaking skill in this field.

Accordingly, the following chapter deals with the analysis of data collected from the different instruments. As a result, to confirm the hypotheses which are given in this research work and to identify the needs of these learners.



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## **Chapter 3:**

### ***Data Analysis and Interpretation.***

#### **3-1 Introduction :**

Different methods for data collection are used in order to confirm the research questions and hypotheses stated earlier. This chapter focuses on the analysis of this data.

Data collection is based on triangulation data. First, the questionnaire addressed to second year LMD students of Physics, also the Structured Interview is conducted with teachers and finally, the Classroom Observation. Accordingly, both qualitative and quantitative methods are used to analyse data.

#### **3-2 Analysis of Students' Questionnaire:**

In order to draw the profile of learners' needs of second year LMD Physics, in the department of Physics, the faculty of Sciences in the English module, in general, and the speaking skill in particular. This research work includes the questionnaire which aims at describing the problems faced by students in the speaking skill.

The students' questionnaire has been designed directly to the students of second year in Physics: ten boys and ten girls aged between 20 and 24. Fourteen students answered in French because they do not master the English language, whereas only six students answered the questions in English.

##### ***3-2-1 Results of Students' Questionnaire:***

The questionnaire is divided in terms of the aim of questions (see 2-5-1-2) in order to facilitate for the researcher the analysis and the discussion of the results:

- Questions 1, 2 and 3 dealt with learners' profile.

One student got his baccalaureate exam in electrotechnics stream. On the other hand, three other students had their baccalaureate exam in Mathematics. In addition to this, ten others had experimental sciences baccalaureate. Four students had it from natural sciences and the last two other students who are foreigners got it from PCM: British system (Physics, Chemistry and Mathematics) which is a British system stream as it is shown in table 3-1:

<i>Baccalaureate streams</i>	<i>Number of students</i>
Electrotechnics	1
Mathematics	3
Experimental sciences	10
Natural Sciences	4
PCM	2

**Table3-1 Learners' baccalaureate streams.**

These learners learn English from middle school to the university and got their baccalaureate from different streams. Table 3-2 summarizes the period of learning English i.e. previous language knowledge for Physics learners of second year LMD:

<i>Period of Learning English</i>	<i>Number of students</i>
<i>Six years</i>	11
<i>Seven years</i>	3
<i>Eight years</i>	4
<i>Ten years</i>	2

**Table 3-2 Period of Learning English.**

Eleven students have been studying English for six years (2 years at middle school, 3 years at secondary school and 1 year in the university). Two other students have been studying English for ten years. Also, three other students have been studying English for seven years. The last four students stated that they have been learning English for eight years.

Thus, we can deduce from this analysis that our sample population is heterogeneous in terms of the period of learning English language.

These learners have chosen this field for different purposes: ten students answered that they choose this field because they like it as they add that they are interested in Physics. On the other hand, ten students noted that they chose this field because of the variability of the fields they can access to either in academic or occupational purposes.

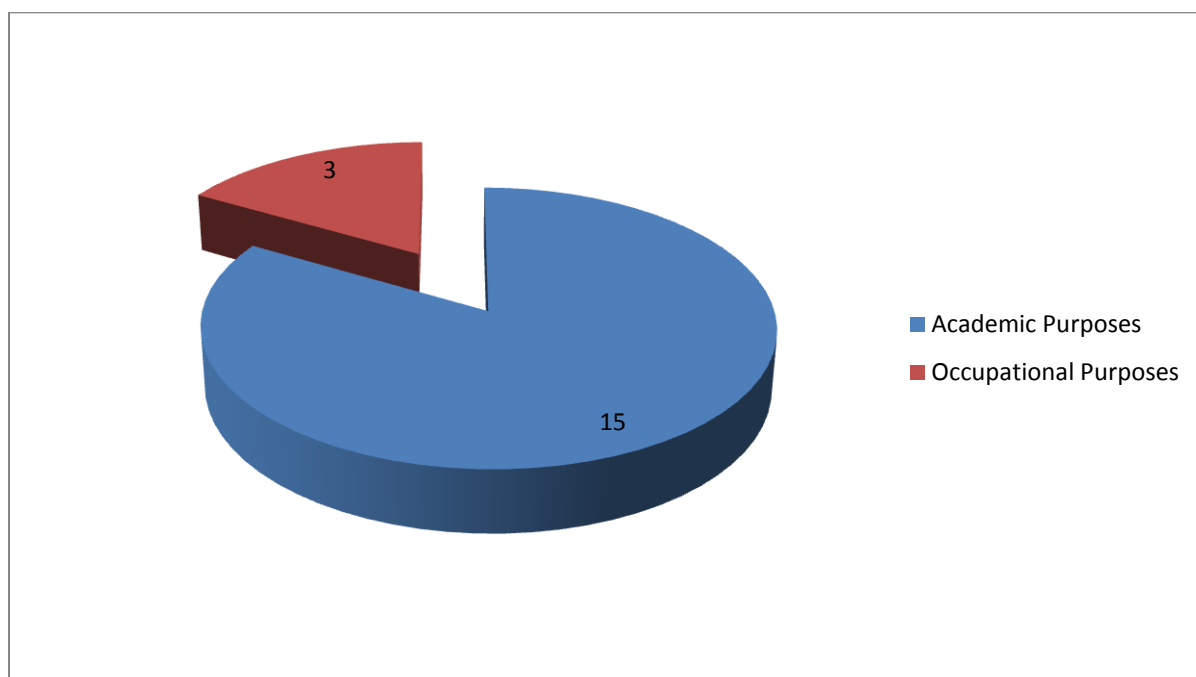
➤ Questions 4 to 7 dealt with learners' attitudes towards English.

Only two students answered that English language is not important in Physics, whereas the majority eighteen students states that English is important in their field. The following table shows the importance of English according to Physics students:

We can notice that the informants are aware of the importance of English in their field for academic and occupational purposes:

- ✓ **For Academic Purposes:** Eight students answered that English is important because it is an international language. Three other students stated that English is the language of Science and Technology. In the same vein, one student adds that all research papers they make are very simple and clear in English. Three students find that English gives them capacities and help them as engineers to communicate and express their ideas as well as to exchange their information.
- ✓ **For Occupational Purposes:** Three students mention that English is important in their field because the majority of materials they use have English names.

The first student who answered that English is not important in their field, argued that Physics is a scientific field and they do not need English in their studies. Whereas the second one stated that English is not needed in their future specialities especially in Algeria. The following pie-Chart shows that:



**Pie-Chart 3.1 The Reasons behind the Importance of English for Students.**

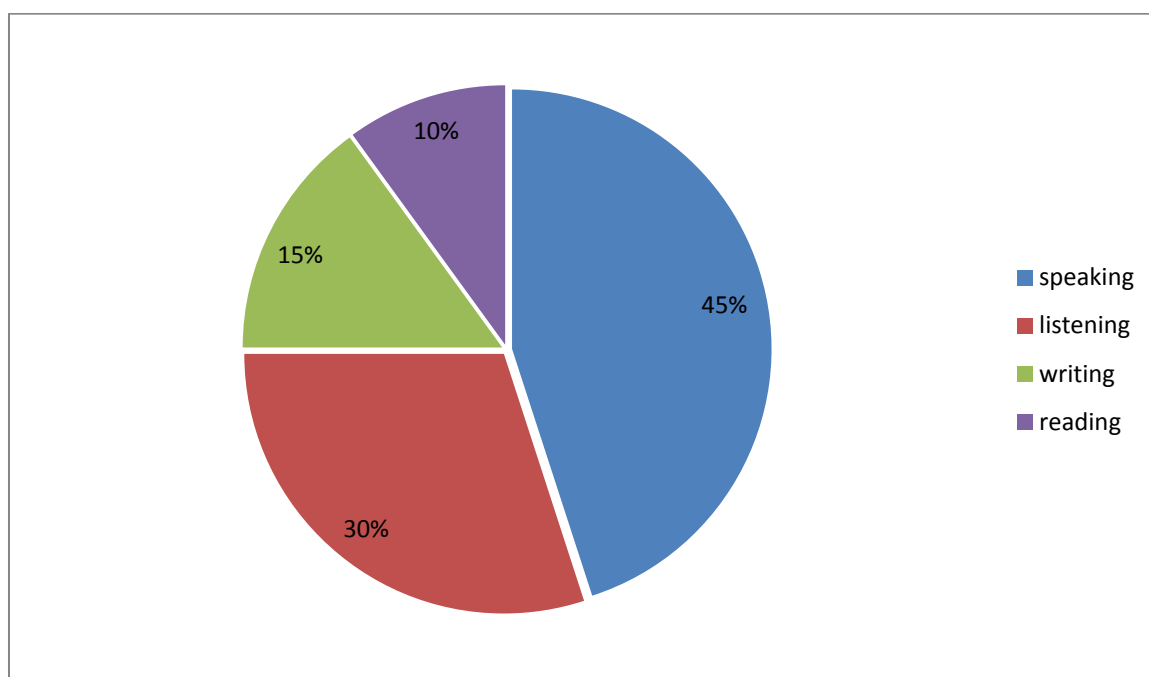
However, six students find that the lectures are difficult. These learners have difficulties in understanding words as well as the explanation of the teacher because they have an intermediate level in English. Whereas fourteen students find that English courses are intermediate.

- Questions 8 aims at identifying learners' level in English.

Concerning students' level in English, they answered differently. Eleven students have a weak level in English, whereas nine students have an intermediate level in English.

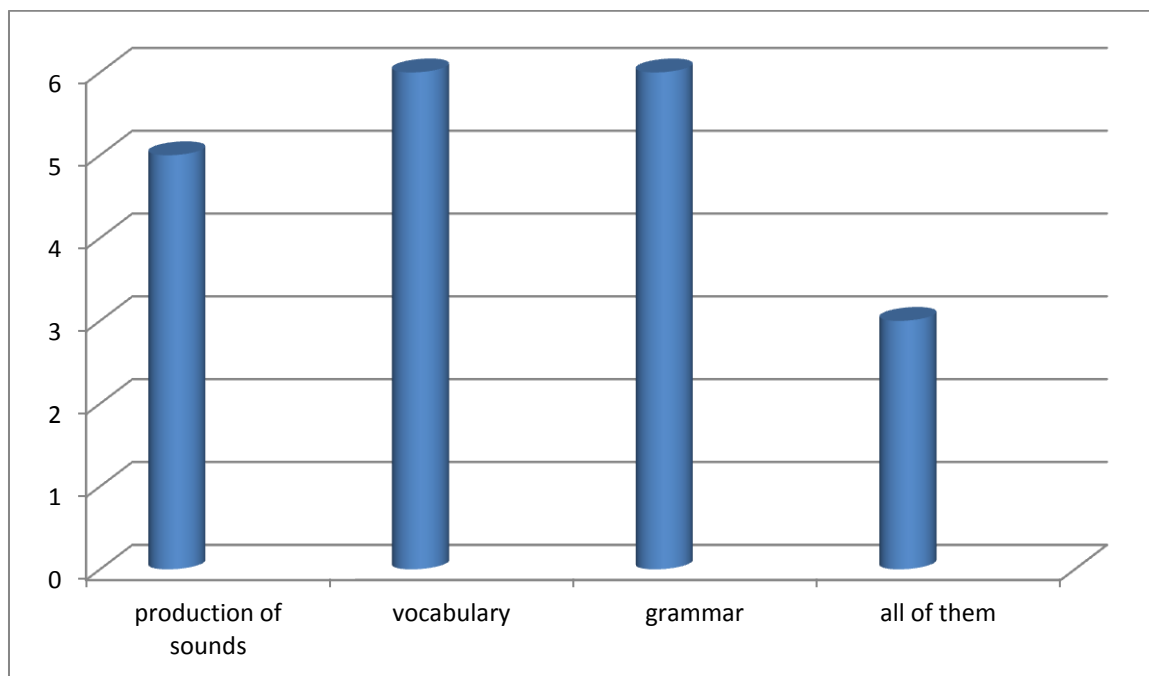
- Questions 9, 10 and 11 deal with *learners' Difficulties in English*.

Nine students find difficulties in the speaking skill .Concerning the listening skill six students find difficulties in it. Three other students find difficulties when they write and finally two students have problems when they read. The following Pie Chart shows that:



**Pie-Chart 3.2 Learners' Difficulties in terms of Language Skills.**

Concerning the following question which seeks for the difficulties of learners when using the English language in terms of: Production of sounds, Vocabulary and grammar, the answers are in the following graph:



**Bar-Graph 3.1 Students' Difficulties in Using English.**

As a result we can deduce from this graph that six students of second year in Physics have difficulties in terms of vocabulary and six others find difficulties in grammar, when using English.

➤ Questions 12 and 13 are about *mastering the English language*.

Sixteen students answered that they do not master technical English in their field. These learners have different reasons among them: that there are some scientific words which are difficult to understand. In addition to that, they state that one hour and a half a week of English is not sufficient because they have a weak level in this language. Only four students answered that they have knowledge in technical English about their field.



- Question 14 is about *learners' motivation*.

Three students find that the teacher does not influence learners' motivation in the classroom, whereas seventeen of them see that the teacher can motivate them to speak by giving them the opportunity to express themselves in English. As he can open discussion between them by asking questions to create debate in the classroom. Also, for them, one hour and a half a week for English is not sufficient to develop the speaking skill.

- Question 15 is about *learners' expectation*.

The students' expectations from their teacher to enhance them to speak in the classroom are summarized as follows:

- ✓ To give them opportunities to speak in the classroom.
- ✓ To translate everything in French or Arabic.
- ✓ To have more sessions of English in a week.
- ✓ To give them different activities during the course.
- ✓ To provide them with different topics according to their field and let them give their views about this subject.
- ✓ To use simple vocabulary words and facilitate things for them.

- Questions 16 and 17 are about *students' suggestions*.

Question 16 is about students' suggestions about course content to develop their abilities in the speaking skill. These suggestions are in general the same including: learning speech sounds of the English language, giving them the basics of English in terms of vocabulary and grammar. As a result, they will be able to learn enough language knowledge.

As far as the last question is concerned, with students' suggestions about different methods to develop the speaking skill in the classroom are:

- Lot of readings in the classroom with the use of dictionaries with the teachers' guidance.
- To create opportunities for communication between the teacher and the learners.
- To facilitate things for them in order to speak freely without shame.
- To participate in the classroom and ask questions to create debate between students and exchange ideas.
- To have more sessions of English per a week.

### ***3-2-2 Discussion of the Results:***

The aim of students' questionnaire is to give a detailed description about learners' needs and difficulties when using English. It deals with expectations and suggestions about this skill among Physics students of second year LMD at Tlemcen University.

On one hand, most of the students find that English is important in their field for academic and occupational purposes but they do not attend lectures. It has been also remarked that students have weak level in this language. They also consider English courses neither difficult nor easy. Moreover, they find that it is not easy to learn English in their field because they have weak level.

Furthermore, these learners face difficulties in the speaking skill because of vocabulary and grammar knowledge when using English language. In addition to that, the teacher does not give them opportunities to speak during the course.

Consequently, they expect from the teacher the use of more activities or topics for discussion to use the English language. Moreover, they suggest facilitating the content of the course for them. They need more opportunities to use English language during the course. Furthermore, they do not have knowledge in technical English and this gives birth to weaknesses in this skill, and therefore inhibits their motivation.

### **3-3 Analysis of Teacher's Interview:**

Since this research work seeks for teachers' difficulties in teaching English to second year LMD in Physics at the department of Sciences, in general and in the speaking skill in particular. In addition to the different methods used in the classroom to enhance them to speak. This research work includes a structured interview. The researcher has planned a list of prepared questions to collect the maximum data concerning this skill in this area of research.

#### ***3-3-1 Results of Teachers' interview:***

The structured interview has been conducted with three teachers of English at the department of Physics. The following results have been obtained:

- Questions 1, 2 and 3 are about teachers' profile.

One teacher holds doctorate degree in technical English. He has an experience of teaching English of eight years: two years in secondary school in technical stream and six years of teaching English in the faculty of technology. The other one holds master degree in Network and telecommunications system in USA. Thus, he is subject specialist as he taught English for two years in telecommunications fields. The last teacher holds a licence degree in English and he is preparing for master in English with the University of Hispano in Brazil. He has been teaching English for three years in the faculty of technology. Their experiences in teaching English are summarized in the following table:

<i>Teachers</i>	<i>Number of Years in Teaching general English</i>	<i>Number of Years in Teaching specific English</i>
1	2	6
2		2
3		3

**Table 3-7 Teaching Experiences of Teachers.**

Thus, all teachers have experiences in teaching specific English in the department of Sciences between 3 and 6 years, whereas only one of them has two years of experience in teaching general English in secondary school.

- Questions 4, 5 and 6 are about students' lacks in the speaking skill.

All the teachers stated that their students do not speak English during the course. They added that their learners are not motivated in the classroom especially second year Physics LMD students. The reason is that they are shy and afraid of this language. These learners also do not possess technical vocabulary as there is the lack of interest.

- Question 7 is about the purpose of teaching English in Physics.

One teacher answered that it is the language of Science and Technology and all the researches and the specialities use this language. Whereas the second teacher argued that English is important in this field .It is important because it is an international language which is needed for communication situations and researches are in English. The last teacher found that English is needed in this area in order to prepare students for scientific research which are available in the English language.

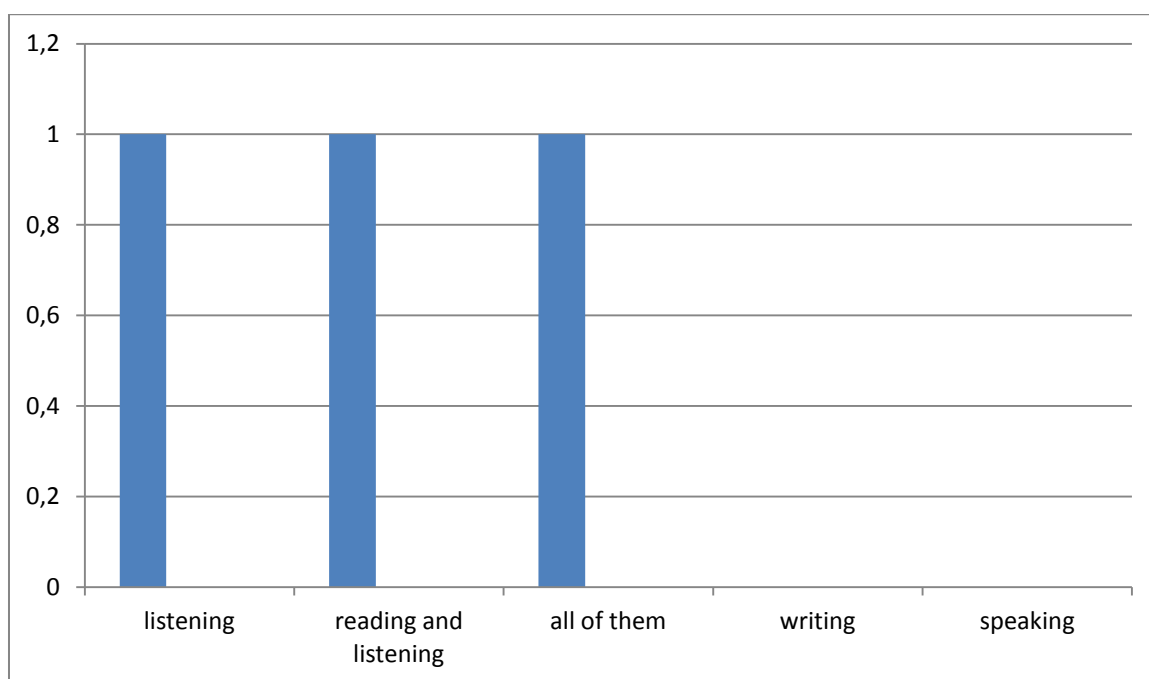
- Question 8 is about the content of English teaching units in Physics.

One of the teachers answered that the first semester is about the advantages and disadvantages of Science and technology. From time to time there is an emphasis on language structure. Whereas the second semester is about: reduction and emission in the atmosphere, renouvlable energy, solar energy, nuclear energy global naming and

pollution. The second teacher focuses in his program on the fields of Physics as he neglects language structure. The last teacher deals in his program with transistor and computer work. He focuses on the four skill of language when teaching this module.

➤ Questions 9 and 10 are about language skills.

One of the teachers focuses on the listening skill. The other teacher gives importance to the two receptive skills (reading and listening), whereas the third teacher takes into consideration all the skills. Graph 3-2 shows the importance of language skills for teachers:



**Bar-Graph 3.2 The Importance of Language Skills for Teachers.**

We can infer from this graph that only one teacher gives an importance to the speaking skill, since he focuses on this skill during his course. He also gives them topics to discuss and gives his learners opportunities to speak and express their opinions, whereas the two other teachers do not focus on this skill in their English courses.

- Questions 11, 12 and 13 are about the teaching procedures.

One teacher focuses on developing the listening skill during his course. The other teacher relies on feedback in terms of action and reaction in the classroom. The last teacher deals with the analysis of texts with an emphasis on language structure. In the same vein, two teachers do not use materials at all to teach English. Whereas the other teacher used materials which are: visual aids, figures and images.

The three teachers focus on reading texts and questions in terms of: general idea, main ideas and the students' expectations or imagination in the future to motivate them in the classroom. One of them adds that he integrates sometimes short stories in order to discuss the content of this story and its summary.

- Question 14 is about pronunciation.

All teachers of English which are involved in this interview integrate pronunciation by sentence repeating or by reading for correct pronunciation.

- Question 15 is about the use of French or Arabic.

One teacher used French during the course because they learn everything in French. He avoids Arabic completely in the classroom. The two other teachers use both Arabic and French to explain some words.

- Question 16 deals with techniques focused by teachers.

Two teachers answer that they do not focus on any kind of techniques to make the learners face their speaking weaknesses. Whereas the other teacher gives them topics for discussion and they practice the language with their teacher which leads to conversation.

- Question 17 is about collaboration with subject specialist.

Two teachers do not collaborate with subject specialists because they have background of this field. The last teacher collaborates with other teachers to help him.

They explain for him what he focuses on when teaching English in the field of Physics.

- Questions 18 and 19 are about teachers' difficulties.

The teachers find problems in the course in terms of lack of interest among students as they are passive learners which lead them to do all the work.

One of the teachers does not encounter difficulties in course design courses since he is a subject specialist. Whereas the two other teachers have common difficulties which are:

- To manage the skills according to learners' level.
- To teach something new which is related to Physics.
- To make different researches according to this field.
- To select activities to make learners speak
- Lack of references and information.

- Question 20 is about teachers' suggestions.

One teacher suggests that listening can help learners to speak later on. The other teachers stated that first these students need interest in the English language. They add that with the use of dictionaries, these learners can possess vocabulary and practice them in the classroom.

### ***3-3-2 Discussion of the Results:***

The structured interview aims at identifying the status of the speaking skill in Physics when teaching English to these learners. The interviewees are teachers of English who have experiences in teaching specific English in the faculty of sciences and technology. All of them agree that learners are not motivated. These learners are not aware about the requirements of their academic needs with regard to the English language.

The teacher of second year LMD in Physics focuses in his program on technical English. Also, he neglects somehow the aspects of language structure. Furthermore, he focuses on the listening as a receptive skill but he neglects the speaking skill.

Teachers rely on different teaching procedures. One of them relies on understanding texts with questions and the use of diagrams or pictures, whereas the second one deals with the analysis of texts with the emphasis on language structure. The last teacher focuses on feedback during the course. Moreover, all of them integrate pronunciation and translation in their courses.

All the teachers find difficulties in terms of lack of motivation of students in the course. These learners are not interested by English language. They add that they find difficulties in managing skills and lack of references. In addition to that, they do all the work when teaching this language in this field. Consequently, they suggest that these learners have use dictionary. This may help them to face their weaknesses in vocabulary by practicing them in the course.

### **3-4 Analysis of Classroom Observation:**

In order to observe the skills focused by the teacher and the difficulties of learners in the speaking skill. Classroom observation was conducted in the second semester for both sections. Classroom observation took four sessions for each section. The results are the following:

#### ***3-4-1 Results of Classroom Observation:***

The results of classroom observation have been analysed through two stages as it is shown in the grid of classroom observation (see table2-3).The results are as follows:

##### **3-4-1-1 Classroom Activities:**

In classroom activities, the researcher focuses on five elements during the classroom observation which are:



### ***3-4-1-1-1 The Type of Activity:***

The teacher focuses on activities which are typically technical ones. He gives them questions related to their field of interest to make them speak as he integrates grammar questions. On the other hand, the majority of the activities are to fill in the gaps to maintain some vocabulary words.

### ***3-4-1-1-2 Participant Organization:***

The teacher works with all the students and tries to motivate them by asking technical questions. But the researcher observes that they do not understand the content of the course. In addition to that, there is no interaction between learners in both sections. Accordingly, the teacher does all the work for both sections because they are passive, so he uses French language to translate technical vocabularies.

### ***3-4-1-1-3 Content:***

The content of the English course is based on technical texts. The teacher selects topics and texts from the field of Physics. There is also an integration of pronunciation and grammar. He explains the technical words with some examples.

### ***3-4-1-1-4 Student Modality:***

The teacher does all the work and speaks during the course and the students listen because they can not express themselves in English, sometimes they use French. Besides, he neglects the reading and speaking skills.

### ***3-4-1-1-5 Materials:***

During the course, the teacher focus on short texts through which each time he focuses on new thing. Sometimes he uses images or diagrams in order to facilitate the explanation for them.

### ***3-4-1-2 Classroom Language:***

In classroom language, the researcher focuses on five elements during the classroom observation which are:

### ***3-4-1-2-1 Use of Target Language:***

In both sections, during the courses the students use Arabic or French and some of them use English .Moreover, the teacher does not give them opportunities to speak during the course. Most of the students do not speak and do not answer the teacher's questions as they do not care about English language. Accordingly, there is no direct contact with the target language since they do not use it at all in the classroom.

### ***3-4-1-2-2 Reaction to Code or Message:***

The students do not show any kind of reaction to teacher's message since they are passive and they wait from the teacher everything .Some students react by asking questions or adding information in French language and rarely in the English language.

### ***3-4-1-2-3 Discourse Initiation:***

Learners do not have opportunities to initiate the discourse except in some courses. Even the teacher asks questions to be answered or opens discussions but they do not participate. The reason is that they do not have technical vocabulary in English to speak.

### ***3-4-1-2-4 Incorporation of Preceding Utterance:***

Students listen to the teacher but most of the time, they do not incorporate any utterance in their contribution. The reason behind that is that they do not take notes or try to ask questions during the course.

### ***3-4-1-2-5 The Difficulties Faced by both Teacher and Students during the Course:***

The students of both sections have the following difficulties in this language during the course:

- They follow but they do not understand .As a result, the teacher explains in French.
- They can not ask and answer questions since they have not enough vocabulary words.
- They face difficulties in terms of pronunciation.
- They are unable to form sentences.
- The teacher does not give them opportunities to speak.

The teacher also finds difficulties in the course which are:

- Students are not interested by this module. Consequently, there are lot of absences.
- Students do not answer questions.
- He does all the work during the course because the students do not participate.
- They do not understand him in English. Therefore, he is obliged to translate everything in French which is time consuming.
- They do not write correctly and he writes everything and also technical words.

### ***3-4-2 Discussion of the Results:***

The aim behind classroom observation is to observe the students' difficulties in the speaking skill and which type of skills and activities teachers focus on when teaching English to physics students.

During the eight sessions for both sections, the researcher observed that the teacher does not focus on the speaking skill during the course. Moreover, he does not give an opportunity to learners to speak. In the activities, he relies on questions and short texts for analysis. Furthermore, he does all the work with translation of technical words.

The researcher noticed that learners use French or Arabic in the classroom as they do not answer questions of the teacher. Hence, there is no direct contact with target language. These learners do not use this language because they face weaknesses in terms of vocabularies.

Learners of second year Physics are unable to form sentences because of the grammar problems they face in this language. Moreover, they follow the teacher but they do not understand the course as they are demotivated. This creates problems for the teacher who is obliged to translate and answer some questions.

### **3-5 Interpretation of the Main Results:**

The interpretation of the results of data collected from the research instruments allowed the researcher to draw a profile of the needs of the learners. They are as follows:

#### **3-5-1 Necessities:**

Since language is a means of communication and English is the language of Science and Technology. This research work focuses on the speaking skill in Physics. These learners need English for different communication situations such as: conferences and for future research because everything is in English. Moreover, teaching English to these learners is not an easy task because it needs more researches and great efforts from the teacher. Also, it is not easy for the students because they face something new and different.

Finally, it is necessary to add that these learners need to develop their abilities in the speaking skill. It is for the sake of being communicatively competent and to use the language effectively in the specialized field. Also, the content of the English course in this field need to develop the speaking skill. Thus, this is the major concern of chapter four which relies on data analysis.

#### **3-5-2 Lacks:**

After analysing data through the three research instruments, the research hypotheses proposed by the researcher are confirmed. These learners have difficulties in the speaking skill and grammar as they do not possess vocabularies. In addition to that, the teacher does not give them opportunities to speak during the course. They find English courses difficult because they do not understand the content of the course.

On the other hand, most of teachers of English of second year in Physics do not give importance to the speaking skill. Also, they do not motivate learners to use this language as they focus on the listening skill. However, these learners have to develop their capacities in the speaking skill in the classroom because they do not have other opportunities to speak this language.

Furthermore, the teachers focus only on text and technical questions which seemed difficult for these learners during the classroom observation. Also, they integrate pronunciation in the course. The teacher finds different difficulties in preparing courses according to the students' level and language skills. Thus, they translate technical words in French language because learners rely on that

### **3-5-3 Wants:**

Students of second year in the field of Physics state that English language is needed in their speciality for occupational and academic purposes. These learners are not interested by this language because they have weak level.

Consequently, they suggest that they need more activities in the classroom .They add that the teacher has to give them opportunities to speak by providing them with different topics related to their field. They ask also for facilitating the content of the course by using simple vocabulary.

### **3-5-4 Learning Needs:**

The aim of the course is to provide learners with maximum vocabulary about Physics. These learners are students of second year LMD in Physics who are not motivated in the classroom .In addition to that they rely on French when they learn English course.

The teacher relies on technical questions to analyse the text. He also integrates translation to facilitate the process of learning. Furthermore, they face difficulties to choose activities to make learners speak.

Consequently, these learners need opportunities for communication between the teacher and the learner .Also, to facilitate things by providing them with simple vocabulary. Moreover, they need to give them different topics according to their field and let them give their views about this subject.

### **3-6 Conclusion:**

This chapter provides an analysis of the students' questionnaire, Teacher's interview and classroom observation. They are conducted in this research in order to bring the theoretical part of needs analysis into practice. They aim at drawing the profile of needs of second year LMD students of Physics.

Also, an interpretation of the data collected will be taken into consideration to make proposals ,in order to design activities that may improve the speaking skill in the field of Physics among second year LMD students.

Accordingly, chapter four provides some suggestions that may develop the speaking skill in this field and may help learners to improve their capacities in this skill.

## **Chapter 4: Suggestions and Recommendations.**

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## **Chapter 4:**

### ***Suggestions and Recommendations.***

#### **4-1 Introduction :**

The data analysis has shown that learners of second year LMD in Physics face difficulties in the English language use at the level of the speaking skill. On the other hand, teachers of English in this field also find difficulties with their students. They do all the work as they do not focus on this skill when they teach this module.

Accordingly, the last chapter provides some suggestions that may overcome these problems faced by learners in the speaking skill .These suggestions include also the integration of this skill in teaching this module for these learners. Thus, they are practical ones, as they take into consideration the research questions and hypotheses stated in this study.

#### **4-2 Summary of the Main Results :**

The present study focusses on assessing the teaching of the speaking skill for students of Physics. It deals with the status of this skill in this field and the reasons behind the weaknessess of learneres of physics through this skill. As a result the findings are the following :

The teachers' interview shows that most of teachers in second and third year do not focuss on this skill when teaching English. They give importance to the listening skill. Besides, there is neither a special method nor specific activities to make learners face their speaking weaknesses. Thus, they are not motivated and the teacher does all the work during the course.

The speaking skill is one of the necessities of Physics learners. They face communicative situations through which they have to use this language in their speciality. But, most of these learners have weak level in English as they do not understand during the course. They find this language difficult in their field.



Moreover, most of these learners face difficulties in the speaking skill in terms of technical vocabulary and grammar. The reason is that there is a lack of practice and production in the classroom. They added that they need more activities and the teacher has to use simple language during the course. They expect making spaces of communication between the teacher and the learners.

Hence, the researcher tries to take into consideration learners' needs to develop the objectives of the course. In other words, the researcher organizes a speaking syllabus that goes in hand with the profile of needs of these learners identified earlier. This speaking syllabus is based on different goals which are related to the research questions and hypotheses.

#### **4-3 Suggestions for Teaching the Speaking Skill :**

Since the teacher of English does not focus on this skill when teaching English to second year LMD students of Physics. The researcher suggests to teach this skill through two different steps in order to make learners face their speaking weaknesses :

##### ***4-3-1 Organizing a Speaking Syllabus :***

In order to plan a speaking syllabus for these learners, it is necessary to make it respondent to their needs. Thornbury (2005:117) argues that in order to organize the content of a speaking syllabus, the following points can be included:

- **Pronunciation features**, including stress and intonation and rhythm.
- **Communication Strategies**, such as paraphrasing and formulaic language.
- **Conversational rules and structure**, such as turn talking, adjacency pairs, and the co-operative principle.
- **Genre**, such as making a speech and interviews.

Thus, the speaking syllabus can contain these elements which help learners to face their speaking weaknesses.

Therefore, the speaking syllabus can be divided through steps and each one consists of organized aims according to the needs of learners, as they are drawn in the following table :

<i>Stages</i>	<i>Aimsof Activities</i>
<b>First stage</b>	<p>*Activities build knowledge of a context of language use which is related to learner needs.</p> <p>*Activities involve discussion and vocabulary building.</p> <p>*Activities include spelling and pronunciation.</p>
<b>Second Stage</b>	<p>*Students focuss on the language features which are central to the text achieving its purpose.</p> <p>*Language features and forms are studied at both whole text and clauses.</p>
<b>Third Stage</b>	<p>*Initial activities provide students with opportunities to use text type with future immagination.</p> <p>*Later activities gradually demand more independent performances.</p>

**Table 4-1Organizing Speaking syllabus Through Activities Aims (adapted from Thornbury, 2005 :122)**

These aims of the organized speaking syllabus are drawn according to the needs of learners in terms of grammar and technical vocabulary. Accordingly, these activities may create opportunities for learners to speak this language through the aims of the three stage.

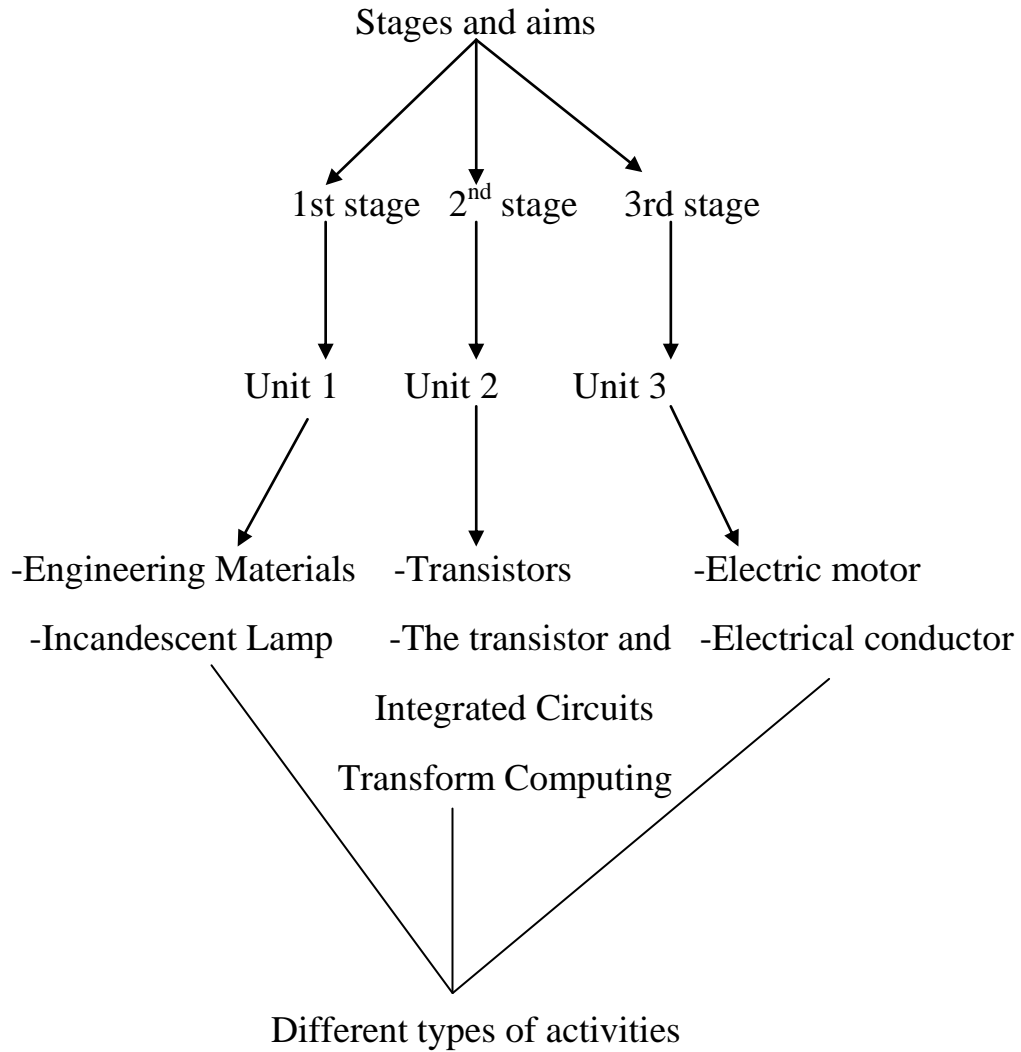
### ***4-3-2 Integrating the Speaking Syllabus in Physics:***

After organizing the speaking syllabus with different aims according to learners needs. The researcher also integrates different topics from this field into the speaking syllabus. Each unit consists of two different themes to achieve the stages stated in table 4-1. These units are drawn as following :

<b>Units</b>	<b>Topics</b>	<b>Stages</b>
<b>1</b>	-Engineering Materials. - Incandescent Lamp.	First Stage
<b>2</b>	-Transistors. -The Transistor and Integrated Circuits Transform Computing.	Second Stage
<b>3</b>	-Electric Motor. -Electrical Conductor.	Third Stage

**Table 4-2 Division of Units Through the Speaking Syllabus (adapted from Amokran, 1995 and Ikhenazen, 2002).**

This table is divided into three columns. The first one is devoted to three main units. Whereas the second column is for different topics related to the field of Physics which are chosen randomly. Through the two topic one of the stages stated in table 4-1 can be achieved at the end of each unit. The following diagram shows the design of these units :



**Figure 4-1 Design of Units and Activities According to the Aims of Stages.**

These units can be taught for the first semester to students of second year physics , in order to face their speaking weaknesses through different types of activities. Whereas the second semester may include some definitions and concepts about the field of Physics.

In other words, this semester may help these learners to possess background about their future choice. The interview which is conducted with teachers of third year reveals that learners have no idea about the field of Physics.

#### **4-4Types of Activities to promote the Speaking Skill through the speaking syllabus :**

After designing the aims of each stage for a speaking syllabus with different topics from the field of Physics. It is also necessary to draw some activities to promote this skill in this syllabus which are based on communicative activities.

##### ***4-1-1Communicative Activities :***

The emphasis on communicative activities is for speaking and ways of achieving and practicing the language. Littlewood (1981) quoted in Jordan (1997 :112) discusses the purposes of communicative activities with their contribution to language learning :

- 1-They provide ‘whole-task practice’, i.e. the total skill.
- 2-They improve motivation
- 3-They allow natural learning.
- 4-They can create a context which supports learning.

Accordingly, this type of activities make the learners motivated which facilitates the work for the teacher who does all the work during the English course. Furthermore, it gives an opportunity to learners to practice the language and to face their speaking weaknesses.

In addition to that, Johnson (1982) quoted in Jordan (1997 :112) proposes five principles for communicative activities typology which are, in sense, based on problem-solving and task-orientation. He illustrates that with several examples :

1)-*Information transfer* : (e.g. reading information to extract data in order to fill in a form).

2)-*Information Gap* : (e.g an information which can be conveyed by different exercises to the students).

3)-*Jigsaw* : it is an example of cooperative learning in which each member of the small groups has a piece of information needed to complete a group task.

4)-*Task Dependency* :the picture by which a second task can only be done if the first task has been successfully completed, e.g listening to, or reading something and then using the information to produce oral communication.

5)-*Correction for content*: the principle argue that ‘at some stage the student’s language production should be judged on its communicative efficacy in relation to a specific task’; an example of this is the pair work technique ‘Describe and Draw’, in which one student describes an illustration, diagram, etc to his/her friend and the partner tries to reproduce the item from the description.

These types are used in this speaking syllabus. This is for the sake of designing some different exercises .They are drawn through the aims of each stage as well as the topics of the three units which are from Physics field.

#### ***4-4-2 The Design of Activities through the Speaking Syllabus :***

The design of activities is based on the speaking syllabus which takes into consideration the learners’ needs. These activities are for promoting the speaking skill among second year LMD Physics students.The speaking syllabus is divided into units and stages. They are illustrated in the following activities :

## **Unit One:** Engineering Materials (Adapted from Ikhenazen, 2002)

### **Text (1):**

<sup>1</sup>Engineering have to know the best and most economical materials to use. <sup>2</sup>Enginnering must also understand the properties of these mateials and how they can be worked. <sup>3</sup>There are two kinds of materials used in engineering – metals and non –metals. <sup>4</sup>We can divide metals into ferrous and non- ferrous metals. <sup>5</sup>The former contain iron and the latter do not contain iron. <sup>6</sup>Cast iron and steel, which are either alloys, or mixtures of iron carbon, are the two most important ferrous metals. <sup>7</sup>Steel contains a smaller proportion of carbon than cast iron contains. <sup>8</sup>Certain elements can improve the properties of steel and are therefore added to it. <sup>9</sup>For example, chromium may be included to resist corrosion and tungsten to increase hardness. <sup>10</sup>Aluminium, copper, and the alloys, bronze and brass, are common non-ferrous metals. <sup>11</sup>Plastics and ceramics are non-metals ; however, plastics may be machined like metals. <sup>12</sup>Plastics are classified into two types – thermoplastics and thermosets. <sup>13</sup>Thermoplastics can be shaped and reshaped by heat and pressure but thermosets cannot be reshaped because they undergo chemical changes as they harden. <sup>14</sup>Ceramics are often employed by engineers when materials which can withstand high temperatures are needed.

**Activity One** : *Study the following statements carefully and state whether they are true or not according to the text:*

- (a) Non-metals are used by engineering.
- (b) Cast iron contains more carbon than steel.
- (c) Chromium improves the properties of steel.
- (d) Copper contains iron.
- (e) Bronze is an alloy.
- (f) Thermosets can be machined.

(g) Thermoplastics are metals.

(h) Ceramics can withstand high temperatures.

This type of activities is an information transfer depending on reading information in order to fill in this activity. This activity may help learners to achieve the second aim in the first stage (see table 4-1) .It involves them into discussion of the meaning through these statements and vocabulary building.

**Activity Two** : *What does the following statements refer to according to the text:*

1. In sentence 2, 'they' refer to  
(a) The engineers.  
(b) The materials.
2. In sentence 5, 'the former' refer to  
(a) Ferrous materials.  
(b) Non-ferrous metals.
3. In sentence 5, 'the latter' refers to  
(a) Ferrous metals.  
(b) Non-ferrous metals.
4. In sentence 8 ; 'it' refer to  
(a) Steel  
(b) Iron
5. In sentence 13, 'they' refers to  
(a) Plastics  
(b) Thermosets.  
(c) Thermoplastics.

This type of activities is an information transfer depending on forming sentences and speak the language. This activity may help learners to speak .It also help learners to build knowledge of a context of language use through sentence building .Therefore, this activity achieve the first aim of the first stage in the first unit.



**Activity Three** : Choose the correct spelling word among the following lists :

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>1</b>	Achevement	achievement	acheivement	achivement
<b>2</b>	Elloy	aloy	alloy	illoy
<b>3</b>	Apply	applie	aply	aplie
<b>4</b>	Metals	mettals	metols	meetals

This type of activities is an information gap which can be conveyed by different exercises to the students. In this case, it includes spelling words and their pronunciation through which students choose the right word and pronounce it. Thus, this type of activities may help learners to achieve the last aim in the first stage stated in table 4-1 .This aim is spelling and pronunciation words which help them to develop their speaking skill.

**Unit One:** Incandescent Lamp (Adapted from Amokran, 1995)

**Text (2):**

Incandescent lamp is a device that produces light by heating a material to a high temperature. The most familiar example of an incandescent lamp is the common household bulb. It consists of a stretched or coiled filament of tungsten metal sealed inside a bulb filled with a gas that will not react with the tungsten or the bulb. This inert gas is a combination of nitrogen and argon in a proportion designed to suit the wattage, or brightness, of the bulb. When electric current flows through the filament ;it heats the filament to a temperature of about 3000°C (about 5000°F), causing the filament to glow and provide light.

The incandescent lamp is based on the principle of *incandescence*, in which solids and gases emit visible light when burning or when an electric current

heats them to a sufficiently high temperature. Each material gives off in a color characteristic of that material.

The invention of vacuum pumps made it possible to use incandescent lamps for regular lighting. In 1878 British scientist Sir Joseph Wilson Swan invented the modern light bulb, which used carbon filaments in evacuated glass bulbs. But the invention of the light bulb is more often associated with American inventor Thomas Alva Edison. He independently discovered the same device a year later in his work on the development of the electrical infrastructure that enabled incandescent lamps to be widely used as a lighting system.

The light bulb has undergone various improvements since Edison's work. One of the most significant changes was the introduction in 1911 of lamps made with filaments of tungsten, which has the highest melting point of any metal. This advance was attributed largely to William David Coolidge, an American engineer working for General Electric Research Laboratory. In 1908 Coolidge has developed a process to make tungsten ductile, or capable of being drawn into a wire without breaking. Today, most light bulbs are made with ductile drawn tungsten filaments.

**Activity One** : *Match the following words with their definitions:*

- 1)-Incandescent.    a)-very slow to move or act.
- 2)-bulb.            b)-to shine with or as if an intense heat.
- 3)-filament.        c)-a substance that does not flow perceptibly under moderate stress
- 4)-inert.            d)-while, glowing, or luminous intense heat.
- 5)-glow.            e)-a glass envelope enclosing the light source of an electric lamp

6)-solids. f)-a tenuous conductor (as of carbon or metal) made incandescent by the passage of an electric current.

This type of activities is an information transfer. This activity may help learners to achieve the second aim in the first stage. These activities involve them into discussion and build sentences through these definitions and vocabulary building.

**Activity Two** : *Fill out the table with information from the text :*

Inventor	Invention	Year

This type of activities is an information gap which can be conveyed by this type of exercises to the students. It is in the form of table and students have to fill in it with information from the text. Thus, this type of activities may help learners to achieve the second aim in the first stage which is vocabulary and content discussion.

**Activity Three** : *Try to organize the following words which are jumbled :*

duconct-peratempture -thigl -eaht-vicece -malp-stengunt-lowf.

This type of activities is an information gap. It includes jumbled words through which students have to organize them to have correct words. As a result, this type of activities may help learners how to pronounce words. Thus, it achieves the last aim in the first stage (see table 4-1).

## **Unit Two:** Transistors (Adapted from Amokran, 1995)

### **Text (3) :**

The transistor is an electronic amplifying device .It is made of silicom just like a diode. A transistor has two junctions instead of one. There are two kinds of transistors: PNP, NPN.

‘PNP’ means positive, negative, positive. A ‘PNP’ transistor is made by sandwiching a layer of silicom with ‘N’ type impurities between two layers of silicom with ‘P’ type impurities. ‘NPN’ means négative, positive, negative. An ‘NPN’ transistor is just the opposite of a ‘PNP’ transistor. Transistors have there parts : Emitter –Base-collector.

The emitter emits electrons.

The collector collects electrons.

The base controls electron flow.

**Activity one** : *Read the text which is written in terms of notes, try to connect them by using : however, therefore or because.*

This type of activities is an information gap which can be conveyed by different exercises to the students. Thus, it may help them to use one of these connectors depending on the meaning of the notes they have in the text. Accordingly, they reach the first aim in the second stage within the second unit through which the focuss is on the language features.

**Activity Two** : *Find in the text all the verbs and state their tenses.*

**Activity Three:** *Turn the following sentences into the passive voice :*

- The collector collects electrons.
- The emitter emitted electrons.
- The base has controlled electron flow

These two types of activities are information gap since by which the learners will have information about the form and use of tenses and the rules to move from active to passive voice in detail. By the way, these learners may achieve the first aim in the second stage which is about language features and forms. They are studied through the text because learners of second year in Physics find problems at the level of grammar and language forms.

**Unit Two:** The Transistor and Integrated Circuits Transform Computing

(adapted from Matic, 2009)

**Activity one :** *Put the verbs in brackets into the right form :*

In 1948, at Bell Telephone Laboratories, American physicists Walter Houser Brattain, John Bardeen, and William Bradford Shockley (develop) the transistor, a device that (can) act as an electric switch. The transistor (have) tremendous impact on computer design, replacing costly, energy-inefficient, and unreliable vacuum.

In the late 1960s integrated circuits (tiny transistors and other electrical components arranged on a single chip of silicon) (replace) individual transistors in computers. Integrated circuits resulted from the simultaneous, independent work of Jack Kilby at Texas Instruments and Robert Noyce of the Fairchild Semiconductor Corporation in the late 1950s. As integrated circuits (become) miniaturized, more components (can) be designed into a single computer circuit. In the 1970s refinements in integrated circuit technology (lead) to the development of the modern microprocessor, integrated circuits that contained thousands of transistors. Modern microprocessor (can) contain more than 40 million transistors.

**Activity Two** : *Fill in the blanks with the correct form of the verbs need, have to, must, can, could, be able to:*

- 1)-After the success of windows 95, Microsoft.....outsell any competitor.
- 2)-Programmers.....to know a range of up-to-date languages
- 3)-When he was a schoolboy, Bill Gates.....write programs in BASIC.
- 4)-The Altair 8800 was one of the first computers you.....assemble at home.
- 5)-Most website designers.....use HTML and XML.

These two types of activities are information gap. In this case, learners have to establish an idea about tenses and modals. Therefore, they use the language through these activities and may reach the first aim in the second stage (see table 4-1).

**Activity Three** : *Change the following pair of sentences into single sentence using **which**, making the second sentence relative clause :*

- 1-The first coil is called the primary. It is normally connected to the power source.
- 2-The windings are provided with a closed magnetic path. The magnetic path is composed of laminated sheet steel.
- 3-The flux set up in an inductance produces a voltage. This voltage is equal to and opposes the impressed voltage.
- 4-The temperature measuring element senses the bath temperature and transmits a signal to the controller. The temperature measuring element may exhibit some dynamic lag.
- 5-The load is another new term. It refers to a change in any variable.

This type of activities is an information transfer depending on forming sentences and speaking the language. Through this activity learners build knowledge about relative clauses. By the way, they may achieve the second aim in the second stage which denotes the clauses level.

### **Unit Three** : Electric Motor (Adapted from Amokran, 1995)

#### **Text (4)** :

Like poles repel and opposite poles attract. Electric motors are machines that use these two simple principles to push and pull an electromagnet mounted on a rotating shaft. This electromagnet is called an armature. Two more magnets (called the field) are mounted on the motor frame of an electric motor. The field magnets must be mounted opposite each other. Special sliding switch contacts (called brushes) are needed to connect the voltage source to the rotating coil of the electromagnet. Wires can't be hooked directly to the rotating coil because the spinning shaft would twist them until they broke.

To make electrical contact between the electric source and the rotating armature electric motors must have:

- Brushes.
- Slip-rings (for many AC motors).
- Commutator (for many DC motors and many AC).

**Activity One:** *After understanding the content of the text, what are your future imagination about electric motor?*

This type of activities is information transfer ; through which the students have an idea about an electric motors. Then, each student has to provide his/her imagination in the future about this motor to push them to speak. Hence, by this activity the learners may achieve the first aim in the third stage which is to

provide them with opportunities to to express their future immagination about it.

**Activity Two** : *Try to explain how electric motor works by using diagram ?*

This type of activities relies on dependency task, through which the student use a digram and at the same time explain how an electric motor works. Consequetly, these learners find situations in which they speak the language independently through this activity .i.e. It is the second aim of the third stage in this unit.

**Activity Three** : *Try to identify the advantages and disadvantages of electric motor ?*

This type opf activities is correction for content, here learners try to identify and explain the advantages and disadvantages of electric motor by using a table.Thus, through this activity, these learners speak the language and produce sentences relying on what they have learned before in the previous units.

### **Unit Three** : Electrical Conductor

#### **Text (5) :**

Electrical conductor is any material that offers little resistance to the flow of an electric current. The difference between a conductor and an insulator,which is a poor conductor of electricity or heat,is one of degree rather than kind,because all substances conduct electricity to some extent. A good conductor of electricity,such as silver or copper ,may have conductivity a billion or more times as great as the conductivity of a good insulator, such as glass or mica. A phenomenon known as superconductivity is observed when certain substances are cooled to a point near absolute zero,at which point their conductivity becomes almost infinite.In solid conductors the electric current is carried by the



movement of electrons ;in solutions and gases ; the electric current is carried by ions.

***Activity One*** : After reading the text try to explain briefly what is electrical conductor.

***Activity Two*** : By knowing the difference between conductor and insulator, what are your future imaginations about that ?

***Activity Three*** : define what is semiconductors by using drawings ?

These types of activities relies on dependency task, through which the students use the language spontaneously. In addition to that, they explain what is semiconductors by using drawings. Thus, through these activities, learners fulfill the two aims of the third stage in this unit (see table 4-1).

Whereas, the second semester is devoted for different texts and knowledge these learners .These texts are about different contexts about the fields they choose for the third year .This may help them to have background about the field in order to prepare them for this year.

#### **4-5 The Effects of the Speaking Syllabus on Learners' Strategies :**

After designing a guide for speaking syllabus according to the needs and difficulties of Physics learners. It is necessary to identify to what extent the teaching of this skill may influence the learners strategies. This can be summarized through the following points :

##### ***4-5-1 Input –Based Strategies :***

Learning occurs through the exposure to language input in the form of written or spoken texts, Busturkmen (2008). Thus, Two subcategories of input-based strategies can be identified. The first relies on the idea that input is sufficient for learning and the second on the idea that input needs to be followed by student output for learning.

In predominantly input, students are primarily provided with language input. Students know about how language works. In the same vein, Krashen (1982) argue that learners develop their linguistic abilities under gradual development through comprehensible input and monitor the production of language and the ability to produce language.

Accordingly, Basturkmen (2008 :115) states that :

Teaching can simply provide positive evidence about how language works or is used by exposing students to authentic texts and engaging them in comprehension activities. Or teaching can go beyond this simple exposure to language input and aim to help students notice specific language features or forms.

Thus, the teacher has to provide the learners with authentic texts about specific language with comprehensible activities. Moreover, through these texts learners have to know about language features and forms.

Through the speaking syllabus provided in this chapter, subject specialist texts for comprehension are present with comprehensible activities. These texts and activities aim to make learners face their speaking weaknesses. Besides, it push them to speak the language in their field.

The lack of sufficient use of this strategy can be inferred in the following criticism : “A common failing in teaching is to expect high level production without giving sufficient input”. Scott (1984) quoted in Basturkmen (2008 :117).

For this reason, the first stage and the second one aim at having a knowledge about the context and language forms (see table 4-1). Thus, the focus is on students acquiring explicit knowledge of language followed by the activities in which the students speak the language.

#### ***4-5-2 Output-Based Strategies:***

Output-Based Strategies takes as its starting point students' effort to communicate in the target language, Basturkmen (2008). Also, in this strategy, two substrategies can be identified. The first is based on using the language (producing output) and the second one is when students' production or output is followed by some form of input.

In predominantly output, students are placed in situations that require them to perform production tasks. According to Basturkmen (2008) the rationale is that through producing language, students can identify where their interlanguage (developing language system) is sufficient for the performance or production task or where it is not.

In the same vein, Swain (1985) quoted in Basturkmen (2008 :124) argues that :

In being pushed to produce, language learners notice 'holes' in their linguistic repertoire and this stimulates learning of language to fill in the holes. Thus, it is through being required to use language that one's language develops because while endeavoring to communicate through the language learners become aware of missing elements in their linguistic repertoire.

Students have to produce language since they possess an input in order to fill in the gaps. Therefore, they become aware about the missing elements. Moreover, in speaking syllabus, the last aims of the third stage (see table 4-1) relies on independent performance to promote the speaking skill .It is preceded by an input about language context and language forms.

However, Ellis (1990) quoted in Basturkmen (2008 :124) identifies three key points in Swain's argument for the role of output in advancing levels of grammatical language accuracy :

- The need to produce output (pushed language use) that is precise, coherent, and appropriate during negotiation of meaning encourages the learners to develop the necessary grammatical resources.

- During output ; the learners can try out their hypotheses about language production, as opposed to comprehension, may force the learner to move from semantic to syntactic processing. It is impossible to comprehend a message without any syntactic analysis of the output it contains.
- Production is the trigger that forces learners to pay attention to the means of expression.

As a result, we can infer from these points that Ellis adds three points about output. The first one is limited to negotiation of meaning in which learners develop grammatical resources. In addition to syntactic analysis and the importance of production.

The idea of students production of language is reflected in many task-based activities for the classroom. Willis (1990) quoted in Basturkmen (2008 :125), a task is understood to be : “an activity that involves the use of language in which the focus is on the outcome of the activity rather than the language used to achieve that outcome ”.

This type of activities create conditions for negotiation of meaning and enable learners to develop the language and skills. In fact, in the last unit of electric motor most activities aimed at providing learners with opportunities to use the language. As they can negotiate the meaning and create a kind of interaction between learners.

As a conclusion, macro strategies for teaching are provided through the effects of the speaking syllabus on learners’ strategies by dealing with : predominantly iutput and output. Learners have to notice language forms and features and then use them in specific context .As they have to fill in the gaps through these activities .This may offer a solution to make the learners of Physics facing their speaking weaknesses.

Furthermore, to see to what extent this speaking syllabus may help learners to possess maximum input for the output through different units. Each unit reach one of the aims of each stage of this syllabus.

### ***4-5-3 Developing Target Performance Competencies:***

Target Performance Competencies can be described as an approach focused on the ability to perform the activities employed in subject fields. It is oriented with what learners need to do with the language and which type of skills they need to focus on.

The link between needs analysis and teaching to develop target performance competences is straightforward. Needs analysis reveals the demands and expectations of the target environment. ESP teaching set out to help students meet those demands to the level of competency expected Basturkmen (2008).

In this research, the results reveals that one of the competencies needed by students of Physics in the department of Sciences at Tlemcen University is the ability to use the English language. It is needed for the third year, in which students will be required to present research pieces in the target language.

Accordingly, the speaking syllabus and its divisions is devoted according to the learners' needs. As it proposes some activities to enhance these learners to speak in the classroom. These activities are designed according to their difficulties and expectations from an English course. It includes difficulties in terms of grammar and technical vocabulary. The aim behind that is to give them more opportunities to speak during the course.

As a result, the suggested activities are based on both language form and language use. These activities may help learners to be communicatively competent in the target language in their field. These are the last aims of the last stage. Mainly after having knowledge about language, students may develop and face their weaknesses in the speaking skill.

### **4-6 Conclusion:**

The last chapter provides some suggestions that may help to promote this skill in this field. They may also help these learners face their weaknesses in this skill. These suggestions are made according to learners' difficulties in this skill in terms of grammar and technical vocabulary.

These suggestions include a speaking syllabus with different aims. The researcher integrates this speaking syllabus in Physics. It involves different topics from this field of which is divided into three units. Each unit achieves one of the aims stated in the speaking syllabus. Finally, different activities are present which are communicative activities to enhance learners to speak.

## *General Conclusion*

## General Conclusion

The present study has shown the status of the teaching of the speaking skill among second year LMD students of Physics. It has highlighted the difficulties faced by both teachers and learners when teaching/learning English in this subject area.

Accordingly, this dissertation has tried to answer the following research questions:

- 1)-Does the teacher of English focus on the speaking skill when teaching English to second year LMD students of Physics?
- 2)-What are the reasons behind learners' weaknesses in speaking English during the course?
- 3)-What are the difficulties that the teacher encounters when designing activities for these learners?

The answer to these questions may raise the following research hypotheses:

- 1)-The teacher of English in Physics does not focus on the speaking skill because learners are not motivated.
- 2)-The reasons behind learners' weaknesses in speaking English during the course are:
  - The use of technical questions by the teacher.
  - Difficulties in terms of pronunciation.
  - Lack of vocabulary to speak.
- 3)-The difficulties that the teacher encounters when designing activities to these learners are:
  - To select activities to make learners speak.
  - Students rely on translation of technical words and they speak in French during the course
  - The teacher does all the work in the classroom.



The first chapter has dealt with findings and definitions about ESP and the speaking skill in order to describe this skill in ESP context. In addition to the concept of needs analysis which is the concern of the following chapter. The second chapter is about the description of the research instruments and the aims of each one in this work. The third chapter is devoted to the analysis of data from these instruments and the discussion of the main results. The last chapter has provided some suggestions and recommendations according to these results.

The results have shown that the teacher of second year LMD in Physics does not focus on the speaking skill during the course. The teacher faced problems with their students in designing activities to push them to speak. Besides; these activities are based on technical questions about the text. On the other hand, these learners face difficulties in this skill in terms of grammar and vocabulary level.

This research work has focused on the speaking skill in physics. It has relied on triangulation method to collect data: students' questionnaire, teachers' interview and classroom observation. Furthermore, it has followed qualitative and quantitative methods to analyse this data. Finally, some suggestions were provided in this research that may enhance the speaking skill in this field. These suggestions may also help these learners to face their weaknesses in this skill which based on grammar and technical vocabulary.

However, this study is not a representative one since it took only twenty students from two sections of second year in Physics, with regard to their absences in English module. In addition to that, it has not taken into consideration all the issues which cover this skill in this field of research.

Accordingly, it is very important if other researcher tackle the issue of the speaking skill in an ESP context. It may include the following research questions in this topic for future researches such as: what are the effects of the organized speaking in the field of Physics? To what extent follow-up activities help learners to face vocabulary weaknesses? What are the effects of conversation tasks in promoting the speaking skill in Physics? And other research questions may be raised in this area of research.

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# *Appendices*

*Appendix (A):*  
*Students' Questionnaire in English*



## Students' Questionnaire

This questionnaire aims at getting information about learners' difficulties in the speaking skill during English course at second year LMD students of Physics. I would be grateful if you answer the following questions:

✓ Sex: male  female

✓ Age:

1)-What is your baccalaureate stream?

.....

2) -How long have you been studying English?

.....

3)-Why did you choose this field?

.....

.....

4)-Do you think that English is important in Physics?

Yes  No

\*why?

.....

.....

5) - Why is English language needed in your field?

➤ For study

➤ For work

➤ For training

➤ For a combination of these

➤ For some other purposes

\*What are they?

.....

6)-Do you consider English courses as:

➤ Easy

➤ Intermediate

➤ Difficult

Explain?

.....  
.....

7)-Is it easy to learn English in your field?

Yes  No

\*If no, why?

.....  
.....  
.....

8)-Do you think that your level in English is:

➤ Weak

➤ Intermediate

➤ Advanced

9)-Do you find difficulties in English in terms:

➤ Speaking

➤ Listening

➤ Reading

➤ Writing

10)-When using the English language, do you find difficulties in terms of:

- Production of sounds
- Vocabulary
- Grammar

11)-Do you find the speaking skill difficult? Why?

.....  
.....  
.....

12)-Do you use English in the classroom?

Yes  No

\*If no, why?

.....  
.....  
.....

13) -Do you master the technical English in your field? Justify your answer?

.....  
.....  
.....

14)-Do you think that your teacher can influence your motivation to speak the English language? Justify?

.....  
.....  
.....

15)-As learners what do you expect from your teacher in the English course to help you to speak?

.....  
.....  
.....

16)-According to you which strategies can help you develop the speaking skill?

.....  
.....  
.....

17)-Can you suggest some methods to develop your speaking ability in the classroom?

.....  
.....  
.....

**Thank you for your collaboration**

*Appendix (B):*  
*Students' Questionnaire in French*

## Questionnaire

Le but de ces questions c'est de collecter des informations sur les difficultés des étudiants de deuxième année LMD Physique concernant la compétence de parler en anglais dans le cours. Je vous remercié si vous répondez aux questions suivantes :

✓ Sexe : mâle  femelle

✓ Age :

1)-Quelle est votre filière du bac ?

.....

2)-Depuis quand vous avez étudié l'anglais ?

.....

3)-Pourquoi vous choisissez la filière de Physique?

.....

4)-Est-ce que vous pensez que l'anglais est important dans votre filière ?

Oui  non

\*Si oui, pourquoi ?

.....

5)-Pourquoi la langue Anglaise est nécessaire ?

➤ Pour les études

➤ Pour le travail

➤ Pour une formation

➤ Pour une combinaison de ces cas

➤ Pour d'autre

\*Lesquelles ?

.....

6)-Est-ce que vous considérez les cours d'Anglais comme :

➤ Facile

➤ Intermédiaire

➤ Difficile

\*Justifiez votre réponse ?

.....  
.....

7)-Est-ce que c'est facile d'apprendre l'Anglais dans votre filière ?

Oui  non

\*Si non, pourquoi ?

.....  
.....  
.....

8)-Est-ce que vous pensez que votre niveau en Anglais est :

➤ Faible

➤ Intermédiaire

➤ Avancé

9)-Est-ce que vous trouvez des difficultés en Anglais à :

➤ Parler

➤ Ecouter

➤ Lire

➤ Ecrire

10)-Quand vous utilisez l'Anglais, est-ce que vous trouvez des difficultés dans :

➤ Production des sons

➤ Vocabulaire

➤ Grammaire

11)-Est-ce que vous trouvez la compétence de parler l'Anglais est difficile, Pourquoi ?

.....  
.....  
.....

12)- Est-ce que vous utilisez l'anglais dans le cours ?

Oui  non

\*Si non, pourquoi ?

.....  
.....  
.....

13)-Est-ce que vous maîtrisez l'Anglais technique dans votre filière ? Justifiez votre réponse ?

.....  
.....  
.....

14)-Est-ce que vous pensez que votre professeur peut influencer votre motivation pour parler l'Anglais dans le cours ?

.....  
.....  
.....

15)-Comme étudiant(e), que-ce que vous attendez de votre professeur pour vous aidez à parler l'anglais ?



.....  
.....  
.....

16)-Selon vous, quelles sont les stratégies qui peuvent vous aidez de parler cette langue ?

.....  
.....  
.....

17)-Est-ce que vous pouvez proposez quelque méthodes pour développer votre capacité de parler Anglais dans la classe ?

.....  
.....  
.....

**Merci pour votre collaboration**

*Appendix (C):  
Teachers' Interview*

## Teachers' Interview

This interview aims at getting information about teacher's difficulties in the speaking skill at second year LMD students in Physics. In addition to the methods and activities used to focus on this skill. I would be grateful if you could answer the following questions:

- 1)-Do you hold a license, magister or doctorate degree?
- 2)-What is your status in the English language? (Subject specialist or language teacher)
- 3)-How long have you been teaching English?
- 4)-How could you assess your students' level in the speaking skill?
- 5)-Are the students motivated in the classroom? If no, why?
- 6)-According to you, what are the main reasons behind their speaking weaknesses?
- 7)-What is the purpose of teaching English for learners of Physics?
- 8)-Could you give me an idea about the program of those ESP learners?
- 9)-Which type of skills you focus on in teaching English for these learners? Why?
- 10)-What is the status of the speaking skill in this field?
- 11)-Do you use a specific method to teach English for Physics learners? If yes, what is it?
- 12)-Do you use materials to teach English for these learners?
- 13)-Do you focus on oral activities or texts to motivate your learners to speak in the course? What are they?
- 14)-Do you use French and Arabic during the English course?
- 15)-Do you integrate pronunciation in your course?

16)-Do you teach your learners particular strategies to face their speaking weaknesses?

If yes, what are they?

17)-Is there any collaboration with subject specialist to prepare your course?

18)-Do you find problems in teaching English during the course?

19)-What are the difficulties you encounter when designing activities for these learners?

20)-Can you provide some suggestions to enhance your learners to speak in the classroom?

*Appendix (D):*  
*COLT Scheme*

## COLT Scheme

Features	Questions
<i>Part A :Classroom Activities</i> 1. Activity type	-What is the activity type- e.g. drill, role play, dictation?
2. Participant Organization	-Is the teacher working with the whole class or not? -Are students working in groups or individually. If group work,how is it organized ?
3. Content	-Is the focus on classroom management, language (form, function, discourse, sociolinguistics), or others? -Is the range of topics broad or narrow? -Who select the topic-teacher, students, or both?
4. Student Modality	-Are students involved in listening, speaking, reading, writing or combination of these?
5. Materials	-What type of materials are used? -How long is the text? -What is the source/purpose of the materials? -How controlled is their use?

Features	Questions
<i>Part B :Classroom Language</i> 1. Use of Target Language	-To what extent is the target language used?
2. Reaction to Code or Message	-Does the interlocutor react to code or message?
3. Incorporation of Preceding Utterance	-Does the speaker incorporate the preceding utterance into his/her contribution?
4. Discourse Initiation	-Do learners have opportunities to initiate discourse?

## ملخص :

إن الهدف من هذا البحث هو دراسة وضعية مهارات التكلم في اللغة الانجليزية عند طلبة السنة الثانية فيزياء, كلية العلوم, قسم الفيزياء. اضافة الى المشاكل التي يواجهها هؤلاء الطلبة أثناء استعمال اللغة الانجليزية لأغراض خاصة. لقد اتضح اثناء البحث انهم لا يملكون مفردات تقنية حول تخصصهم. لذلك قد تم تحليل احتياجاتهم اللغوية من اجل تقديم بعض الاقتراحات التي قد تمكن طلبة السنة الثانية فيزياء من تحسين مستواهم اللغوي بغرض استعمال المهارات الشفوية في اللغة الانجليزية

الكلمات المفتاحية: تحليل الاحتياجات – اللغة الانجليزية المختصة- مهارة تكلم الانجليزية - فيزياء.

## Résumé :

Le but de cette recherche c'est d'étudier le statut de la compétence orale d'Anglais en deuxième année Physique, faculté des Sciences, département de Physique. Elle vise les problèmes rencontrés par ces étudiants. Ces derniers ne peuvent pas utiliser l'Anglais de spécialité car ils ne possèdent pas le vocabulaire technique relatif à leur spécialité. Selon l'analyse de leurs besoin, cette étude tente de proposer des suggestions qui peuvent améliorer les compétences linguistiques des étudiants de deuxième année Physique, et donc leurs permettre d'utiliser convenablement l'aspect oral de la langue Anglaise.

Mots Clés : Analyse des besoin- Anglais de spécialité- Compétence Orale-Physique

## Summary :

The aim of this research is to study the status of the speaking skill in second year Physics, faculty of Sciences, department of Physics. It looks for the difficulties faced by learners. These learners can not use English of their speciality because they do not possess technical vocabulary of their field. Depending on needs analysis, this study proposes some suggestions that may improve the linguistics competences for students of second year Physics and thus, to permit the appropriate use of the speaking skill.

Key Words: Needs Analysis- ESP- Speaking Skill- Physics.

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الجمهورية الجزائرية الديمقراطية الشعبية  
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وزارة التعليم العالي والبحث العلمي  
Ministère de l'Enseignement Supérieur et de la Recherche Scientifique



**An Assessment of Teaching the Speaking Skill:  
The Case of Second-Year LMD Physics Students at Abou  
Bekr Belkaid University-Tlemcen**

*This dissertation is submitted to the department of foreign languages as a partial fulfillment for the requirement of the 'Magister' degree in ESP*

**Summary**

Work presented by:

Miss. YAHIAOUI Nadjia

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Academic Year: 2011 - 2012



## **Summary**

The widespread use of English as a means of global and international communication has maintained a huge need to learn and teach it for specific purposes since it imposes itself in all the domains. Businessmen, engineers and scientists must know this language because it is the international means of exchanging information and experiences.

English is the language of Science and Technology as it is a means of communication. For this reason, the speaking skill is one of the necessities of these learners. They face communicative situations through which they have to use this language in their speciality.

Moreover, the primary goal of the ESP course is to be communicatively competent in English according to the situation, purpose and specific roles. It extends the learner's grammatical, lexical and functional skills. As a result, this research work deals with the teaching of the speaking skill among LMD Physics students, the department of Physics, in the faculty of Sciences at Tlemcen University.

These learners do not use English language in the classroom since they face weaknesses in this skill. On the other hand, during the course, only the teacher speaks. Also, he does not focus on activities to make them speak. This has given birth to the lack of interest from learners towards English. However, second year LMD students of physics do not have English module in the first year.

Accordingly, The aim of this research is work is :

- To investigate the status of the speaking skill in this field.
- To identify the reasons behind learners' weaknesses in this skill.
- To determine the difficulties that the teacher encounter when designing activities to these learners
- To provide some suggestions that may help learners to face their difficulties and enhance the teaching of this skill in this field.

Thus, for achieving these purposes, the following research question has been asked:

*What is the status of the speaking skill when teaching/learning English in second year LMD Physics students?*

In order to answer this general question, the following research questions has been formulated:

- 1)-Does the teacher of English in Physics focus on the speaking skill when teaching English to these learners?
- 2)-What are the reasons behind learners' weaknesses in speaking English during the course?
- 3)-What are the difficulties that the teacher encounter when designing activities to these learners?

The answer to these questions may raise the following research hypotheses:

- 1)-The teacher of English in Physics does not focus on the speaking skill because learners are not motivated.

2)-The reasons behind learners' weaknesses in speaking English during the course are:

- The teacher gives them technical questions.
- They find difficulties in terms of pronunciation.
- These learners do not possess maximum vocabulary to speak.

3)-The difficulties that the teacher encounter when designing activities to these learners are:

- To choose activities to make learners speak.
- Students rely on translation of technical words and they speak in French during the course
- The teacher does all the work in the classroom.

On the basis of this problematic and research questions, four chapters have been used in this dissertation. The first chapter is about literature review. It attempts to give a background and definitions about both the speaking skill and ESP in order to provide a description of this skill in an ESP context and in the field of Physics. It includes the Spoken Interaction in EAP and EOP and the teaching of Spoken Interaction. Furthermore, it focuses on needs analysis and findings related to it.

In order to answer the research questions and confirm the research hypotheses stated before, the second chapter deals with the methods and procedures of data collection. It describes the three research instruments used in this study to draw the profile of needs of Physics students and the aims of each one. In addition to that, it provides an idea about the category of this research as well as approaches to data analysis that are used in order to analyse the collected data.

The researcher used the questionnaire because students can express themselves freely through the questions. In addition to this, it can give a definite assessment about students' language and skills use as well as difficulties.

The students' questionnaire has been designed directly to the twenty students of second year in Physics. Fourteen of them answered in French because they do not master the English language, whereas only six students answered the questions in English.

The researcher has used also a structured interview because it reveals considerable information about: students' difficulties in the speaking and listening skills as well as attitudes, expectations or suggestions Jordan (1997). The structured interview has been conducted with three teachers of English at the department of physics.

It includes predetermined questions by the researcher, who works through a list of planned questions. This can help the researcher to organize the questions in order to not to forget any detail to ask for it.

Classroom observation is used also in order to observe the students' difficulties in the speaking skill and which type of skills teachers focus on when teaching English for these learners Jordan (1997). Furthermore, through this instrument the researcher can also observe the oral communication techniques used by the teacher to enhance his learners to use the English language. Furthermore, the grid of classroom observation based on the Communicative Orientation of Language Teaching (COLT Scheme) provided by Nunan (1992).

In order to analyse the data collected from these research instruments, both qualitative and quantitative methods are used to analyse it. However, this dissertation is a case study research since it dealt with an in-depth description of the speaking skill in Physics

The third chapter is about data analysis and interpretation. It is devoted for the analysis of this data about students' needs according to the description of each research instrument. These results give a final answer to the research questions and confirm the research hypotheses too. The discussions of these results are also available in this chapter with an interpretation of the main results.

The results shed light on the idea that the teacher did not focus on the speaking skill when teaching English in this field. Moreover, these learners face weaknesses in vocabulary and grammar level. On the other hand, the teacher did not use activities for these learners, because they are not motivated as they rely on translation of technical words.

Moreover, the teacher faced problems with their students in designing activities to push them to speak. Besides; these activities are based on technical questions about the text. All of them agree that learners are not motivated. These learners are not aware about the requirements of their academic needs with regard to the English language.

The teacher of second year LMD in Physics focuses in his program on technical English. Also, he neglects somehow the aspects of language structure. Furthermore, he focuses on the listening as a receptive skill but he neglects the speaking skill.

Teachers rely on different teaching procedures. One of them relies on understanding texts with questions and the use of diagrams or pictures. Whereas the second one deals with the analysis of texts with the emphasis on language structure. The last teacher focuses on feedback during the course. Moreover, all of them integrate pronunciation and translation in their courses.

During classroom observation, the researcher observed that teachers' and learners' difficulties can be resulted as following :

The students of both sections have the following difficulties in this language during the course:

- They follow but they do not understand .As a result, the teacher explains in French.
- They can not ask and answer questions since they have not enough vocabulary words.
- They face difficulties in terms of pronunciation.
- They are unable to form sentences.
- The teacher does not give them opportunities to speak.

The teacher also finds difficulties in the course which are:

- Students are not interested by this module. Consequently, there are lot of absences.
- Students do not answer questions.
- He does all the work during the course because the students do not participate.
- They do not understand him in English. Therefore, he is obliged to translate everything in French which is time consuming.
- They do not write correctly and he writes everything and also technical words.

As a result, students' suggestions about different methods to develop the speaking skill in the classroom are:

- Lot of readings in the classroom with the use of dictionaries with the teachers' guidance.

- To create opportunities for communication between the teacher and the learners.
- To facilitate things for them in order to speak freely without shame.
- To participate in the classroom and ask questions to create debate between students and exchange ideas.
- To have more sessions of English per a week.

Moreover, the researcher also observed that the teacher does not focus on the speaking skill during the course. Moreover, he does not give an opportunity to learners to speak. In the activities, he relies on questions and short texts for analysis. Furthermore, he does all the work with translation of technical words.

The researcher noticed that learners use French or Arabic in the classroom as they do not answer questions of the teacher. Hence, there is no direct contact with target language. These learners do not use this language because they face weaknesses in terms of vocabularies.

Learners of second year Physics are unable to form sentences because of the grammar problems they face in this language. Despite they follow the teacher but they do not understand the course as they are demotivated. This creates problems for the teacher who is obliged to translate and answer some questions.

The last chapter is devoted to suggestions and recommendations. It attempts to provide some solutions in order to enhance the teaching of the speaking skill for the students of Physics. All the suggestions and recommendations that are mentioned in this chapter are based on the results obtained from the previous chapter. These suggestions rely on activities that may help learners to face their weaknesses in this skill.

The researcher tries to organize a speaking syllabus through different stages for second year LMD Physics students based on their needs. Thus, she integrates this skill in this area of research. It relies on three units from this field with some communicative activities to make these learners speak this language.

Hence, the researcher tries to take into consideration learners' needs to develop the objectives of the course. In other words, the researcher organizes a speaking syllabus that goes in hand with the profile of needs of these learners identified earlier. This speaking syllabus is based on different goals which are related to the research questions and hypotheses.

However, this study is not a representative one since it took only twenty students from two sections of second year in Physics, the department of Physics in the faculty of Sciences at Tlemcen University, with regard to their absences in English module. In addition to that, it did not take into consideration all the issues which cover this skill in this field of research.